Substance name:	1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazole (Propiconazole)
Product type:	8
Intended use:	Fungicide against wood rotting fungi, wood staining fungi, for timber (in as well as not in ground contact) (use class 2-4)
EC number:	262-104-4
CAS number:	60207-90-1
eCA:	FI

Comment 1	**2021/08/09 13:44**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	Propiconazole is widely used for the protection of wood against wood destroying - and discolouring fungi all over the world.
Product Type	8
Alternative Identity and Properties	There is only a very limited number of alternative fungicides listed in PT 8 (wood preservatives) available for Propiconazole. We have considered the alternatives in view of their mode of action and efficacy spectrum, and in view of their application. Alternatives related to the mode of action of fungicides: Propiconazole has a very specific mode of action. Propiconazole is a triazole fungicide, also known as a DMI, or demethylation inhibiting fungicide due to its binding with and inhibiting the 14-alpha demethylase enzyme from demethylating a precursor to ergosterol. Without this demethylation step, the ergosterols are not incorporated into the growing fungal cell membranes, and

	cellular growth is stopped. There is only one other active ingredient, Tebuconazole, approved under PT 8 which has a very similar mode of action. However, Tebuconazole is also considered as Substance of Substitution and the evaluation of ED and reproduction toxicity is still on-going. Therefore, Tebuconazole is not considered as a realistic alternative fungicide for research and development of new alternatives. Compared to most other fungicides listed in PT8, Propiconazole has a preferred efficacy spectrum since it is active against wood destroying and wood discolouring fungi at relatively low concentrations (Valcke AR 1989). For example, Penflufen and IPBC are fungicides with different spectra of efficacy with sufficient efficacy against either wood destroying (Penflufen) or discolouring fungi (IPBC) but not both. Therefore, Propiconazole is a preferred combinatorial fungicide to create formulations with a broad efficacy range. In some cases, mixtures of fungicides containing propiconazole show synergistic effects, resulting in an overall lower content of biocides needed (Buschhaus and Valcke 1995). Alternatives related to the application: The selection of fungicides in wood protection for a field of application is influenced by the properties of the fungicide. In the following we have categorized two fields of application: Industrial wood preservation (for long term protection) and anti-sapstain treatment (for temporary protection of freshly sawn timber). For industrial wood preservation the only alternative actives are quaternary ammonium compounds and Penflufen for metal free systems, and quaternary ammonium compounds, Penflufen or Cu-HDO as co-biocides for copper-based treatments for out-door uses of wood. In the case of metal free treatments, the alternatives do not match the spectrum of activity of propiconazole or have severe technical limitations in comparison to Propiconazole. For anti-sapstain treatment alternative actives include IPBC and quaternary ammonium compounds. However, none of these alternatives matches the broad spectrum of activity of propiconazole and all of them have severe technical limitations in comparison to Propiconazole. Tebuconazole has no significant efficacy against the most relevant fungi in this application. Also, the stability of some fungicides on wooden surfaces is lower than for Propiconazole. IPBC, for example, decomposes relatively fast on wet wooden surfaces of freshly cut wood. The protection of these wooden surfaces against blue stain and mould fungi by IPBC alone is therefore limited to several weeks. For these applications the use of a more stable fungicide such as propiconazole (possibly) in combination with IPBC is helpful to increase efficacy. This

	can result in a reduction of wood preservative needed. We also want to comment on non-chemical treatment alternatives. The only commercially broadly available non-chemical method to protect wood in situations where wood decaying fungi can thrive, is a thermal treatment. Thermally Modified Timber (TMT) shows increased durability against fungal attack, increased dimensional stability, but also decreased tensile and bending strengths (Welzbacher et al. 2012). TMT is not as durable in ground contact as chemically treated wood. For these reasons, TMT is used for some niche applications in UC 3, but not for construction wood in gardens and poles or posts (UC 4). It cannot replace chemically treated wood in these situations. Thermal modification treatment is not a suitable method for protecting freshly cut wood against blue stain und mould fungi (anti-sapstain treatment). Only a chemical treatment can protect moist wood against discolouration during the natural drying and subsequent storage period.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The technical feasibility relates to the manufacture of the wood preservatives as well as to the production and properties of the end products – the protected wood products. As outlined in Section 1, replacing Propiconazole with alternative actives poses problems in view of preservative efficacy and depends on the field of application. There are some possible alternatives for some applications in our portfolio but in the majority of applications propiconazole based products are very hard to replace due to the broad efficacy spectrum of Propiconazole from relevant wood destroying to wood disfiguring fungi at relatively low doses and acceptable costs. In addition, its good compatibility with a wide range of wood preservative formulation types allows a broad spectrum of combinations and applications. Some of these are niche applications. Industry cannot justify the development of new formulations for some applications, because of the high costs and efforts and the very long timelines with high uncertainty of success associated with developing, testing and registering new wood preservative formulations. Due to its unique spectrum of activity and technical properties there is no BPR approved active substance that can replace propiconazole. In principal, no alternative active substance is available for the replacement of Propiconazole under PT-8 conditions. Usually, a combination of actives is required to

	obtain the same level of protection and those will also differ from application to application. In addition to that, only a very small number of organic fungicides that do neither fulfill the substitution or exclusion criteria of the BPR remain available in the future. Due to the requirements for biological testing which take from 1 year (lab tests) up to 5 or more years (field tests), the time-to-market for wood preservatives is exceptionally long. Typically 4 to 6 years are needed to develop, fully test and submit a product dossier under BPR. According to our experience it then takes another 3 to 5 years to obtain the final BPR approval. In addition, there is a risk, that the product does not meet market requirements or does not get the required approvals for the targeted applications. The non-chemical treatment alternatives, e.g. TMT (thermally modified timber) are not suitable for long lasting protection of wood in ground contact (UC 4), or for protection of heavy-duty construction wood, or for protection of sleepers or for protection of moist wood during storage. The usability of TMT, especially in load bearing constructions, is severely impacted by the negative effect of the thermal treatment. As a rule of thumb, the higher the durability against fungi, the more severe the mechanical properties are decreased. The very high energy consumption needed to produce TMT is also seen critical due to the associated high CO2 emissions. In addition, our customers are not set up to exchange the chemical treatment for their wood products with a non-chemical treatment since other production facilities are required.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	We expect that developing new wood preservatives with actives other than propiconazole will eventually result in higher prices of the preservatives and therefore impact our business. In the end the end-consumers will have to pay higher prices for the protected wood. In addition, the development of new active substances and wood preservatives associated with an extremely long time to market means a very high risk and investment for a very limited and fragmented market.
Information above is confidential	
Justification for confidentiality	

Hazards and Risks of the Alternative	We are not able to correctly judge the hazards and risks of alternative wood preservatives, since these depend on the other actives used and on the resulting retentions, which might be higher in newly developed wood preservatives. Today the risks of propiconazole are known, but due to a lack of long-term experience it is difficult to assess the alternatives with their unknown risks.
Information above is confidential	
Justification for confidentiality	
Availability	Availability of other approved actives depends on the supply to the wood preservation manufacturer. To apply non-chemical treatment alternatives, such as thermally treat wood, our customers are not set up. Typical equipment for wood preservation consists of dipping tanks or large vacuum-pressure vessels. These are not suited for producing TMT.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	The wood preservative manufacturers and their active substance suppliers have tried several new fungicides from plant protection or other biocidal applications. However, these have been found to be either of low cost-efficacy against the fungi relevant to wood protection, or to have similar or worse toxicological profiles, or to be unsuitable for wood protection due to their physico-chemical properties, such as solubility (high water solubility leads to leaching which is negative for both the environmental risk assessment and long-term efficacy, whereas too low solubility often means that stable wood preservatives or wood preservative solutions cannot be obtained). Also, the development, testing and registration of a new active substance for wood preservation is a highly costly, lengthy and risky undertaking with high uncertainty. Therefore, since the introduction of the BPD in 1998, only 2 new fungicides have been submitted for approval in PT8. In addition to that, the reclassification of Propiconazole as Reprotoxic Cat 1B in December 2016 came very unexpected for both the plant protection and biocide industry experts. Due to the time to develop, test and approve a new active substance for PT8 of the BPR (typically 9 to 13 years) it is impossible for the industry to introduce a replacement

	active for Propiconazole less than 4 years after the relevant RAC opinion has been published.
Information above is confidential	
Justification for confidentiality	
Other comments	none
Information above is confidential	
Justification for confidentiality	
References	Buschhaus HU, Valcke AR 1995 Triazoles: Synergism between Propiconazole and Tebuconazole. IRG WP 95-30092. Valcke AR 1989 Suitability of propiconazole as new generation fungicide. IRG WP 3529 Welzbacher CR, Brischke C, Maier G 2012 Influence of heat treatment intensity on the structural integrity of 14 timber species. IRG WP 12-40586
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 2	**2021/08/11 15:01**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of organization/institution	Protox ApS
I do not wish the name of my organisation/institution to be published on the ECHA website.	

General information	The availability of alternatives to Propiconazol for wood protection is currently non-existent.
Product Type	8
Alternative Identity and Properties	Peneflufen is an prommising and less hazardous alternative but its not expected to become approved before 2023/24. The use of propiconzol should not be terminated before the alternative has been approved by ECHA.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The known propiconzol alternatives are not effective at preventing the growth of Serpula Lacrimans (dry rot). It is therefor important to keep propiconazol on the markted. Not treated infetations of Serpula Lacrimans in bulidings means the buliding will have to be demolished.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	The availabilty of Peneflufen is very limited and access to the substance might become very difficult for SME's and cost of will increase. However, its is both more sustainable and more cost effetive to keep propiconazol on the marked for PT8 use as buldings infested with Serpula Lacrimans can be saved for years to come - this is especially important protecting old listed buildings.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Hazard classification & labelling HelpGHS08: Serious Health Hazard GHS09: Hazardous to the Environment Warning! According to the harmonised classification and labelling (ATP15) approved by the European Union, this substance is very toxic to aquatic life, is very toxic to aquatic life with long lasting effects and is suspected of causing cancer.
Information above is confidential	
Justification for confidentiality	

Availability	Peneflufen is currently not availabel.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	The alternative is not as good as propiconazol proteting building against dry rot caused by Serpula Lacrimans - thus more buildings will have to be demoilshed if propiconazol is substituted with peneflufen.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 3	**2021/08/16 09:27**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Finland
Name of organization/institution	JR-WOOD OY
I do not wish the name of my	

organisation/institution to be published on the ECHA website.	
General information	JR-Wood Oy delivers wooden products around Finland, Sweden and Norway. All the material is covered by Teknol 1410 which includes probiconazol. Our turnover is during this year 15M€ and we have around 20 employers.
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Teknol 1410 has been very suitable in our products. Our clients have been very satisfied. Before wood did rotten and get mould during construction work when it was under weather strain.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Our whole actions are around this specific coating product. Our actions has been profitable.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	In practice our business idea is in this wood coating that gives protection for materials during construction work. If probiconazol will be forbidded our actions will end staight away. Substitutive subtance must be well tested before it can be taken to our production. We can not take any risk's.
Information above is confidential	
Justification for confidentiality	
Availability	Teknos is the manufacturer for Teknol 1410 that we are using.

Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	There is no other applicable product for Teknol 1410 at the moment what would give as good cover as needed. Later on we are of course willing to change more nature friendlier options when there is suitable products available.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	Our biggest clients: Inwido group, Vesivek Oy, Vesivek ab, Tio Tak ab.
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 4	**2021/08/19 14:54**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Austria
Name of organization/institution	ADLER Werk Lackdabrik
I do not wish the name of my organisation/institution to be	

published on the ECHA website.	
General information	Highlight the importance of wood in construction sector to achieve EU objectives (climate neutrality by 2050, Green Deal and its objective to use more "natural and organic material")
Product Type	8
Alternative Identity and Properties	Alternative wood preservatives: most biocidal products currently use several Active Substances to achieve efficacy against all target organisms and to limit quantity and concentration. Needed efficacy = wood discoloring fungi ("blue stains"), wood rotting and wood destroying fungi, insects (in some countries). Currently suitable (=Use Class 3 compatible) and most used Active Substances: Propiconazole, Tebuconazole (end of approval September 2022), IPBC. Penflufen also approved but no Biocidal Product available for Use Class 3 in PT8. SUITABLE alternative Biocidal Products authorized at national level has to fullfill: - Must be free from Propiconazole - Must be authorized in the country for Industrial use - Must be compatible with Use Class 3 - Must be free from SVHC (Substance of Very High Concern) - Must be efficient against wood discoloring fungi, wood rotting and wood destroying fungi Alternative wood species/material: Some wood species are more durable than others and require less preservation. These alternative species are not available in sufficient quantities in Europe, are much more expensive and cannot be processed as easily as currently used timber (such as pine or spruce).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole and Tebuconazole are efficient protection agents against wood destroying fungi. Biocidal Products based on Propiconazole and Tebuconazole are highly compatible with industrial processes (e.g. flow coat etc…). There are core challenge to find suitable active substances in window industry! This is linked to limited compatibility with other materials (corrosion with screws, stains on top coat or paint). In addition these tests require 3-5 years to decide if a substance is deemed compatible and stable over time. This substitution - if possible - is a very complex process.

Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In absence of suitable alternative Active Substance / Biocidal Product, manufacturers would be forced to switch to difference wood species, which are: - Available in smaller quantities - Are less easy to process - Are imported from outside EU - Are more expensive - Would induce a high risk of material shortage It would also increase the risk of sourcing wood from less responsible forests. With no alternative wood preservation solution and very limited alternative from other wood species, there is a high risk to strongly reduce the lifespan of windows and doors and induce more frequent replacement of products (high financial impact for end-users)
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	The only available possibility of products not containing Propiconazole are either containing Tebuconazole (=shorter deadline than Propiconazole) or of much lower efficacy. On a longer timescale Penflufen might be the solution. However - the risk for the structural integrity of windows and doors if less efficient alternatives are used. Less efficient alternative willrequire a very strong increase in Active Substance concentration (higher risk of exposer).
Information above is confidential	
Justification for confidentiality	
Availability	Penflufen (no approved product based on this substance that meets the industry's requirements) and Tebuconazole (shorter approval period than Propiconazole and also falls under exclusion criteria BPR Art. 5 (1), are the alternatives at present and on a longer timescale. Therefore, no alternative solution can be deemed "available" in this context
Information above is confidential	
Justification for confidentiality	

Conclusion on suitability and availability of the alternative	14 wood preservatives suitable for window framings were found for Austria (10) or Germany (10). All wood preservatives contained IPBC. A few wood preservatives contained no Propiconalzole or Tebuconazole. Therefore it can be said that an expiry of the approval Propiconalzole or Tebuconazole will have tremendous impact on the market of wooden windows and exterior doors, especially because bringingnew products on the market might take as long as seven to ten years (leithoff 2015). Manufacturers will no longer be able to use well known products that fit the properties profile needed to operate an efficient industrial coating process. With possible restrictions of Propiconalzole or Tebuconazole in wood preservatives there will be no more wood preservatives left to manufacture durable wooden windows and exterior doors and they cannot be made according to the standards in Europe, Germany and Austria. These restrictions on wood preservatives will be a drawback for the sustainable material wood in window framework and would lead to displacing wood as one of the major materials for windows and doors in Europe, thereby removing a sustainable option for manufacturers and consumers. In summary, because of their reduced efficacy, because of their availability, because of their worse environmental impact and a larger timescale for approval, etc… all alternatives are limited. Tebuconazole: shorter timeline, also falling under exclusion criteria etc… Penflufen: no suitable Use Class 3 products today in any EU country for industrial use in PT8 Alternative wood species: lack of resources, higher price, non-EU sourced for most tropical species etc… Thus, in case of the absence of alternative to Propiconazole, this ban would de facto leave the wooden windows/doors industry without any acceptable solution.
Information above is confidential	
Justification for confidentiality	
Other comments	It is important to mention, that there are specific challenges for the window industry. Even if a solution is brought to the market at some point in the near future, the window industry requires a lot of testing to secure that windows have an acceptable lifespan. Specific compatibility tests are required: compatibility with paint, top coating, risks of corrosion… These tests lead to a 5 to 10 years delay to approve a wood preservation solution for its use in timber windows and doors.
Information above is	

confidential	
Justification for confidentiality	
References	Study on authorised wood preservatives for industrial use as primers to manufacture wooden windows
Attachments (non-confidential information)	20210329_AT_DE_Holzforschung Austria_Final Report.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 5	**2021/08/25 14:28**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	Osmo Holz und Color GmbH & Co. KG
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Propiconazole is of outstanding economic importance in wood preservation to protect against wood-destroying and wood-discolouring fungi. The number of authorised wood preservatives containing this active substance [1] and the resulting quantities of wood treated with them substantiate this. Wood preservatives extend the service life of domestic, non-durable softwood. Effective wood preservation contributes to resource conservation and has an important role in maintaining the value of products and materials made of wood. Material protection with wood preservatives is an important component in the entire value chain – from forests as an economic commodity, followed by the sawmill and wood processing industries to finished end products in the building sector and in gardening and landscaping.

	Therefore, it is necessary to treat non-durable wood with biocides to protect especially sapwood against fungal attacks.
Product Type	8
Alternative Identity and Properties	Wood preservatives containing other fungicides: There are only few fungicides with an approval under the Biocidal Products Regulation (BPR) which could be used as an alternative to propiconazole [2]. All of these possible alternatives for use in use class 2 to 4 (above ground and in-ground contact) have disadvantages (i.a. they need higher active substance concentrations, have less efficacy against specific fungi, meet also exclusion criteria or have sensitizing properties, they are non-colourless and thus not suitable for paint systems). Natural durable wood: Unlike for softwood with its low natural durability, the use of hardwood species of European and tropical origin with a high natural durability against fungi decay is not as widespread in the building sector. This is due to lesser availability and higher costs as well as sustainability aspects. Domestic forests consist largely of renewable non-durable or low-durability coniferous species such as spruce or pine. Many of these forests have been used as economic commodity for centuries and would have to be rededicated within a short period of time. In Germany, about 70% of harvested wood is pine and spruce – with spruce having the greatest economic importance, especially for the building sector [3]. Consequently, giving up these types of wood would also mean giving up wood as a renewable building material. Chemical or thermal modified wood: Chemical modified wood (acetylated or furfurylated wood) reduces the absorption of water and, therefore, fungi attack. Chemical modified wood is not widespread in the market because of its high prices. Chemical modified wood is not really versatile in use, not least because of its inherent odour. Thermal modified wood (wood heated at about 200°C for several hours) is less moisture-absorbing than untreated wood, resulting in stronger resistance to fungi attack. Thermal modified wood is not suitable for soil contact (use class 4). The higher the heating process, the stronger the resistance against fungi attacks – but with increasing process temperature the bending strength is reduced significantly and the wood becomes brittle.
Information above is confidential	
Justification for confidentiality	

Technical Feasibility	Wood preservatives with propiconazole are highly effective against wood-decaying fungi and wood-discolouring fungi. They can be formulated as aqueous based products. Propiconazole is suitable for use in paint systems and has many appropriate technical properties, such as colourlessness and non-corrosivity towards impregnation equipment as well as fittings, screws and nails in connection with the treated wood. Propiconazole can be combined easily with other active substances (e.g. insecticides). Furthermore, propiconazole is inert/neutral towards other technically necessary ingredients of a formulation. Wood preservatives containing propiconazole are non-foaming. Formulations with propiconazole have very good painting properties. The active substance behaves neutrally towards the wood surface and subsequently applied coatings. In efforts to find alternatives, long-term tests over years need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical application.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, there is no alternative active substance. Without adequate alternatives (active substances and wood preservatives), the service life of the most important wood species and their wood products (e.g. windows, fences, doors) is shortened significantly. This leads to a more frequent replacement of such products with the ensuing high cost for end users. The positive carbon footprint effect of wood would be reduced. More expensive wood species of limited availability or alternative – less suitable – building materials would have to be used instead [4]. Non-availability of wood preservatives with propiconazole disrupts the entire existing value chain from native softwoods to processed wood products. Propiconazole is of outstanding importance as a preservative for lumber against wood-discolouring fungi (blue stain, sapstain and mould). Blue-stained wood cannot be marketed and causes immense economic losses.
Information above is confidential	

Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (fungicidal active substances), no risk and hazard assessment can be carried out.
Information above is confidential	
Justification for confidentiality	
Availability	Other fungicides covering the broad range of applications of propiconazole are not available. There is no naturally durable heartwood in sufficient quantities. Beside the aspect of availability, tropical wood is also critical from an ecological viewpoint. Chemically and thermally modified wood is not available in large quantities. The technical equipment of existing impregnation plants cannot be converted to the production of modified wood, since completely different chemicals and technologies are required for this.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	From the perspective of manufacturers of wood preservatives/formulators organised in the German association for construction chemicals Deutsche Bauchemie e. V., there are no adequate alternatives to wood preservatives containing propiconazole
Information above is confidential	
Justification for confidentiality	
Other comments	The development of alternative active substances for wood protection takes a very long lead time with an uncertain outcome. Many years are needed to prove the efficacy of an active substance up to the technical maturity of marketable products. Moreover, there is a lengthy approval procedure under the BPR – also with an uncertain outcome.
Information above is confidential	
Justification for confidentiality	

References	[1]: ECHA Database (https://echa.europa.eu/de/information-on-chemicals/biocidal-products; last update 13 August 2021]: 1785 authorised BP for PT 8 within 932 BP containing propiconazole [2]: The Use of Propiconazole in Wood Preservatives [PT8]: see attachments [3]: Deutsche Bauchemie: "Folienserie Holzschutz", Slides F1 and F2 and the references given there, https://deutsche-bauchemie.de/uploads/tx_ttproducts/datasheet/DBC_225-FS-D-2017_02.pdf [4]: „Advocacy Paper" of the German chemical industry association Verband der Chemischen Industrie e. V. (VCI): see attachments
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 6	**2021/08/25 15:09**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Finland
Name of organization/institution	Luvian saha oy
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	1/3 of our fruther processed outdoor cladding business is based on wood preservatives. Our biggest worry is that if wood will loose it position as sustainable material as outdoor claddings it will be replaced by other materials like plastic.
Product Type	8
Alternative Identity and	

Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	

References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 7	**2021/08/25 16:38**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	Deutsche Bauchemie e. V.
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Propiconazole is of outstanding economic importance in wood preservation to protect against wood-destroying and wood-discolouring fungi. The number of authorised wood preservatives containing this active substance [1] and the resulting quantities of wood treated with them substantiate this. Wood preservatives extend the service life of domestic, non-durable softwood. Effective wood preservation contributes to resource conservation and has an important role in maintaining the value of products and materials made of wood. Material protection with wood preservatives is an important component in the entire value chain – from forests as an economic commodity, followed by the sawmill and wood processing industries to finished end products in the building sector and in gardening and landscaping. Therefore, it is necessary to treat non-durable wood with biocides to protect especially sapwood against fungal attacks.
Product Type	8

Alternative Identity and Properties	Wood preservatives containing other fungicides: There are only few fungicides with an approval under the Biocidal Products Regulation (BPR) which could be used as an alternative to propiconazole [2]. All of these possible alternatives for use in use class 2 to 4 (above ground and in-ground contact) have disadvantages (i.a. they need higher active substance concentrations, have less efficacy against specific fungi, meet also exclusion criteria or have sensitizing properties, they are non-colourless and thus not suitable for paint systems). Natural durable wood: Unlike for softwood with its low natural durability, the use of hardwood species of European and tropical origin with a high natural durability against fungi decay is not as widespread in the building sector. This is due to lesser availability and higher costs as well as sustainability aspects. Domestic forests consist largely of renewable non-durable or low-durability coniferous species such as spruce or pine. Many of these forests have been used as economic commodity for centuries and would have to be rededicated within a short period of time. In Germany, about 70% of harvested wood is pine and spruce – with spruce having the greatest economic importance, especially for the building sector [3]. Consequently, giving up these types of wood would also mean giving up wood as a renewable building material. Chemical or thermal modified wood: Chemical modified wood (acetylated or furfurylated wood) reduces the absorption of water and, therefore, fungi attack. Chemical modified wood is not widespread in the market because of its high prices. Chemical modified wood is not really versatile in use, not least because of its inherent odour. Thermal modified wood (wood heated at about 200°C for several hours) is less moisture-absorbing than untreated wood, resulting in stronger resistance to fungi attack. Thermal modified wood is not suitable for soil contact (use class 4). The higher the heating process, the stronger the resistance against fungi attacks – but with increasing process temperature the bending strength is reduced significantly and the wood becomes brittle.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Wood preservatives with propiconazole are highly effective against wood-decaying fungi and wood-discolouring fungi. They can be formulated as aqueous based products. Propiconazole is suitable for use in paint systems and has many appropriate technical properties, such as

	colourlessness and non-corrosivity towards impregnation equipment as well as fittings, screws and nails in connection with the treated wood. Propiconazole can be combined easily with other active substances (e.g. insecticides). Furthermore, propiconazole is inert/neutral towards other technically necessary ingredients of a formulation. Wood preservatives containing propiconazole are non-foaming. Formulations with propiconazole have very good painting properties. The active substance behaves neutrally towards the wood surface and subsequently applied coatings. In efforts to find alternatives, long-term tests over years need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical application.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, there is no alternative active substance. Without adequate alternatives (active substances and wood preservatives), the service life of the most important wood species and their wood products (e.g. windows, fences, doors) is shortened significantly. This leads to a more frequent replacement of such products with the ensuing high cost for end users. The positive carbon footprint effect of wood would be reduced. More expensive wood species of limited availability or alternative – less suitable – building materials would have to be used instead [4]. Non-availability of wood preservatives with propiconazole disrupts the entire existing value chain from native softwoods to processed wood products. Propiconazole is of outstanding importance as a preservative for lumber against wood-discolouring fungi (blue stain, sapstain and mould). Blue-stained wood cannot be marketed and causes immense economic losses.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (fungicidal active substances), no risk and hazard assessment can be carried out.

Information above is confidential	
Justification for confidentiality	
Availability	Other fungicides covering the broad range of applications of propiconazole are not available. There is no naturally durable heartwood in sufficient quantities. Beside the aspect of availability, tropical wood is also critical from an ecological viewpoint. Chemically and thermally modified wood is not available in large quantities. The technical equipment of existing impregnation plants cannot be converted to the production of modified wood, since completely different chemicals and technologies are required for this.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	From the perspective of manufacturers of wood preservatives/formulators organised in the German association for construction chemicals Deutsche Bauchemie e. V., there are no adequate alternatives to wood preservatives containing propiconazole (see items 1-5).
Information above is confidential	
Justification for confidentiality	
Other comments	The development of alternative active substances for wood protection takes a very long lead time with an uncertain outcome. Many years are needed to prove the efficacy of an active substance up to the technical maturity of marketable products. Moreover, there is a lengthy approval procedure under the BPR – also with an uncertain outcome.
Information above is confidential	
Justification for confidentiality	
References	[1]: ECHA Database (https://echa.europa.eu/de/information-on-chemicals/biocidal-products; last update 13 August 2021]: 1785 authorised BP for PT 8 within 932 BP containing propiconazole [2]: The Use of Propiconazole in Wood Preservatives [PT8]: see attachments [3]: Deutsche

	Bauchemie: "Folienserie Holzschutz", Slides F1 and F2 and the references given there, https://deutsche-bauchemie.de/uploads/tx_ttproducts/datasheet/DBC_225-FS-D-2017_02.pdf [4]: „Advocacy Paper" of the German chemical industry association Verband der Chemischen Industrie e. V. (VCI): see attachments
Attachments (non-confidential information)	DFL_Propiconazole in wood preservatives_rapport_WEB_2021.pdf; vci-discussion-paper-wood-preservation-is-key-for-the-european-green-deal-2021-06-23.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 8	**2021/08/26 10:23**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Estonia
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	[redacted] manufactures wooden windows, entrance doors, patio doors. As a user of water based 3 layer finishing system which includes treatment with wood preservative which contains Propiconazole we provide weather resistance and protection against fungal rot and blue stain for our products and therefore ensure the sustainability and long lifespan of the timber product. In our experience restricting the use of wood preservatives shortens significantly the lifespan of timber windows and doors, resulting with higher demand on plastic and metal profile products which inevitably increases environmental pressures.

Product Type	8
Alternative Identity and Properties	Not known.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Not known due to not known alternative.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Not known due to not known alternative.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Not known due to not known alternative.
Information above is confidential	
Justification for confidentiality	
Availability	Not known due to not known alternative.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Not known due to not known alternative.
Information above is confidential	
Justification for confidentiality	
Other comments	Currently [redacted] has no information from paint system suppliers in regards of feasible alternative to wood preservative containing propiconazole.

Information above is confidential	
Justification for confidentiality	
References	--
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 9	**2021/08/26 13:43**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Norway
Name of organization/institution	Inwido AB
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Inwido is the leading window group in Europe, focused on wood based windows. At the business units in Sweden and Norway we are using the product Protim P-Vac 11 from Koppers to impregnate wood. This uses Propiconazol as one of the key ingredients.
Product Type	8
Alternative Identity and Properties	[redacted]
Information above is	on

confidential	
Justification for confidentiality	[redacted]
Technical Feasibility	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Economic Feasibility	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Conclusion on suitability and availability of the alternative	[redacted]
Information above is confidential	on

Justification for confidentiality	[redacted]
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 10	**2021/08/26 16:17**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Estonia
Name of organization/institution	Lasita Aken AS
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	
Product Type	8
Alternative Identity and Properties	At the moment don't know
Information above is confidential	
Justification for confidentiality	

Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential	

information)	
Justification for confidential attachment	

Comment 11	**2021/08/26 16:26**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Belgium
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	network of shops distributing Teknos
Product Type	8
Alternative Identity and Properties	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	

Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 12	**2021/08/26 17:12**
FirstName	[redacted]
FamilyName	[redacted]

Email	[redacted]
Country	Austria
Name of organization/institution	Association of the Austrian Wood Industries
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The EU Bioeconomy Strategy, updated in 2018, states that wood use can deliver major environmental benefits, for example in the construction sector, through the replacement of energy-intensive non-renewable building materials. In January 2020, in its resolution on the European Green Deal, the European Parliament called for the effective implementation of the EU Bioeconomy Strategy as part of the Green Deal. The Green Deal envisages wood and wooden products as important materials for constructions and in renovation.
Product Type	8
Alternative Identity and Properties	Alternatives to Propiconazole: - Alternative wood preservatives - Other wood species wood preservatives With regard to wood preservation most biocidal products used contain a combination of at least 2 active substances. The combination of substances is required to meet the needed effectiveness against all target organisms and to limit the concentration of biocide in the final product At the moment three substances used can be - to some extent - seen suitable for the needs of the wooden window &doors industry (Use Class 3). - Propiconazole, BPR Exclusion criteria Article 5 (1) in December 2022 - Tebuconazole, BPR Exclusion criteria Article 5 (1) in September 2022? - IPBC, which only has efficacy against wood discolouring fungi ("blue stains") These substances are not to be seen as alternatives to each other. eg IPBC cannot meet any efficacy against wood destroying fungi (only efficient against discolouring fungi "blue stains"). Penflufen can be seen as one potential alternative in the coming year with biocidal products based on the active substance . But, no biocidal products based on Penflufen is approved in any EU Member State that meets Use Class 3. Other wood species Another alternative to reach the durability criteria for timber windows and doors would be to use hardwood species which do not require preservation. Softwood (e.g. spruce, pine) is

	the main raw material for framing of timber windows and doors use due to its availability. Besides it is easy to use. Hardwood would mainly have to be imported from outside the EU.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The effectiveness of Propiconazole is based on destroying wood-fungi ("white-rot" and "brown-rot"). It is broadly used in industrial processes such as coating as it is easy to use and very effective. It can be seen as the most relevant substance for wood preservatives. The main problem of using alternatives in the window industry as seen in the compatibility of the biocidal product with other elements of a window/door: corrosion of metal elements and discolouring.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At the moment the timber Windows&dorrs Industry faces a lack of adaquete and acceptable alternatives to Propiconazole in wood preservatives. As a consequence the industry would need to switch use suitable wood species mainly coming from outside EU. Not only that this could have an iImpact on the image it will for sure affect the cost of raw materials as well as the availability and transportation of the material. The use of wood within the EU is favourable with regard to responsible sourcing. Besides it is cost-effective and sustainable . But, most of the EU-species require wood preservatives. The use of a less effective timber preservation could reduce the durability of windows and door. In most regions of the EU windows and doors are usually intended to being used for 30, 50 or even 100 years. If less protected against biological attacks, it will lead to more and faster replacements and thus higher environmental impact . With regard to the Propiconazole Impact Assessment (2018), the economic impact on downstream users and end-users would exceed EUR 150M in 5 years.
Information above is confidential	
Justification for confidentiality	

Hazards and Risks of the Alternative	At the moment, alternative biocidal products which are not containing Propiconazole are based on Tebuconazole. Other solutions can not really meet the needs of the timber windows and doors Industry as regards effecitiveness of timber preservation. If less efficient Solutions will have to be used, the structural integrity of windows and doors would be for sure influenced due to the absence of protection against wood-destroying fungi. In this context it has to be stated that less suitable alternatives would require a significant increase of active substance concentration in all biocidal products, This would lead to unfavourable side effects and increase the potential risk of exposure.
Information above is confidential	
Justification for confidentiality	
Availability	There are currently 2 potential alternatives to Propiconazole: • Penflufen: It has recently been approved as Active Substance for PT8 – Wood Preservatives. So far there is no biocidal product approved in any EU Member State that can meet the needs of the window & door industry (effectiveness against discolouring fungi, wood-destroying fungi and approved for Use Class 3) • Tebuconazole: It is currently used in some biocidal products within PT8, but which will reach the end of its approval period before Propiconazole (September 31st, 2022). It will be possibly a candidate to fall under the Exclusion Criteria of BPR Art. 5 (1). So, it might be possible that it will not be re-approved. As a conclusion, it is likely that there is no alternative solution for the doors&windows industry in the current frame of the BPR to fulfil the needs of the window & door industry .
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Alternatives to the use of Propiconazole are: • Tebuconazole: The approval will expire in September 2022 - no suitable solution. • Penflufen: in theory an acceptable alternative for some of the target organisms of Propiconazol. No biocidal products are available in any EU Member States up to now that fulfil the needs of the timber window & door industry • Alternative wood species: Some hardwood species can be considered as more durable than softwood species. They would mainly be sourced outside the

	EU. Other solutions to the use of Propiconazole-based biocidal products are not effective enough for the needs of the wooden windows&doors Industry.
Information above is confidential	
Justification for confidentiality	
Other comments	In a recent analysis of the Georg-August-Universität Göttingen (Wood Biology and Wood Products division) Prof. Militz clearly stated that the industry would need to run the necessary tests at least over a period of 5 to 10 years (e.g. ageing, compatibility with coatings and paints, risk of corrosion etc…) in order to get the corresponding approvals, if new wood preservation solutions would be placed on the market. This will and could cause heavy damage to the important industrial sector, if there is no suitable solution in between, such as the extension of the use of Propiconazole, to place products on the market that fulfill the needs and expectations of the customers.
Information above is confidential	
Justification for confidentiality	
References	Several references are already published (eg.): Statement on time-scheduling for the substitution of wood preservatives from Prof. Dr. Holger Militz and Prof. Dr. Christian Brischke, University of Goettingen CEI Bois-EuroWindoor-SBS joint position Studies
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 13	**2021/08/27 12:44**
FirstName	[redacted]
FamilyName	[redacted]

Email	[redacted]
Country	Austria
Name of organization/institution	Arbeitsgemeinschaft Holzschutzmittel (www.holzschutzmittel.at)
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Wirksamer Holzschutz ist eine unverzichtbare Voraussetzung für den Einsatz von Holz als nachwachsenden Rohstoff. Die ehrgeizigen Ziele der Kommission, die im Green Deal formuliert sind, können in vielen Bereichen nur durch nachhaltige und nachwachsende Rohstoffen wie beispielsweise Holz, erreicht werden. Aufgrund der strengen Regelungen der BPR stehen viele Wirkstoffe für den effektiven Holzschutz nicht mehr zur Verfügung. Das wird negative Auswirkungen für den vielfältigen Einsatz von Holz haben. Nur durch effektiven Holzschutz kann eine langlebige Nutzungsdauer, der mit Holz hergestellten Wirtschaftsgüter und Gebrauchsgegenstände erzielt werden.
Product Type	8
Alternative Identity and Properties	Es stehen aufgrund der BPR immer weniger Wirkstoffe zur Verfügung und neue Wirkstoffe mit ähnlich guter Wirkung sind nicht in Sicht: Propiconazol ist gut erforscht und die bekannten Risiken gut handhabbar. Neue Wirkstoffe sind oft nicht mit einer so guten Datenlage ausgestattet und bergen insofern noch nicht bekannte Risiken. Es gibt nur wenige Wirkstoffe, die nach BPR zugelassen sind die eine Alternative zu Propiconazol sein könnten. Aber alle haben nicht unerhebliche Nachteile .
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Holzschutzmittel mit Propiconazol sind äußerst wirksam gegen holzschädigende Pilze. Diese Holzschutzmittel können als wasserbasierende Systeme eingesetzt werden und brauchen wenig bis keine organischen Lösungsmittel und sind auch in dieser Hinsicht nachhaltig. Propiconazol kann sehr gut in Farben eingesetzt werden. Sie sind sehr gut erforscht und es gibt positive Erfahrungen über den

	jahrzehntelangen Einsatz.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Zur Zeit gibt es keine geeigneten zur Verfügung stehende Alternativen. Es sind auch keine in nächster Zukunft zu erwarten. Ohne Holzschutz verringert sich die Nutzungsdauer vieler Wirtschaftsgüter aus Holz wesentlich. Holz als nachwachsender Rohstoff wird an Bedeutung verlieren. Das widerspricht den klaren Zielsetzungen des Green Deal. Beispielsweise kann von Bläue(blue stain) befallenes Holz nicht mehr eingesetzt werden und es entsteht dadurch ein großer wirtschaftlicher Schaden.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Die wenigen möglichen Alternativen weisen eine schlechtere Performance auf und sind viel weniger gut erforscht.
Information above is confidential	
Justification for confidentiality	
Availability	Geeignete andere Wirkstoffe mit ähnlicher Performance sind derzeit nicht verfügbar!
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Aus Sicht der Arbeitsgemeinschaft Holzschutz(ARGE HSM) ist eine geeignete Alternative zu Propiconazol nicht in Sicht.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	

Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 14	**2021/08/27 15:00**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Poland
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	Wyrażam sprzeciw wobec wprowadzenia zakazu stosowania propikonazolu w środkach zabezpieczania drewna.
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	

Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 15	**2021/08/28 11:50**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Poland
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	We are a company that produces wooden doors and windows.
Product Type	8
Alternative Identity and Properties	We have no alternative at the moment. No product with 100% the same properties.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	We anticipate a high increase in material costs. Which may lead to a serious drop in demand for products, and, as a consequence, to the loss of jobs and the liquidation of companies operating in the wood industry.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	At the moment, there is no alternative product protecting wood products to the same extent.

Information above is confidential	
Justification for confidentiality	
Availability	Producers are in the process of testing new products. At the moment, they do not offer any guarantees for alternative products.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Producers are in the process of testing new products. At the moment, they do not offer any guarantees for alternative products.
Information above is confidential	
Justification for confidentiality	
Other comments	In the event of a ban, we expect a high increase in the cost of materials and a reduction in the possibility of using wood in construction, which may lead to a serious drop in demand for products, and, consequently, to the loss of jobs and the liquidation of companies operating in the wood industry. These risks also include the effects of abandoning wood as the building material of choice and the loss of sustainability benefits such as carbon sequestration, natural wildlife habitats and an easily accessible raw material source.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 16	2021/08/30 12:53
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Slovakia
Name of organization/institution	SLOVENERGOokno
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	SLOVENERGOokno is the biggest Slovakian association of windows and doors manufacturers. Wood currently represent a significant share of the Slovakian window and door industry, and allows manufacturers to use a sustainable and renewable material in their frames. With the need for decarbonization of the building sector, wood will necessarily become a key actor of the green transition and one of the cornerstones in reaching the carbon neutrality by 2050. However, in order to deliver durable and long-lasting products, the timber window and door industry need to protect the wood from biological attacks (fungi) to prevent rot or stains. Propiconazole is currently at the core of wood preservatives used in the window industry because of its efficacy and its compatibility with the manufacturing process of windows and doors.
Product Type	8
Alternative Identity and Properties	As previously explained, Propiconazole is at the core of most wood preservatives used by Slovakian window and door producers. However, it is always used in combination with one or two other Active Substances in order to meet the efficacy required by our industry. There are currently 3 Active Substances being used in Biocidal Products for wood preservation: • Propiconazole, which falls under BPR exclusion criteria • Tebuconazole, which reaches its expiry date on September 31st 2022 (earlier than Propiconazole) • IPBC, which is use as a combination ingredient to reach the full efficacy against wood discoloring fungi ("blue stains") The above mentioned Active Substances, used in combination, allow window and door manufacturers to meet the very strict criteria of the industry: efficacy against rot,

	efficacy against destroying fungi, efficacy against blue stains, Use Class 3 protection level. Only biocidal products authorized for Industrial use and meeting these efficacy criteria can be used by our industry. In Slovakia, there in only one single authorized biocidal product not using Propiconazole (ECHA database of Biocidal Products), but this product is based on Tebuconazole (reaching the expiry date before Propiconazole), therefore not representing a suitable alternative. One additional Active Substance – Penflufen – might be added to that list of suitable solutions in several years, but does not have any Biocidal Product currently authorized in Slovakia. Beside Biocidal solutions, some wood species are naturally durable and require less wood preservatives than regular wood used by the window industry (usually, fast-growing species like Pine or Spruce). Unfortunately, these species are not available in sufficient to provide the supply required by the industry.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The main reason for using Propiconazole in Biocidal Products for the preservation of wooden frames is its efficacy against wood destroying fungi (and, to a certain extent, against blue stains). Its high efficacy for all type of wood, especially sapwood, makes it the preferred choice for wood preservation and is currently the most used Active Substance for that purpose in our industry. In addition, its compatibility with other materials (e.g. no corrosion with screws, no yellowing of paint etc…) and the possibility to use it in flow coat process (which allows its use in an uninterrupted flow process line) make it the cornerstone of the industry's wood preservation method. As explained in "1. Alternative Identity and Properties", there are currently only one biocidal product not using Propiconazole in Slovakia, and this product will soon reach the expiry date of its active substance, Tebuconazole. In order to switch to a new Biocidal Product (coming from a new active substance), the industry has to wait for the authorization to be available. Only then can we perform the required aging tests 'taking around 5 years) to approve the use of the Biocide in our processes. It is therefore not realistic that any new Biocidal product would be ready by the end of approval period of Propiconazole, thereof leaving the industry without any efficient solution.
Information above is	

confidential	
Justification for confidentiality	
Economic Feasibility	As described in "1. Alternative Identity and Properties", only radically different sourcing of wood species would constitute a short term solution to the use of Propiconazole-based biocidal products. Unfortunately, these wood species are not available in sufficient quantities and a global shift toward this solution would lead to material shortage and increased costs.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	In the absence of a suitable and efficient wood preservation solution, the wooden window and door industry would have to use low-grade solutions, therefore reducing the quality, the stability and the lifespan of its products. Supplying windows and doors of lower quality and stability would induce a risk for the consumers living or working next to these windows and doors (e.g. wood rotting and wood destroying fungi will damage the structure of the frame and will compromise the robustness and mounting brackets and screws). The industry would also have to increase the concentration of other Active Substances to partly compensate for the loss of efficiency, which we are currently avoiding by using multiple Active Substance of high combined efficiency.
Information above is confidential	
Justification for confidentiality	
Availability	The only long-term alternative to Propiconazole in terms of Active Substance might come from the development of Penflufen-based Biocidal Products. These products are currently at the early stages of development and none of them is therefore authorized on the market. Regarding the availability of alternative wood species, these are currently not available in sufficient quantities neither for the window and door business, nor for the woodwork industry as a whole.
Information above is confidential	

Justification for confidentiality	
Conclusion on suitability and availability of the alternative	For all abovementioned arguments, there are currently no suitable alternative to Propiconazole for the timber window and door business in Slovakia – and by extension for the entire woodwork industry. The only Biocidal Product available on the Slovakian market is based on an even shorter term Active Substance (Tebuconazole, expiring in September 2022). Other future solutions based on the Active Substance Penflufen are not yet authorized on the Slovakian market (or any other EU Member State), and would in any case require several years to be authorized within the ECHA process flow, after which another 5 year test period is needed for testing the efficiency and the compatibility of the Biocidal Products with window and door application. Alternative wood species are not available in sufficient quantities, neither in Europe nor elsewhere, and a shift would induce a major material shortage and price increase. To our best available knowledge, there is currently no alternative to be foreseen in the next 3 years and a non-renewal of Propiconazole would therefore put the entire industry at risk in case of a non-renewal of Propiconazole.
Information above is confidential	
Justification for confidentiality	
Other comments	Even though Slovakia is rather smaller country, the window and door market is quite concentrated and a lot of international manufactures have their production sites here and export their products to the whole Europe.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 17	2021/08/31 14:22
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Norway
Name of organization/institution	Jotun AS
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The availability of active substances for use in wood preservatives for the paint industry is already very limited. There are only a handful that are compatible in impregnations and primers placed on the market by the paint industry. To the best of our knowledge there are no new active substances for PT8 in the pipeline expected to be commercialized for the next 10 years. The active substances are active against different species and if a situation with resistance would arise there are few/no replacements. The default ban on substances having some specific hazardous properties (i.e. the exclusion criteria) makes it more unlikely that there will come new active substances on the market – even if safe use can be demonstrated! The development of a new PT8 product takes minimum 5 years for the paint industry; 1-2 years of development, 1-2 years of testing/verification of efficacy and leaching and 1-2 years for product authorization. This is assuming that there already is an approved active substance available. When a development project starts there is a certain risk that the active substance will be banned or severely restricted during development and that the approval period for the PT8 product will be shortened. This in itself limits the development of new PT8 products in the paint industry. The current timeline for non-approval or severe restriction for PT8 active ingredients does not allow time for development of PT8 replacement products. Thus, if an active ingredient becomes banned by default it can have detrimental consequences for an entire industry. Wood is the most important building material in several of the Nordic countries. PT8 products from the paint industry are essential

	to prolong the service life of wood and to make wooden buildings sustainable. According to scientists, the climate will get more humid and increase the risk for wood rot. This means that there will be an increased need for PT8 active substances, and PT8 products, to protect all exterior wooden structures (e.g. buildings, bridges, etc) for decades (or even centuries) to come. Wood rot maps, left shows historical data 1971-2000, middle 2030-2060 and right 2071-2100 based on high emission scenario. Full report in Norwegian https://www.met.no/kss/_/attachment/download/30b48248-14db-494e-96d8-7127360005db:f495ddf4c9d7358398f610f0ed735c8382dad535/met-report-08-2017.pdf
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is	

confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	Consultation on potential candidates for substitution.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 18	**2021/08/31 14:52**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Czech Republic
Name of organization/institution	Czech Chamber of Curtain Walling and Façades
I do not wish the name of my organisation/institution to be published on the ECHA website.	

General information	First of all, let us assure you that we fully understand the purpose of the Biocidal Products Regulation (Regulation (EU) No 528/2012 - the BPR) and its role in securing a high level of safety for humans health, animal health, and for the environment. We would like to also highlight the fact, that wood in the construction sector plays one of the key roles in achieving the EU climate and environmental goals, and thus, also in achieving the national goals. The construction sector does not have the infinity of possibilities of what materials can be used in the decarbonization process and minimizing the environmental impacts. And wood represents one of the options that seem to be crucial in helping us how to continue with the already initiated direction. And at least for a certain time period, propiconazole will remain the most used Active Substance in Biocidal Products preventing the growth of wood-rotting, wood-destroying, and wood-discoloring fungi.
Product Type	8
Alternative Identity and Properties	The wood industry is actively looking for suitable alternatives. But only the tests require 3-5 years before we can be sure that it could be used in practice. So far, we have identified only a few of Biocidal Products that could meet the main requirements on the efficiency against wood-destroying and wood-rotting fungi, the efficiency against wood-discoloring fungi ("blue stains"), the efficiency against insects (in some countries), the compatibility with Use Class 3 (acc. to EN 335) for e.g. window products, and the absence of Substance of Very High Concern (SVHC). And those Biocidal Products meeting the requirements almost exclusively use a combination of Propiconazole, Tebuconazole, and IPBC. Penflufen might also constitute another Active Substance in the near future but no Biocidal Product is currently authorized for Use Class 3 in PT8 (Wood Preservatives). Tebuconazole will be most likely substituted in September 2022 (earlier than Propiconazole) and IPBC alone cannot meet efficiency against wood-destroying and wood-rotting fungi (efficiency against blue stains only).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Wood materials face the challenge of interaction with other materials. And we are not talking only about fixing systems only but also about finishing covers. That is why we have to test how all the products interact not only with wood but

	also with other materials (iron, steel, paint, lacquer, etc.) and the testing period is thus longer. Wood has to also fulfill all the technical and qualitative requirements given by both, international and national technical standards. It also means that what is acceptable in one country, it cannot be used in another. Despite the fact, that we should have uniform rules in the EU.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	If we did not test alternatives with regard to the long-term impacts on materials, we could face reduced time-life of the products and it would lead to increased cost not only for producers but mainly for consumers. And of course, impacts on the environment would be even higher. The wood industry has also another alternative – using different – more durable - wood species. But those wood species are produced in non-European countries mainly, available in smaller quantities, more expensive and sometimes with questionable environmental impacts (certified durable wood available on the market would not cover the demand for wood in Europe). All the above-mentioned aspects would lead to an extreme increase in price and even now (100% increase within the last year), we face a rapid rise in wood prices leading to higher price of wood products.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Currently, most of the available alternatives either require a higher amount of Active Substance concentration (leading to a higher risk of exposer), or contain Tebuconazole (which is not the solution as mentioned above), or have significantly lower efficiency.
Information above is confidential	
Justification for confidentiality	
Availability	We do not see any alternative to Propiconazole with the equal effects and efficiency available on the market. Tebuconazole will be banned even earlier than Propiconazole and Penflufen is not a proper solution for certain products because of not meeting the technical

	requirements.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Despite some promising results in research, we must state that we do not have yet any suitable alternative (that could be used on a wider scale) available yet. Some of the substitutes would have higher environmental impacts, lower efficiency, are not available in the requested amount (and cannot be produced in higher quantities in the short term), or cannot meet all the technical requirements on wood (e.g. Penflufen is not suitable for Use Class 3 products).
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 19	**2021/09/01 08:35**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Slovenia

Name of organization/institution	
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	[redacted]
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole is a preservative, that is frequently used in wood preservatives. It is one of the key ingredients in 300 or 360 wood preservatives (PT8) in Slovenia. At the very moment, these types of preservatives are predominately used for the protection of window frames, claddings ... These preservatives are preventing fungal infestation. At the very moment, there is no alternatives for this application on the market. Ban of propiconazole would influence the market, as the producers would not be capable to meet customers demands. Thus it is of great importance to prolong the authorization till suitable alternatives are available on the market.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is	

confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 20	**2021/09/01 10:31**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Spain
Name of	Industrias Químicas Irurena S.A.

organization/institution	
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Industrias Químicas Irurena, S.A. is a paint manufacturer, which produces wood preservative paints with propiconazole so it's directly affected by the regulations that apply to this active substance.
Product Type	8
Alternative Identity and Properties	As a downstream user of propiconazol, we work with different providers of the substance. We have been asking them an alternative but, by the moment, they haven't been able to offer us any suitable alternative with comparable behaviour. This means that we should use more active ingredient in order to achieve the same wood protection. In short, by the moment, there is no other single active substance on the market that can be considered as an appropriate alternative.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole is used as a Wood Preservative (PT8). There are 46 biocides approved for PT8 but they don't offer the same result replacing propiconazole in wood preservatives for both superficial and penetrating treatment of wood intended for outdoor use, both above and in-ground contact. This use means that the wood preservative must protect against wood decay and for superficial application, also against blue staining fungi. In brief, from the list of 46 approved biocides, 12 of them (eg permethrin) are efficient against insects only and therefore are not relevant to use against wood decay, 3 of them are expired substances, 6 are boron compounds classified as Repr-1B (subject to the exclusion criteria) and very soluble in water (excesive leaching), 5 copper compounds (heavy metal highly toxic for water living organisms and low degradation, Creosote is classified as Carc. 1B (subject to exclusion) and cannot be used for water systems, 3 other substances (eg OIT) are only efficient against blue stain, 4 are the so called niche substances with very low end-use experience, 7 quaternary amonium compounds not used in waterborne paints

	because of the system used. Finally, tebuconazole is less efficient, DCOIT is quite hazardous and there is little experience, IPBC may cause dermal absorption and yellowing of the surface and penfluflen is quite new. Benefits of other new products in development are still hypothetical.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Propiconazole substitution may lead to the use of other substances with less efficacy, increasing the costs derived from greater problems with wood preservation or causing the use of more quantity of active substance, which would increase the cost of the product. The costs of paint certification must also be considered. A change in the formulation implies having to renew the biocide registration of the affected products. Registration costs are very high so getting the return is complicated and requires a high volume of sales. Having to re-register products for which these costs have not yet been amortized, in addition to the expense itself, can lead to their withdrawal from the market, with the consequent losses in market positioning. These higher costs, in the worst scenario, may lead to lost of employments in paint sector and less use of the wood as a construction raw material (more unemployment and business closures in the timber industry).
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Depending on the alternative substance employed risks for human health or environmental hazards may vary, Anyhow, as mentioned before, the use of a less efficient alternative means the use of a higher amount of substance (more risk and increased costs). Such a situation may lead to less use of wood as a raw material for construction, replacing it with other less sustainable materials and loosing wood advantages in this area such as CO2 sequestration, fauna and flora habitats loss and an easily (and acessible) source of material.
Information above is confidential	
Justification for confidentiality	

Availability	As mentioned before there are not yet available alterrnative active substances to immediately replace propiconazole. Providers are trying to find that alternative with similar behaviour but, in this moment, it's impossible to achieve it.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	As a conclusion, it may be stated that, currently, alternatives to propiconazole are unsuitable: most of them can't offer the same level of preservation or they have some other issues like health risks, worst properties (leaching, yelowing potential...), low end-use experience, low degradation potential... In this situation there are high risks of changing to less preservative products and increasing problems working with wood, leading to less use of wood as a raw material for construction which would mean economic and environmental problems. In addition, the very fact of having to re-register already registered products would generate an economic impact in many cases unaffordable by the industry, especially SMEs.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 21	**2021/09/01 16:00**

FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Finland
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	[redacted] uses TEKNOL AQUA 1410-01 wood preservative. The product contains Propiconazole. We are asking for an extension of the transition period so that Teknos has time to bring a replacement product to market
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	There is a risk of losing customers.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	

Justification for confidentiality	
Availability	Completely substitute products are not available in the market
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Alternative products are not equal in the wood preservative.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 22	**2021/09/02 09:49**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Sweden
Name of organization/institution	[redacted]

I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	[redacted] is the biggest window manufacturer in Sweden and use approximately 12 000 m3 of solid Pine for window production where a preservative is needed. Since Pine is a very good alternative for producing windows from, it´s a gerat balance of cost and performance. Pine does need preservative to achieve the propection against wood decay to fulfil the demands on window market.
Product Type	8
Alternative Identity and Properties	1. On the list of approved active substances there is no good alternative to be used for use. The best suitable option to propiconazole is to use tebuconazole. Tebuconazole is a substance that´s possible to use from a technical point, but from a regulatory point the feeling is that tebuconazole will get the classification as propiconazole in the near future. Therefore that is not a good option to switch to tebuconazole. Except tebuconazole there is no option if the same protection against wood decay is needed which is the case for the window industry. In the future there might be a new option of alternative active substance in Penfluflen, but in this day there are no approved formulation containing Penflufen.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	2. Since propiconazole has been used in the preservative industry for a long time and the efficiency is well documented and giving us the confident that the function is perfect match for [redacted]. Products with propiconazole is giving the best properties as an active ingredient together with the technical property during preservative process. If propiconazole is to be replaced in preservative products there will a very big technical challenge to evaluate new possible preservatives. Today there are no long term option available on the market to replace propiconazole containing products. When or if there will be available options available on the market the testing and evaluating process of new preservative products takes several years with evaluating since the warranty period is up to 30 years.

Information above is confidential	
Justification for confidentiality	
Economic Feasibility	3. The cost of changing active ingredient in the fluids will generate big costs for preservative suppliers for the development and testing and these costs will be transferred to the industry which we will need to transfer further. These cost could get to the point that the windows will be added the extra cost and therefore the sales of new windows will affected in such manner that lower amount of windows will be sold for new building and for renovation, if the volumes of windows are reduced the the company will have to let people leave the company. That is costing the society a lot.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	The less suitable alternative as active ingredient in the short term would be tebuconazole, but these molecules are very similar to propiconazole and therefore the hazardness is quite similar. The well known technology with propiconazole gives a very good protection against wood decay, if we are forced to switch to a less effective ingredient it would end up in shorter protection and therefore increasing the need of changing the windows. If the need of changing windows more frequently the use of pesticides would increase and also be more spread in the environment. It there are no effective alternatives of preservatives one way to achieve the long durability is to switch to a more durable wood and these are frequently coming from the tropical region or heart wood from Pine.
Information above is confidential	
Justification for confidentiality	
Availability	As the situation is very uncertain regarding approval and time line of approval, the situation of availability is hard to determine. Toady there are no good alternative from a chemical point of view. If the way is to switch to more durable wood species is the way, the availability of heart wood of PIne will be very limited. It´s already today hard to get hold of heart wood from Pine and even Pine with a higher quality and these problems would increase dramatically if this is way to go. If the way is to swicth to

	even more durable wood species then we are aiming for tropical wood species and this is not an option for [redacted] since we are aiming for a environmentally friendly window producer
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	With the uncertain situation we have today with both approval time line and possible replacements not fully developed and approved inside BPR. This in combination with the less suitable alternatives for more durable wood species, which is not a good way to go. We claim a 5 year approval time which will give us the possibility to develop and evaluate a new process together with suppliers. We are generally very possitive to replace hazardous chemicals when there are other good alternatives, but at this stage we do not see any possible replacements unless a 5 year prolonging is decided.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	All comments and data are coming from the company of [redacted]
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 23	**2021/09/02 10:36**

FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	Propiconazole is of outstanding economic importance in wood preservation to protect against wood-destroying and wood-discolouring fungi. The number of authorised wood preservatives containing this active substance [1] and the resulting quantities of wood treated with them substantiate this. Wood preservatives extend the service life of domestic, non-durable softwood. For France it is required by law to treat non-durable wood for outdoor facades with biocides.
Product Type	8
Alternative Identity and Properties	As our company supplies softwood for outdoor facades to France we need to follow the French law. Therefore we need a biocidal protection for softwood. There are only few fungicides with an approval under the Biocidal Products Regulation (BPR) which could be used as an alternative to propiconazole [2]. All of these possible alternatives for use in use class 2 to 4 (above ground and in-ground contact) have disadvantages (i.a. they need higher active substance concentrations, have less efficacy against specific fungi, meet also exclusion criteria or have sensitizing properties, they are non-colourless and thus not suitable for paint systems).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Wood preservatives with propiconazole are highly effective against wood-decaying fungi and wood-discolouring fungi. They can be formulated as aqueous based products. Propiconazole is suitable for use in paint systems and has many appropriate technical properties, such as

	colourlessness and non-corrosivity towards impregnation equipment as well as fittings, screws and nails in connection with the treated wood. Propiconazole can be combined easily with other active substances (e.g. insecticides). Furthermore, propiconazole is inert/neutral towards other technically necessary ingredients of a formulation. Wood preservatives containing propiconazole are non-foaming. Formulations with propiconazole have very good painting properties. The active substance behaves neutrally towards the wood surface and subsequently applied coatings. In efforts to find alternatives, long-term tests over years need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical application.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, there is no alternative active substance. Without adequate alternatives (active substances and wood preservatives), the service life of the most important wood species and their wood products (e.g. windows, fences, doors) is shortened significantly. This leads to a more frequent replacement of such products with the ensuing high cost for end users. The positive carbon footprint effect of wood would be reduced. More expensive wood species of limited availability or alternative – less suitable – building materials would have to be used instead [4]. Non-availability of wood preservatives with propiconazole disrupts the entire existing value chain from native softwoods to processed wood products. Propiconazole is of outstanding importance as a preservative for lumber against wood-discolouring fungi (blue stain, sapstain and mould). Blue-stained wood cannot be marketed and causes immense economic losses.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (fungicidal active substances), no risk and hazard assessment can be carried out.

Information above is confidential	
Justification for confidentiality	
Availability	Other fungicides covering the broad range of applications of propiconazole are not available. There is no naturally durable heartwood in sufficient quantities. Beside the aspect of availability, tropical wood is also critical from an ecological viewpoint. Chemically and thermally modified wood is not available in large quantities. The technical equipment of existing impregnation plants cannot be converted to the production of modified wood, since completely different chemicals and technologies are required for this.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	From the perspective of our company, there are no adequate alternatives to wood preservatives containing propiconazole.
Information above is confidential	
Justification for confidentiality	
Other comments	The development of alternative active substances for wood protection takes a very long lead time with high costs and an uncertain outcome. That is why in the past years our suppliers didn't offer any new (and better) biocidal active substance.
Information above is confidential	
Justification for confidentiality	
References	[1]: ECHA Database (https://echa.europa.eu/de/information-on-chemicals/biocidal-products; last update 13 August 2021]: 1785 authorised BP for PT 8 within 932 BP containing propiconazole [2]: The Use of Propiconazole in Wood Preservatives [PT8]: see attachments [4]: „Advocacy Paper" of the German chemical industry association Verband der Chemischen Industrie e. V. (VCI): see attachments

Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 24	**2021/09/02 13:58**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	[redacted] is not a producer of active ingredients but a user of the substance in our self-developed and patented unique impregnation process where Propiconazole is an absolute key ingredient. SUMMARY In the following, the Danish wooden board producer [redacted] will argue that there is no current substance on the market able to replace the use of Propiconazole in the unique impregnation process invented and patented by [redacted] impregnation process is unique because of the following: - Platin certified production: No toxic implications for humans, as the production process is completely closed without leaks and the use of liquid solvents. - [redacted] unique impregnation process can treat spruce (Picea sp.) as the only supplier in the market. - Only 1 gr. of Propiconazole pr. 1 m2 treated wood. - +20 years lifespan for [redacted] products. - During the +20 years of lifespan, only 10% of the Propiconazole is leached. [redacted]

	[redacted] Products approved for supercritical wood impregnation [redacted] GENERAL INFORMATION [redacted], which has received the EU's European Awards for the Environment, produces wooden board cladding for exterior use applications. Production entails sawing, impregnation, planning, painting, and packaging. [redacted] is a successful and growing company and a significant local employer and provider of green and stable jobs in the rural area of Denmark. [redacted] is experiencing significant growth in all its markets, covering Denmark, Norway, Sweden, and Germany. [redacted] is cradle-to-cradle® gold-certified and with platin cradle-to-cradle® certification on material health and production process. [redacted] has invested heavily over two decades to improve the environmental footprint of its operations documented in several research papers (references 1-8). [redacted] has revolutionised the wood impregnation industry by inventing a clean wood

	impregnation process with several technical and environmental benefits compared to conventional wood impregnation technologies. As a result, [redacted] has been cited by the Danish Minister for the Environment as an example of Best Available Technology. [redacted] existence is under threat by the substitution of Propiconazole for PT8 as no suitable alternative active substances, biocidal products, or other solutions currently exist or can be researched, developed, and/or registered within the deadline for substitution of Propiconazole. The basis of [redacted] business is the innovative and patented wood impregnation process, which allows for the impregnation of wood without the use of liquid solvents. The process has revolutionised wood impregnation processes. Without the process, [redacted] has no valid business case. [redacted] impregnates wood with a biocidal product (SC200) containing a mixture of the active substances propiconazole, tebuconazole, and IPBC. There are currently no suitable alternative active substances or biocidal products available for the [redacted] impregnation process. The [redacted] impregnation process has the following environmental and technical benefits compared to conventional wood impregnation: • Ability to treat refractory wood species such as spruce (Picea sp.). • Impregnation is done without liquid solvents. • Impregnated wood is dry before, during, and after treatment. • An improved work environment with no toxic exposure to humans. o No handling of wet wood or equipment by workers. • Decreased environmental impact o No leaching from impregnated wood after treatment. o Low concentration of active substances in the final product. [redacted] has received the European Awards for the Environment in recognition of these benefits. The [redacted] process The [redacted] process uses CO_2 as the carrier solvent for impregnation. In a specialised treatment facility, CO_2 is pressurised and brought to its supercritical phase (Temp. above 31°C, Pressure above 73 bars). In its supercritical phase, the density of CO_2 is sufficient to act as a solvent. The Biocidal Product, SC200, is dissolved in supercritical CO_2, and the wood is impregnated. Following impregnation, the pressure is released, causing the dissolved Active Substances to remain in the treated wood. The treated wood remains dry during and after treatment, and the CO_2 is collected and recycled. The [redacted] process is the only effective impregnation solution for refractory wood species such as spruce (Picea sp.). This is because supercritical CO_2 has no surface tension and very low viscosity, making it able to penetrate low permeability wood species. The microscopic

	anatomy differs between wood species. Some species have an open cell structure that can be impregnated by conventional pressure treatment methods, while others have a closed structure that resists conventional pressure impregnation methods (the refractory species). Spruce (Picea sp.) is a refractory wood species that cannot be treated by conventional methods to a depth of more than a few millimetres. Spruce is a widely available local resource throughout the northern hemisphere. Without impregnation, spruce is a non-durable species subject to rapid decay when used in exterior applications. The Biocidal Product used in the [redacted] process, SC200, consist of a mixture of three Active Substances (Propiconazole, Tebuconazole, and IPBC). The biology that [redacted] existing product is used for controlling is wood-rotting fungi and blue stain fungi for Use Class 2 and 3. The mixture (SC200) effectively protects against wood destroying and wood discolouring fungi at very low concentrations. The concentration of Propiconazole in treated wood is 48 g/m3 corresponding to 0.12 g/m in the final product (wood boards) or about 1 g/m2. Based on data from field tests, the expected leaching of Propiconazole to the environment over 20 years of service is only 0.1 g/m2, which means that 90% of the Propiconazole remains in the wood after twenty years of service. SC200 is effective at very low biocide concentrations in the final product because the three Active Substances are more effective when used in combination than when used as stand-alone substances. If Propiconazole is removed from the current Biocidal Product (SC200), the remaining Active Substances (Tebuconazole and IPBC) will no longer be as effective. The loss in effectiveness cannot be accounted for simply by replacing one to one with one of the remaining Active Substances (Tebuconazole or IPBC) without increasing the concentration of biocides in the final product substantially. In addition, the use of 3 Active Substances in at Biocidal Product will reduce the possibility of development of resistance of the target organism to the Biocidal Product. According to BPR (EU) No.: 528/2012, Annex III datapoint 5.8.1 the applicant shall for a new Biocidal Product provide: information on the occurrence or possible occurrence of the development of resistance of the target organism(s) and appropriate management strategies. If a Biocidal Product is based on only one or two Active Substances it will be increasingly difficult ensure that resistance will not be developed by the target organisms.
Product Type	8
Alternative Identity and	[redacted]

Properties	[redacted] total) [redacted]

	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Technical Feasibility	[redacted]

	[redacted]

	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	[redacted]

Information above is confidential	on
Justification for confidentiality	[redacted]
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Other comments	
Information above is confidential	
Justification for confidentiality	
References	1. Kjellow, A.W. (2010). Supercritical wood impregnation. PhD dissertation. Forest and Landscape, Faculty of Life Sciences, University of Copenhagen. 2. Kjellow,A.W. ,Henriksen, O.H. (2009). Supercritical wood impregnation. The journal of supercritical fluids, 50: 297-304. 3. Kjellow,A.W., Henriksen,O., Sørensen,J.C., Johannsen,M., Felby,C. (2010). Partitioning of organic biocides between wood and supercritical carbon dioxide. The journal of supercritical fluids 52: 1-5. 4. Kjellow,A.W., Henriksen,O. (2009). Interactions between wood and propiconazole in supercritical carbon dioxide. International Research Group on Wood Protection, Paper prepared for the 40th Annual Meeting, Beijing, China, 24-28 May 2009. IRG/WP 09-40461. 5. Kjellow,A.W., Imsgaard,F. , Fernandez,J., Henriksen,O., Klaassen,E., Wagner,R. , Delis,J. (2012). Supercritical impregnation of wood with siloxane. International Research Group on Wood Protection, Paper prepared for the 43rd Annual Meeting, Kuala Lumpur, Malaysia, 6-10 May 2012. IRG/WP 12-30595. 6. Kjellow,A.W., Imsgaard,F. , Fernandez,J., Wagner,R. , Delis,J. (2013). Field performance of wood impregnated with siloxanes using supercritical carbon dioxide.

	International Research Group on Wood Protection, Paper prepared for the 44th Annual Meeting, Stockholm, Sweden, 16-20 June 2013. IRG/WP 13-40632. 7. Kjellow,A.W., Imsgaard,F. , Fernandez,J., Wagner,R. , Delis,J. (2014). Full-scale impregnation of wood with siloxane using supercritical carbon dioxide. International Research Group on Wood Protection, Paper prepared for the 45th Annual Meeting, St George, Utah, USA, 11-15 May 2014. IRG/WP 14-40659. 8. Cradle to Cradle certifications ®
Attachments (non-confidential information)	Super_Super_Plati_MHC4873_2021-05-20_81241.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 25	**2021/09/02 16:29**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	France
Name of organization/institution	Union de Fabricants de Menuiseries (UFME)
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	As background information, it must be said that the development of the wood industry sector is key at European Level to reach the different targets set to achieve climate neutrality in 2050 or within the newly voted Green Deal. At National level the upcoming thermal and environmental regulation in France: RE 2020, is expected to have significant impacts on the wood industry sector on the short and medium term, by promoting carbon storage in the construction by use of biosourced products. However to be suited for its purpose wood used in the window industry must be treated with efficient wood preservatives

	preventing in particular, wood rotting, wood discoloring fungi and insects attacks.
Product Type	8
Alternative Identity and Properties	Potential alternatives solutions (active substance) must comply with current requirements needed for use in the wood industry and the wood window industry in particular. The current criteria are that it is authorized in the corresponding market (e.g France), is compatible for use class 3 according to NF EN 335, claim a preventive efficacy against decay fungi, blue-staining fungi, subterranean termites and wood-boring beetles. As developed in FCBA report N°401/20, in Europe in general and in France in particular, among the huge list of product covered by PT8 and being authorized on the French market a majority contain Propiconazole. Among the other products, free from Propiconazole, they either contain Tebuconazole, an active substance which approval period will expire earlier than Propiconazole and has great chance of not seeing its approval renew, or they contain substances (IPBC as an example) that does not cover the whole protection scope (insects and fungi). The conclusion is that there is currently no alternative active substance, either at French or European level that can meet the requirements set for the use in wooden windows. The other potential alternative could be to switch to the use of more durable wood types that are either naturally or due to specific industrial process, more durable. But aside from their significantly higher price they are also not available in sufficient quantities regarding the demand from the wooden window industry, and are most of the time imported from outside of the EU with the induced environmental impact.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The main reason why most of the treatment products used today for windows contain propiconazole is, beside its role to protect the wooden windows against wood destroying and wood rotting fungi , its compatibility with industrial processes and materials (e.g avoiding risk of yellowing or corrosion), and the durability of the treatment product performance. Even in case alternative solution, fully compliant with the criterias mentioned above for windows will come to the market tomorrow, it will still miss to be checked whether it is suitable for use in industrial processes

	and if it do not lead to collateral effect on compatibility with glue, paint, lacquer, etc… Such tests and investigations will take time with no guarantee that the product will be compliant at the end of the verification process.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In case no alternative substance is found, the other alternative would be to switch to more durable wood species , but as explained in chapter 1, due to limited quantities, the economic impact is expected to be strong and the situation might lead to shortage such as the one we experiment today. Moreover such species will have to be imported from outside EU with additional environmental consequences (e.g carbon footprint). The other alternative will consist in using product without propiconazole, not matching with the different requirement criteria set for window use. Thus leading to reduced life time of product with its own economic and environmental impact.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	As explained earlier, alternative solution such as Tebuconazole are under threat of not being approved any more, and other substance alternartive do not lead to the same level of protection. Switching to that last category of solution (use of product with propiconazole being removed though without the same protection level) means that it would probably have some consequences over the finished product (window), compromising its mechanical integrity (reduced lifetime).
Information above is confidential	
Justification for confidentiality	
Availability	Among the potential alternative Tebuconazole will probably not see its authorization renew and cannot, as a consequence, be considered as a relevant solution. Alternatives based on the use of more durable wood, as described above are not available in sufficient quantities to supply the window industry and cannot be seen either as relevant solution.

Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Based on current situation, there is no available alternative at French or European level for propiconazole in case its authorization will not be renewed. There are potential alternatives substances on the market but some of them might not be available anymore by the time propiconazole authorization is being discussed (tebuconazole), and others do not fulfill the list of required criteria in terms of protection level of the wood (especially protection against insects in France). Finally other alternatives based on the use of more durable wood species is expected not to be available in sufficient quantities and will induce some environmental drawback due to the induce transport at a much higher economic cost. At the time, wooden based products are assumed to have an increasing role in the decarbonization of the construction sector the decision on the renewal of propiconazole authorization must take into consideration this situation towards alternative solutions.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	FCBA Report n°401/20/162ZBis of 15/03/2021 Eurowindoor CIB SBS joint position "The use of Propiconazole in wood preservatives " of August 2021
Attachments (non-confidential information)	FCBA Study Report 401 - 20 - 162ZBis 20210315.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 26	**2021/09/02 16:51**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Norway
Name of organization/institution	Norske Trevarer
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Norway, as a part of the Nordic countries, have a long tradition related to wood as a building material, and traditional construction products such as doors and windows are made of wood. Traditionally, our cold and dry inland climate has been cold and dry, but climate changes increase temperatures, precipitation and risk of wood-decaying rot fungi and other biotic degradation mechanisms.
Product Type	8
Alternative Identity and Properties	The window market is dominated by wooden windows based on pine tree wood. Two main types of wood preservatives are dominating the Norwegian market. Propiconazole based products is one, covering the main share of the market, and the second is the use of pine tree heartwood in the exposed parts of the window. A small fraction (premium market) use other hard wood or modified wood such as Kebony or Accoya. Due to increased risk of biotic degradation, such as wood-decaying rot fungi, stain fungi, and wood-damaging insects, the major market share will need an alternative to Propiconazole based wood preservatives. Today, no alternative biocides with sufficient efficacy are available for preservation against wood-decaying rot fungi. Products based on Propiconazole and Tebuconazole are known to work well, but both active substances are already, or likely, to be covered by the BPR Exclusion criteria Article 5 (1) during 2022. Stain fungi may be handled using IPBC, but IPBC alone does not work for wood-decaying rot or insects. Penflufen is believed to be a promising active substance also for wood-decaying rot fungi and insects, but this lacks approval as a biocidal product. The use of heartwood works well, but the availability of heart wood in

	the volumes needed for the Norwegian and European window market is not believed to be sufficient. The Norwegian and European window industry will then be based on a limited resource. Heart wood windows also undergoes further surface treatment such as painting. These products also often rely on Propiconazole to provide a lasting surface visual finish of the final product. The use of modified wood, such as Kebony and Accoya, are possible for low volume production, but is too costly and scarce to cover the mainstream window market in Norway and Europe. Kebony also has some issues pertaining to further surface treatment, decreasing the possible range of choices for final surface aesthetics. Accoya is easily treated, but is not at the time grown within the EU, and will require additional transport related GHG emissions. Alternatively, the use of different materials such as PVC or aluminium are possible. These materials, however, are in addition to being limited, also non-renewable.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole is mainly effective for avoiding wood-decaying rot fungi such as white rot or brown rot. Application is typically done using flow coat, dip or vacuum techniques, and the active substance is suited for such industrial processes. Doors and windows consist of many different materials, and the known wood preservatives are also shown to work well in contact with glass, plastic or metal parts. When replacing surface treatment products, such as wood preservatives, the compatibility with the other materials must be proven not to invoke additional or accelerated corrosion, discoloring etc. As mentioned in the previous article, Penflufen as an approved active substance, shows promising results as a biocide and further wood preservative. However, to maintain rot fungi guarantees of 20—30 years, several years of accelerated testing is necessary to prove the efficacy of a biocidal product and/or wood preservative.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Transition to limited resources such as heartwood pine, different wood species or modified wood, will create a large

	demand for these materials, most probably leading to a large cost impact on the window industry as well as possibilities for resource shortages. Some of these alternatives are based on forestry outside EU which is especially vulnerable to reduced "flow speed" in international transport. This is in addition to the environmental burden mentioned under article 1. Enabling the use of EU grown wood, ensures EU to be self-sufficient with respect to raw materials as well as maintaining an EU-based supply industry for the window market.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Withdrawing Propiconazole, and possibly Tebuconazole, will leave the industry with alternatives based on IPBC alone. This has a proved effect on stain fungi, but not on wood-decaying rot fungi such as white and brown rot. Using alternatives, will bound for a split market with "expensive" windows using heart wood or modified wood as alternatives and "cheap" windows with short life span and no efficient protection for wood-decaying rot fungi.
Information above is confidential	
Justification for confidentiality	
Availability	Besides biocidal products based on Tebuconazole, there are no approved biocidal products based on Penflufen, although Penflufen is an approved active substance under PT 8. Tebuconazole might fall under the Exclusion criteria in BPR Article 5 (1), and is not considered to be a sufficient alternative. The use of modified wood is promising, but in order to be scalable outside the premium window market, the technology must be cheaper and more widespread. New variants of wood modification and establishment of a European industry is necessary to make this a practically viable alternative.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	In order to maintain a sustainable window industry, and sustainable windows made of renewable materials, a prolongation of the approval for Propiconazole based wood

	preservatives seem necessary. During the prolongation period, full long-term accelerated testing of penflufen, resulting in approval as biocidal product and wood preservativce, can be carried out parallel to further research on possibilities for using modified wood and establishment of a European modified wood industry.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	- CEIBois-EuroWindoor-SBS joint position (attached) - Statement on time-scheduling for the substitution of wood preservatives from Prof. Dr. Holger Militz and Prof. Dr. Christian Brischke, University of Goettingen (attached) - Propiconazole Impact Assessment, Final Report, Risk & Policy Analysis, 2018-09-27
Attachments (non-confidential information)	CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives 2020-10.pdf; EW(21)17-1_2021_DK_NO_SE_FI_DHI ECHA database analysis_PT8 (003).pdf; EW(21)25-2 Statement on time-scheduling for the substitution of wood preservatives from University of Goettingen 210713.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 27	**2021/09/03 08:58**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]

Country	Spain
Name of organization/institution	Química de Munguía S.A.
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	
Product Type	8
Alternative Identity and Properties	Quimica de Munguia SA uses propiconazole in its formulations for treating wood for Risk class 3.1, 3.2 and for Temporary preventive treatment for green timber. In risk class 3 against attack by basidiomycete fungi, Blue stain fungi and Mold fungi, in Temporary preventive treatment for green timber against Blue stain fungi and Mold fungi. After having reviewed the alternatives to Propiconazole on the active substance list for Product Type 8, no other single active substance can be considered as an appropriate alternative in terms of efficacy, very good against basidiomicetos, very good against Blue Stain and good against Mold. We have consulted the molecules for Group 08 in https://echa.europa.eu/es/information-on-chemicals/active-substance-suppliers with the data published in the Assessment for inclusion in Annex I for each molecule, we can resume: Boron compounds, This family does not have efficacy against Blu stain neither Mold, they are very soluble in water and also candidate for substitution. Quaternary compounds. In term of efficacy need the big quantity 15 – 30g a.s./m2, and the experience from many years in Temporary preventive treatment for green timber provokes every season a lot of problems with Blue stain fungi. On the other hand, they are very corrosive so it cannot be applied for example in steel autoclave treatment. Isothiazolones. They are good for Mold but for Blue stain, the efficacy is short. Tebuconazol, Penflufen, Fenpropimorph. These products are very good for Basidiomycetes, but without efficacy against Blue stain and Mold. IPBC. This is the most equilibrated molecule, It have efficacity against Basidiomycetes, Blue Stain and Mold, but the quantities necessary a.s./m2 are more than double in the best cases. The experience in field shows that for Blue stain the treatment is problematic. The conclusion is that at this moment in the market does not exist the alternative for propiconazole in terms of global efficacy, in fact almost all

	registered products, especially in Temporary preventive treatment for green timber have propiconazole in their composition.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	As we have explained before, nowadays there is not an alternative molecule in the market with the properties of propiconazole. In the hypothetical case of eliminating propiconazole, the market would lose most of the products for wood treatment, especially for risk class 3.2 and Temporary preventive treatment for green timber. The market would be undersupplied.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Replacing propiconazole with quaternary compounds or IPBC will imply an increase in the cost of wood treatment, due to the large amount of e a.s. necessary (for less efficacy), the multiplication factor would be 2 - 3 minimum. On the other hand, the price of IPBC depends on the international price of Iodine, with a very high volatility and prices in continuous growth. This would have to consider the elimination of competition by eliminating propiconazole products. This series of circumstances will encourage wood treatment companies to return to non-registered products such as pentachlorophenol.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	In case of replacing propiconazole, There will be no products on the market for wood treatment risk class 3.2 and Temporary preventive treatment for green timber ,

	taking into account that currently the time required to obtain a new registration is at least 4 years, there will be no availability of alternative products without propiconazole.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Nowadays there is no suitable and available alternative a products with propiconazole for wood treatment market.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	ECHA LIST art.95 Assessment of inclusion in Annex I for each molecule.
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 28	**2021/09/03 09:40**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Switzerland
Name of organization/institution	LSI Wood Protection / Lonza Cologne GmbH

I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	LSI Wood Protection (Lonza Cologne GmbH) is the market leader in professional timber impregnation across Europe and has established a reputation over many years for developing high performance wood preservatives. The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the LSI strategic research and innovation agenda for chemicals. LSI is committed to innovation and has already launched a number of sustainable solutions in the preservatives market. Wood is the natural choice as sustainable material. Forests are a renewable resource, timber structures lock up the CO2 captured in growing trees and can be a net sink of greenhouse gas. The use of wood as a renewable material is key to achieve the objectives of a circular economy and of the European Green Deal. However, the sustainable use of home-grown European timber requires effective chemical wood preservation. Propiconazole is used in more than 50% of all wood preservative products authorised in Europe and substituting this key active substance is technically not feasible at this time. Removing Azoles from the PT 8 market, specifically Propiconazole and Tebuconazole would limit the long term performance of water based wood preservatives and thus significantly impact the preservatives market and possibly the wood industry overall. The continued use of wood as sustainable material would be significantly under threat. Wood is subject to a natural biological degradation process by fungi and insects and untreated wood deteriorates fast, particularly in situations in which the wood or wood-based product is permanently exposed to the weather, subject to frequent wetting or in contact with the ground or water. Commercially important European wood species such as pine and spruce are not durable and hence require effective preservation for applications such as construction, agricultural fencing, utility poles and other structural timbers, wooden decking, cladding, etc. Effective wood preservation significantly extends the service-life and thus sustainability profile of wood. Treated timber stores carbon for decades longer than untreated decay-susceptible wood. Without the sustainable use of home-grown European timber it will be difficult to meet the Green Deal objectives but will instead further drive deforestation of rain forests and increase CO2 emissions. The LSI Tanalith brand of wood preservatives is a range of best in class products built

	on Azole technology and ideal for construction, cladding, decking, agricultural fencing as well as utility poles and other structural timbers. The unique combination of copper and organic biocides makes the product highly effective and extends the service life of treated timber up to 25 years. Tanalith use is exclusively industrial and application to timber is via high pressure vacuum treatment.
Product Type	8
Alternative Identity and Properties	More than 50% of all authorised wood preservative products (product type, PT 8) in Europe contain Propiconazole and substituting this key active substance is technically not feasible at this time for the following reasons. There is a lack of suitable and sufficient alternative active substances and non-chemical technologies. Alternative wood preservative products available today only provide limited efficacy in comparison. More time is needed to develop new active substances to match the performance of Propiconazole. Non-chemical technologies and materials are either not effective, not practical or too costly in comparison to chemical wood preservation and generally less favorable in life cycle assessments. Chemical wood preservation For wood or wood-based products and particularly those products permanently exposed to the weather, subject to frequent wetting, in contact with ground or fresh water (Use Class 3 and 4) any preservation product must provide timber with significantly enhanced durability against the most extreme biological deterioration pressures. Especially European home-grown tree species such as pine and spruce are not durable without effective preservation. Untreated timber may need replacing within ca. 3 to 5 years, whereas effectively treated timber may last 15-40 years or more depending on specification. A longer service life for wood contributes to a more responsible use of natural resources and forests; it also makes wood a strong competitor to carbon-intensive alternative materials. To achieve the necessary protection, wood preservative products and application techniques need to match the requirements. For timbers in Use Class 3 and 4 preservatives need to be applied by industrial impregnation. Superficial application by other means is less suitable. The formulation of wood preservatives is critical and the biocidal active substances need to be carefully chosen, with Copper based products used almost exclusively. No other authorised combination of currently approved active substances (apart from Creosote) can adequately protect timber for the desired service life. Copper compounds are very potent fungicides and also undergo binding to the wood structure. This in part allows

	for long service lives but importantly can also reduce the potential leaching. Whilst Copper is an excellent biocidal active substance and has a broad fungal spectrum with protection against insects and termites, it requires a co-biocide. Correctly chosen co-biocides compliment the efficacy and allow significant reductions in overall Copper retentions. Very few of the currently approved active substances are effective as co-biocides, with only three main categories available. -Copper - Azoles - Copper - Quaternary ammonium compounds (Quats) - Copper - HDO used with other Copper compounds Some of the Copper-Azole products may contain Quats and some Copper-Quat and Copper HDO products may contain Borates. As of August 2021 there are 24 water based Copper containing PT 8 products listed as authorised under BPR. However, a number are from families and only a total of 11 authorisations are in fact substantially different. Five of those products contain Propiconazole. Of the others, two contain DDAC and DDA-carbonate, one contains Tebuconazole, one contains Cu-HDO (with and without Fenpropimorph), one contains Boric acid and Disodium tetraborate decahydrate and one is a Copper-Chrome product. The borate containing product is a remedial pole paste and is not therefore a primary wood preservative. The copper chrome product has a limited authorisation for specific uses due to the use of Chromium trioxide and cannot be regarded as an alternative. Thus, in the short-term the only BPR authorised alternatives to Propiconazole containing products are Copper-Tebuconazole, Copper-Quat and Cu-HDO products. All these alternatives come with limitations. Cu-HDO is patent protected and use therefore limited. Further, the limited efficacy of these products may lead to higher rates of pre-mature failures and require higher use rates and thus, substitution cannot be considered favorable. Towards developing new sustainable solutions in the mid to long-term the industry has considered other available active PT8 substances. However the choice is limited and likely to get further reduced in the future. The limitation is not only driven by regulatory developments, but of the currently approved PT 8 active substances none can deliver a comparable efficacy profile or only have niche use as insecticides, fumigants or other and thus not effectively substitute Propiconazole. Realistically only IPBC, DCOIT and Penflufen can be considered possible co-biocides to copper. However, all lack stability in the Copper-ethanolamine complex and come with other limitations, e.g. DCOIT being a potent skin sensitizer, so neither are likely to be a viable alternative to Propiconazole. New active substances are

	needed to towards a more sustainable approach to wood preservation. Whilst the possibility to develop new wood preservation chemistries is low, due to commercial, technical and regulatory challenges, for PT 8 applications 'new' active substances can be adapted from other sectors, in particular plant protection, as for example has been done with Penflufen. Such an approach can reduce some of the costs, possibly reduce timelines and also some of the uncertainty associated with the approval of a new active substance. In summary, the loss of Propiconazole would have a detrimental impact on the wood preservatives sector and potentially on the European timber industry in general. Loosing this key active substance would significantly reduce the chemical diversity and significantly reduce the choice of products. In the short-term only Copper-Tebuconazole, Copper-Quat and possibly some Copper-HDO products would remain as alternatives. New active substances to effectively substitute Propiconazole are feasible in the mid to long-term, but more time and investments are needed to develop such innovative and sustainable wood preservative solutions. Alternative technologies There are a few wood modification treatments available on the market deemed not to contain biocides. The claim is they work through physical effects by modifying the wood structure such it is no longer a food source. However efficacy is likely to be very limited in comparison. Alternative wood preservation technologies are significantly different to traditional chemical wood treatments. Highly specific manufacturing facilities are required and processes are said to have very high capital and running costs with high energy inputs. Timber sourcing is selective and at least one process currently imports wood from New Zealand. The number of manufacturing locations is be very limited and give rise to movements of untreated and 'treated' timber across Europe. One such process for example modifies timber by acetylation. However, due to the high costs the market is restricted to hardwoods. The price of treated material can be more than 8 times that of e.g. treated scots pine. Another example process is furfurylation, which again is expensive. Both products only have niche uses only and at the present time these treatments cannot be seen as mainstream alternatives for treated wood. Clearly, they would not be suitable for replacing treated wood for Use Class 3 or 4. Heat treatments where the wood polymers are chemically degraded by heat have been developed. Decay prevention has been shown effective in Use Class 2 and 3, however it is not suitable for all forms of construction as the mechanical properties are lowered. Whilst hardness

	is improved the bending, compression, stiffness and shear strengths are considerably weakened. Thus, heat treatment may be suitable in some uses but cannot replace traditional wood preservative treatments in many circumstances and certainly not in Use Class 3 and 4. Alternative materials There are certain hardwoods which resist biological degradation and are promoted as alternatives to preservative treated wood. Whilst there is no doubt they will work in some situations, hardwoods are expensive and a precious resource. The volumes required to replace preservative treated wood are huge and simply not sustainable. For example, certain types of exotic tropical hardwoods from Asia or South America may not require additional preservation treatments however, their value chain is often associated to a higher risk level of deforestation, biodiversity loss and degradation of critical natural habitats. It is also important to consider the trade balance of the EU wood-based economy and the global environmental externalities. Around 97% of softwood and 90% of all wood used in the EU is sourced from European forests, with very few quantities of imported wood from outside the EU. The EU is also a champion of sustainable forest management and natural resource conservation, as its overall forest area is increasing by 800,000 ha every year since 1990. Thanks to the combination of sustainable forest management practices and wood preservation technologies, only 64% of annual growth is harvested, which ensures a sustainable use of natural resources. Other types of alternative materials include steel and concrete (esp. in the construction sector), plastic composites and fiberglass. However, they do not possess many of the desired properties that can be achieved with treated wood. They also often imply higher economic and environmental costs as many of those materials are energy and/or carbon intensive. The ability of such alternatives to perform for their intended purposes over longer time periods has also yet to be shown. In comparison, the benefits of wood are supported through life-cycle analysis, which has shown that wood and preservative treated wood has a better overall profile than other competing materials. In summary, there are alternative technologies and materials which could be used in place of preserved wood but none are as cost effective, sustainable or provide the unique properties of wood. Some alternative technologies have limited use but are not currently viable as replacements particularly for preservative treated wood in Use Class 3 and 4 end uses.
Information above is confidential	

Justification for confidentiality	
Technical Feasibility	The European timber industry requires products that can demonstrate a broad spectrum of activity in use and beyond standard laboratory tests. Copper-Propiconazole formulations in particular in combination with Tebuconazole provide this level of efficacy. Such products can increase the service life of timber up to 25 years, compared to three to five years in case of untreated timber. Propiconazole is a key active substance in wood preservation and substitution is technically not feasible at this time. This is particularly the case for Use Class 3 and 4 where the wood is either continually exposed to the weather, subject to frequent wetting, in contact with the ground or water. The main challenge in developing an alternative is maintaining the required performance. The latter has to be proven in formal tests - to fulfil the requirements of the BPR authorization – as well as by long-term field tests and optimally by in-use experience to be accepted by the market. Work on alternative active substances has been underway for the last 5 to 10 years, focusing on the use of existing BPR PT8 approved active substances, mainly IPBC, DCOIT and Penflufen. However, for the higher risk Use Class 3 and 4 applications where Copper has to be used in combination with an organic co-biocide remains a difficult challenge. In these instances best possible alternatives such as Penflufen are not stable in Copper formulations and thus not suitable and alternative co-biocides have to be used. In EN standard tests, Copper-Quat formulations are less efficacious than Copper-Triazole formulations. Copper-Azole formulations containing Propiconazole in combination with Tebuconazole are most effective at lowest concentrations, followed by Copper-Tebuconazole containing preservatives. Copper-Quat formulations have a much higher level of premature failure due to the narrower spectrum of activity against copper tolerant fungi. For example, significant failures of Copper-Quat formulations have been reported across Europe with the Forêt, Bois, Construction et Ameublement (FCBA) organisation in France restricting their end use due to premature failures. Due to the limited efficacy of Quat formulations and in particular Copper-Quat formulations, LSI is committed to identifying and bringing to the market active substances that are new to PT 8. Several promising candidates have already been identified. However, even if all technical and regulatory testing is successful, formulations containing such actives are unlikely to be commercially available until approx. 2030. The anticipated timelines are based on the requirement for long-term field test data, particularly for Use Class 4 ground

	contact applications and time required for approval of the active substances and authorisation of biocidal products.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Effective wood preservation is essential to extending the service life of wood, in particular home grown European species. Removing Azoles from the PT 8 market today, specifically Propiconazole and Tebuconazole would limit the long term performance of water based preservatives and thus significantly impact the ability for wood products to compete against less sustainable substrates such as concrete, steel and plastics/composites. A significant negative impact on the wood preservatives market, but also the wood industry overall is highly likely and continued use of wood as sustainable material would be significantly under threat. Substituting Propiconazole and Tebuconazole may be feasible in the long-term however, the economic challenges are great. The main underlying reason is that typically wood preservation products serve a relatively small market, with technical incompatibilities, etc. limiting the spectrum of applications. The business case for developing new active substances and products is further complicated by high developmental and regulatory costs, long timelines and high degree of uncertainty. In general, the biocidal products industry is less attractive to investors compared to other sectors, such as pharmaceuticals, etc. The up-front investment costs for biocidal products range up to 10+ million Euro. Costs per active substance approval application including study costs can be estimated at ca. 5 million Euro, with approval fees increasing periodically. Costs for product development and application for product authorisation are in the range of ca. 5-10 million Euro. This includes not only the biocidal product data package and application fees, but needs to consider the development pipeline with product variants and failures, product design and formulation, facilities for and testing of product in lab & field, manufacturing and treatment facilities, process upscaling and optimization, marketing and commercialization support, etc. The timelines to return on investment are extremely long with ca. 7 to 13 years to market. Preparation of active substance approval applications can be achieved within ca. four to five years, with product development and authorisation at a minimum of 10 years. Finally, there is a high risk of failure in the development of new wood preservation solutions for the active substance, but then

	also in biocidal product development. This is owed not only to the technical difficulties that need to be overcome, but also due to the dynamic regulatory framework currently in place in Europe. The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the LSI strategic research and innovation agenda for chemicals. LSI is committed to identifying alternatives to Propiconazole, but it must be recognized that this is a very complex and lengthy process and more time is needed. The continued availability of Propiconazole would ensure that effective wood preservation products remain available to the market and support the sustainable use of European home grown timbers in the short to mid-term.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the LSI strategic research and innovation agenda for chemicals. LSI is committed to innovation and has already launched a number of sustainable innovations in the preservatives market. In line with the sustainable use of biocides any new innovation is aimed to further reduce the hazards and risks whilst improving the efficacy of wood preservation.
Information above is confidential	
Justification for confidentiality	
Availability	Propiconazole is a key active substance for wood preservation in Europe, with more than 50% of authorised products containing this key active substance. Substitution is technically not feasible at this time. There is a lack of suitable and sufficient alternative active substances and non-chemical technologies. The LSI strategic research and innovation agenda for chemicals aims to overcome this limitation in line with the European Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design. LSI is committed to innovation and has already launched a number of sustainable solutions in the preservatives market. The first step to developing a new PT 8 product based on new actives substances is the identification of suitable chemistries and specific molecules. This process can be lengthy (up to 10 years) and in general needs to rely on information gained from associated sectors

	or derivatives of already known chemistries. Generation of entirely new chemistries is not feasible as efforts and costs for such development are extremely high, while there are major uncertainties regarding the approval of the active substance and its market success. An example of successfully bringing an innovative wood preservative product to the market based on a new active substance adapted from the plant protection sector is Tanasote S40, a hot oil based product based on Penflufen. However, in any case data requirements for active substance approvals are very extensive and must be met prior to submission of the dossier. Once a suitable chemical substance has been identified, an application for approval as an active substance can usually only be submitted after about 4 to 5 years. Experience has shown that the evaluation by the competent authorities and the granting of the active substance approval are carried out after a further 2 to 4 years. The application for authorisation of a corresponding biocidal product is usually subsequently evaluated, which takes another 2 to 3 years. In conclusion, the actual first placing on the market of a biocidal product with a new active substance can only be achieved in 7 to 13 years after identification of a new substance. Further, for any such product to be successful commercially the long-term efficacy needs to be confirmed and the product established in the market. In the Tanasote S40 example mentioned above the development and authorisation of was achieved in 10 years.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Wood is the natural choice as sustainable material. Effective wood preservation significantly extends the service-life and thus sustainability profile of wood. Without the sustainable use of home-grown European timber it will be difficult to meet the Green Deal objectives but will instead further drive deforestation of rain forests and increase CO2 emissions. Removing Azoles from the PT 8 market today, specifically Propiconazole (and Tebuconazole) would limit the long term performance of water based preservatives and thus significantly impact the ability for wood products to compete against less sustainable substrates such as concrete, steel and plastics/composites. A significant negative impact on the wood preservatives market, but also the wood industry overall is highly likely and continued use of wood as sustainable material would be significantly under threat.

	Propiconazole (and Tebuconazole) is a key active substance in the PT 8 wood preservatives market and there is a lack of suitable and sufficient chemical and non-chemical alternatives. Alternative wood preservative products available today only provide a limited efficacy in comparison. Non-chemical technologies and materials are either not effective, not practical or too costly in comparison to chemical wood preservation and generally less favorable in life cycle assessments. The continued availability of Propiconazole (and Tebuconazole) would ensure that effective wood preservation products remain available to the market and support the sustainable use of European home grown timbers in the short to mid-term. New active substances to effectively substitute Propiconazole are feasible in the mid to long-term, but more time is needed to develop such innovative and sustainable wood preservative solutions.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	CEI-BOIS (2019) WOOD - BUILDING THE BIOECONOMY WEI-IEO/EWPM (2019) TREATED WOOD A SUSTAINABLE CHOICE
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 29	**2021/09/03 09:57**
FirstName	[redacted]
FamilyName	[redacted]

Email	[redacted]
Country	Belgium
Name of organization/institution	EuroWindoor AISBL
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Maintaining and expanding the use of the sustainable native material wood in the construction sector is an important contribution for the EU to achieve climate neutrality by 2050. Particularly in light of the New European Bauhaus ambition as part of the European Green Deal to use more natural and organic construction materials, wood remains an essential material for buildings and renovation projects.
Product Type	8
Alternative Identity and Properties	Potential alternatives to Propiconazole should be seen from 2 different perspectives: - Alternative wood preservatives - Alternative wood species ALTERNATIVE WOOD PRESERVATIVES Most biocidal products used for wood preservation do currently contain a combination of at least 2 Active Substances. The combination of substances is required to meet efficacy against all target organisms (one substance alone cannot meet efficacy against wood discolouring fungi, wood rotting/destroying fungi and insects) but also to limit the concentration of biocide in the final product (the combination of substances allows to target specific organisms with low concentration of biocide thanks to complementarity of efficacies). There are currently 3 Actives Substances used for wood preservation fulfilling the needed efficacy and suitable for window and door application (which requires a preventive treatment of wood Use Class 3). These substances can however only be seen as complementary and not as alternatives for the aforementioned reasons: - Propiconazole, falling under the BPR Exclusion criteria Article 5 (1) in December 2022 - Tebuconazole, also up for renewal at an earlier date (September 2022). Given the similar properties of Tebuconazole, it is likely to also fall under the BPR Exclusion criteria Article 5 (1) -IPBC, which only has efficacy against wood discolouring fungi ("blue stains") In addition, one potential alternative might develop in the coming year with biocidal products based on the active substance Penflufen.

	However, there are no biocidal products based on Penflufen currently approved in EU Member States that meets Use Class 3 (needed for windows due to their exposure to outdoor conditions). Out of 4 studies conducted by national institutes for wood technologies, covering a total of 9 countries (Austria, Belgium, Denmark, Finland, France, Germany, Norway, Sweden and The Netherlands), almost no suitable alternative biocidal product was found. Only exceptions are based on Tebuconazole (only 1 suitable product family was found in some countries), which does not constitute an alternative since the substance will be out for substitution earlier than Propiconazole (September 2022). Other alternative biocidal products are usually solely based on the active substance IPBC and cannot meet any efficacy against wood destroying fungi (only efficient against discolouring fungi "blue stains"). The complete overview of findings from the above-mentioned studies can be found in the attached CEI-Bois – EuroWindoor – SBS joint position on use of Propiconazole in wood preservatives. ALTERNATIVE WOOD SPECIES One alternative to achieve durability criteria for timber windows and doors would be to use durable wood species which do not require the same level of preservation as commonly used species. This approach however does not constitute a scalable solution due to the limited resources of durable wood species in Europe. Most timber windows and doors use softwood as the main material for frame (e.g. pine, spruce) because of its availability and its processing easiness. Besides, even by using durable hardwood species, timber window and door manufacturers in most situations still have to use surface treatment with Propiconazole to maintain the surface aesthetics of the wood. The locally available resources of European timber would not allow a conversion of the entire window and door industry, even less so for the entire woodworking industry. Modified wood might also constitute an alternative solution to wood impregnation or to the use of durable wood species. However, there are limitations to the use of these modified woods: firstly, due the recent development of this technology, the worldwide available resources are extremely limited and cannot cover a significant share of the timber consumption in the window and door industry. Secondly, most of the suppliers of modified wood currently export from regions or countries outside EU, adding an environmental burden due to transportation.
Information above is confidential	

Justification for confidentiality	
Technical Feasibility	The efficacy of Propiconazole essentially aims at wood-destroying fungi ("white-rot" and "brown-rot"). Its usability for efficient industrial processes such as flow coating makes it the most relevant core active substance for wood preservatives. The main difficulties for using alternatives in the window industry relates to the compatibility of the biocidal product with other elements of a window/door: corrosion of metal elements and discolouring are the main challenge to face when replacing a substance (or a product) with an alternative. Besides, testing over long periods of time are required to ensure a long lifespan of windows and doors (typically: 3-5 years of testing), so are aging evaluation and material compatibility testing.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	As described in "Alternative Identity and Properties", there is today a lack of suitable alternative to the use of Propiconazole in wood preservatives. In case manufacturers would be forced to use "durable" wood species from outside EU, this would have a significant impact of the cost of raw materials as well as inducing a strong stress on material availability (high risk of shortage due to limited resource). Besides, when using EU-source and responsible wood, manufacturers are opting for a cost-effective and sustainable choice of raw material. However, most of these EU-sourced species require wood preservatives and the use of a less efficient solution will lead to a shortening of the lifespan of windows and door. Windows and doors and typically installed for 30 years and more: if less protected against biological attacks, their lifespan would be reduced to a few years only, leading to a more frequent replacement and higher environmental impact. According to the Propiconazole Impact Assessment (2018), the impact on downstream users and end-users (over 5 years) amounts to more than 153M EUR.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	As highlighted before, the only alternative biocidal products which are not containing Propiconazole are based on

	Tebuconazole (which has shorter end of approval period). Other solutions are of much lower efficiency and cannot meet all required efficacy criteria for the preservation of timber windows and doors. Should the industry be forced to use less efficient solutions, this would inevitably compromise the structural integrity of windows and doors due to the absence of protection against wood-destroying fungi. Besides, the use of less suitable alternatives would require a significant increasing of active substance concentration in all biocidal products, therefore increasing the potential risk of exposure.
Information above is confidential	
Justification for confidentiality	
Availability	There are currently 2 potential alternatives to Propiconazole: • Penflufen, which has recently been approved as Active Substance for PT8 – Wood Preservatives, but there is currently no biocidal product approved in any EU Member State that meet the requirements for the window & door industry (efficacy against discolouring fungi, wood-destroying fungi and approved for Use Class 3) • Tebuconazole, which is currently used in some biocidal products within PT8, but which will reach its end of approval period before Propiconazole (September 31st, 2022). It is expected to also fall under the Exclusion Criteria of BPR Art. 5 (1), therefore facing the risk of not being re-approved. As a conclusion, none of the 2 solutions can be considered as "available" in the current context of the BPR. Research institutes (DK-SE-NO) are currently investigating further alternatives like modified wood to enable the direct use of home-grown wood species without the use of preservation. However, these research projects are currently at their preliminary stages and cannot be considered as alternatives for the time being.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	As a conclusion, one can identify the below alternatives to the use of Propiconazole in Biocidal Products: • Tebuconazole: although fewer biocidal products based on this substance are available in EU Member States, they usually present acceptable efficacy against biological

	attacks of wood. The substance approval will however expire in September 2022, therefore not constituting a suitable alternative, even on the short term. • Penflufen: although this substance could in theory become an acceptable alternative for some of the target organisms of Propiconazole, there are currently no biocidal products available in any EU Member States that meet the required criteria for the timber window and door industry (efficacy and Use Class 3) • Alternative wood species: although some wood species can be considered as more durable than softwood species, these are either not source from the EU or are available in limited quantities. The mismatch between the resource and the demand would lead first to a significant increase in raw material prices, then to a potential material shortage on the European market. Besides, these solutions are source from slow-growing species, making the sustainable management of European forestry more challenging. • Modified wood: although some specific modified wood products might be suitable on a small scale, the available resources as well as the economic burden associated to these solutions prevent them from being used on a large scale by the entire timber window and door industry Any other solution to Propiconazole-based biocidal products present a much lower efficacy, de-facto preventing from being used in the timber window and door industry.
Information above is confidential	
Justification for confidentiality	
Other comments	In addition to the above-mentioned arguments, we would like to highlight that the quality and durability requirements that apply to the window and door industry require time-consuming testing to ensure a long lifespan for our products. Even with the assumption of new wood preservation solutions (assuming they are fully approved in EU Member States), the industry requires 5 to 10 years to run the necessary tests and approvals (e.g. aging, compatibility with coatings and paints, corrosion risks etc…). This statement was highlighted by the Georg-August-Universität Göttingen (Wood Biology and Wood Products division), in a recent analysis sent to EuroWindoor (see attached Statement).
Information above is confidential	

Justification for confidentiality	
References	• CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives (attached) • Study HFA for Austria and Germany (attached) • Study FCBA for France (attached) • Study DHI Group for Denmark, Finland, Norway and Sweden (attached) • Study SHR for Belgium and The Netherlands (attached) • Statement on time-scheduling for the substitution of wood preservatives from Prof. Dr. Holger Militz and Prof. Dr. Christian Brischke, University of Goettingen (attached) • Propiconazole Impact Assessment, Final Report, Risk & Policy Analysis, 2018-09-27
Attachments (non-confidential information)	CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives 2021-08.pdf; Statement on time-scheduling for the substitution of wood preservatives from University of Goettingen 210713.pdf; Study DHI Group_DK_NO_SE_FI.pdf; Study FCBA_FR.pdf; Study HFA_AT_DE.pdf; Study SHR_BE_NL.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 30	**2021/09/03 10:58**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Sweden
Name of organization/institution	DOVISTA A/S
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	DOVISTA A/S manufacture Timber Doors and Windows and

	as such a downstream user of Wood Impregnation registered in PT8. The Production Facilities are placed in Norway, Sweden, Lithuania, Poland, Germany, Denmark, and Switzerland. The main markets are Norway, Sweden, Denmark, Germany, Switzerland, Ireland, and the UK. All Impregnation products are water-based emulsions used for superficial treatment in closed process equipment. The Treated components are coated with a Topcoat in the same process-flow. Most products are additional covered by Alu-cladding on exposed surfaces. All in all, this secures against potential leaching of Active Substances in the Products Service Life. Wood is used for many construction products and for windows for both historical and modern perspectives. Wood is a European resource with high sustainability profile and for the purpose of window framing wood has many positive characteristics. It has a high strength to weight ratio, good insulation properties, easy to process, available in Europe and stores CO2. The Pinewood used in DOVISTA products derives for FSC certified and responsible sources in Europe. However, all positive performance characteristics of pinewood cannot be maintained for the full product service life - unless it is treated with a wood preservative (PT8) approved for "use class 3" (exterior products, EN 335).
Product Type	8
Alternative Identity and Properties	Based on our research in the ECHA database Impregnation products must be registered on an EU-level or national level. So far, no water-based impregnation products for "Use class 3" (EN335) have be registered for use in all EU and EEA countries, but only for use in single countries or in a group of countries. For DOVISTA, impregnation products must be available in Norway, Sweden, Denmark, Lithuania, Germany, Switzerland, and Poland to be relevant. The Active Substance must also be legal for imported treated articles in the UK, otherwise the production in the EU is not relevant. No relevant impregnation products free of Propiconazole are registered for all relevant countries. One "Propiconazole free" impregnation product is registered for certain Countries, but the given product contains Tebuconazole – which deadline for review is on September 30. 2022 and potential at risk for non-renewal – it does not constitute a suitable alternative. Therefore, no alternative impregnation products are currently available. By intense investigations at all potential suppliers and impregnation product registration owners DOVISTA found a potential impregnation product in the pipeline of registration. To our understanding, the formal registration dossier of an

	impregnation product should be handed to ECHA in 2021. The theoretical processing time at the competent authority should be 24 months, but the industry experiences a significantly longer process time at the registration authorities. So, somewhere in the range of 2024-2027 DOVISTA could have an alternative impregnation product available and could start the internal verification process. National building codes and sustainability certifications do require documented wood protection to EN 152, EN 839 and EN 330. The test in EN 330 is a five-year exposure test for complete Timber treatment system in a tropical climate – often performed at a Malaysian jungle location. This test has – to our knowledge - not been started by any European supplier. This would be a hurdle for changing Impregnation Products on many markets. Could DOVISTA produce Timber and Timber Metal Cladded windows without impregnation? No, we do not comply to our customers' requirements and to our knowledge would the service life of our products will be heavily reduced. The expected product life would be reduced to 10-15 year compared to the intended product life of +40 years. Your own exposure test showed heavy Blue-stain infection after less than one year in Atlantic Costal Climate. Institute für Holzforzung in Dresden have verified the need for impregnation in accelerated test. Could Timber and Timber alu cladded windows be produced with modified wood or heartwood from Hardwood species? Modified woods are only available in limited amounts and far from the scale needed for window production and even less for the main timber construction in building. Modified woods will also give a very negative impact on the CO2-footprint of the window. This relates to the huge energy consumption in modifying wood and transportation from New Zealand and the west coast of South America. The current cost for modified wood is also a level where mass production of windows would be irrelevant and DOVISTA would need to switch the products to other materials like Aluminum or PVC. This would require a high-level investment in R&D and new production facilities, and a significantly deteriorated sustainability profile for DOVISTA products due to higher amount of embodied CO2. Heartwood from Hardwood species can be used, but availability is scarce, and the cost is extremely high. The products would still need impregnation against mold infections.
Information above is confidential	
Justification for confidentiality	

Technical Feasibility	Propiconazole has effect against wood-destroying fungi and Blue-stain fungi which means that used in combination with IPBC a protective level can be reached with a low total amount of active substances (low concentration). Propiconazole is stable after application and does not migrate through the applied Topcoat. When used in the closed industrial equipment, the risk of environmental exposure is reduced to its minimum (no spread of excess liquid). No other active substance registered for PT8 (Wood Preservatives) can deliver the same technical properties. Alternative Active Substances must be compatible to the organic and inorganic chemistry in other components of the window and metal cladding. So far, no supplier or sub supplier to our supplier base have presented a relevant active substance or impregnation product that can match these fundamental requirements. The selection of new active substance is far beyond the resource of DOVISTA and especially the registration of a new Active Substance would require resources and timespan out of reach for DOVISTA.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Propiconazole has effect against wood-destroying fungi and Blue-stain fungi which means that used in combination with IPBC a protective level can be reached with a low total amount of active substances (low concentration). Propiconazole is stable after application and does not migrate through the applied Topcoat. When used in the closed industrial equipment, the risk of environmental exposure is reduced to its minimum (no spread of excess liquid). No other active substance registered for PT8 (Wood Preservatives) can deliver the same technical properties. Alternative Active Substances must be compatible to the organic and inorganic chemistry in other components of the window and metal cladding. So far, no supplier or sub supplier to our supplier base have presented a relevant active substance or impregnation product that can match these fundamental requirements. The selection of new active substance is far beyond the resource of DOVISTA and especially the registration of a new Active Substance would require resources and timespan out of reach for DOVISTA.
Information above is confidential	
Justification for confidentiality	

Hazards and Risks of the Alternative	Following the fact that no alternative Active Substances and Impregnation Products are available a ban for the use of Propiconazole will require a complete turnaround for the use of wood in the DOVISTA Group.
Information above is confidential	
Justification for confidentiality	
Availability	An Impregnation Product based on the combination of Active Substances Penflufen and IPBC is expected to replace Impregnation Products based on a combination of Propiconazole and IPBC. Such an Impregnation Product is still in the Registration phase and might only be available for commercial use – depending on the Registration Flow – in 3 years or more. After this stage, our internal verification can start and will take additional 18-24 month in a best-case evaluation. So, markets require compliance to EN 330 which is 5 yearlong exposure test of the complete surfacetreatement system in a Tropical Climate.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Currently no alternatives Impregnation based on Propiconazole are available. This is extremely critical for the use for Wood in Construction Products. When Propiconazole is used of windows and doors it will be covered by a Topcoat and – often also - Alucladding so, the risk of leaching can be neglected. Potential alternatives could be registered within 3 to 7 years, but the ECHA registration process is complex and not full predictable. Due to this a business case for a new Impregnation Product oppose a very high risk and a long-time span for return of investment.
Information above is confidential	
Justification for confidentiality	
Other comments	[redacted]

	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 31	**2021/09/03 11:31**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Switzerland
Name of organization/institution	Lonza Cologne GmbH
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	

Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	LSI_Propiconazole_Assessment of Alternatives_01Sept.2021.pdf
Attachments (confidential	

information)	
Justification for confidential attachment	

Comment 32	**2021/09/03 13:25**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	Verband der deutschen Lack- und Druckfarbenindustrie e.V.
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Propiconazole is of outstanding economic importance in wood preservation to protect against wood-destroying and wood-discolouring fungi. The number of authorised wood preservatives containing this active substance and the resulting quantities of wood treated with them substantiate this. Wood preservatives extend the service life of domestic, non-durable softwood. Effective wood preservation contributes to resource conservation and has an important role in maintaining the value of products and materials made of wood. Material protection with wood preservatives is an important component in the entire value chain – from forests as an economic commodity, followed by the sawmill and wood processing industries to finished end products in the building sector and in gardening and landscaping. Therefore, it is necessary to treat non-durable wood with biocides to protect especially sapwood against fungal attacks.
Product Type	8
Alternative Identity and Properties	Wood preservatives containing other fungicides: There are only few fungicides with an approval under the Biocidal Products Regulation (BPR) which could be used as an alternative to propiconazole. All of these possible alternatives for use in use class 2 to 4 (above ground and

	in-ground contact) have disadvantages (i.a. they need higher active substance concentrations, have less efficacy against specific fungi, meet also exclusion criteria or have sensitizing properties, they are non-colourless and thus not suitable for paint systems). Natural durable wood: Unlike for softwood with its low natural durability, the use of hardwood species of European and tropical origin with a high natural durability against fungi decay is not as widespread in the building sector. This is due to lesser availability and higher costs as well as sustainability aspects. Domestic forests consist largely of renewable non-durable or low-durability coniferous species such as spruce or pine. Many of these forests have been used as economic commodity for centuries and would have to be rededicated within a short period of time. In Germany, about 70% of harvested wood is pine and spruce – with spruce having the greatest economic importance, especially for the building sector. Consequently, giving up these types of wood would also mean giving up wood as a renewable building material. Chemical or thermal modified wood: Chemical modified wood (acetylated or furfurylated wood) reduces the absorption of water and, therefore, fungi attack. Chemical modified wood is not widespread in the market because of its high prices. Chemical modified wood is not really versatile in use, not least because of its inherent odour. Thermal modified wood (wood heated at about 200°C for several hours) is less moistureabsorbing than untreated wood, resulting in stronger resistance to fungi attack. Thermal modified wood is not suitable for soil contact (use class 4). The higher the heating process, the stronger the resistance against fungi attacks – but with increasing process temperature the bending strength is reduced significantly and the wood becomes brittle.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Wood preservatives with propiconazole are highly effective against wood-decaying fungi and wood-discolouring fungi. They can be formulated as aqueous based products. Propiconazole is suitable for use in paint systems and has many appropriate technical properties, such as colourlessness and non-corrosivity towards impregnation equipment as well as fittings, screws and nails in connection with the treated wood. Propiconazole can be combined easily with other active substances (e.g. insecticides). Furthermore, propiconazole is inert/neutral towards other

	technically necessary ingredients of a formulation. Wood preservatives containing propiconazole are non-foaming. Formulations with propiconazole have very good painting properties. The active substance behaves neutrally towards the wood surface and subsequently applied coatings. In efforts to find alternatives, long-term tests over years need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical application.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, there is no alternative active substance. Without adequate alternatives (active substances and wood preservatives), the service life of the most important wood species and their wood products (e.g. windows, fences, doors) is shortened significantly. This leads to a more frequent replacement of such products with the ensuing high cost for end users. The positive carbon footprint effect of wood would be reduced. More expensive wood species of limited availability or alternative – less suitable – building materials would have to be used instead. Non-availability of wood preservatives with propiconazole disrupts the entire existing value chain from native softwoods to processed wood products. Propiconazole is of outstanding importance as a preservative for lumber against wooddiscolouring fungi (blue stain, sapstain and mould). Blue-stained wood cannot be marketed and causes immense economic losses.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (fungicidal active substances), no risk and hazard assessment can be carried out.
Information above is confidential	
Justification for confidentiality	
Availability	Other fungicides covering the broad range of applications of

	propiconazole are not available. There is no naturally durable heartwood in sufficient quantities. Beside the aspect of availability, tropical wood is also critical from an ecological viewpoint. Chemically and thermally modified wood is not available in large quantities. The technical equipment of existing impregnation plants cannot be converted to the production of modified wood, since completely different chemicals and technologies are required for this.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	From the perspective of manufacturers of wood preservatives/formulators organised in the German Paint and Printing Ink Association (Verband der deutschen Lack- und Druckfarbenindustrie e.V.), there are no adequate alternatives to wood preservatives containing propiconazole (see items 1-5).
Information above is confidential	
Justification for confidentiality	
Other comments	The development of alternative active substances for wood protection takes a very long lead time with an uncertain outcome. Many years are needed to prove the efficacy of an active substance up to the technical maturity of marketable products. Moreover, there is a lengthy approval procedure under the BPR – also with an uncertain outcome.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 33	**2021/09/03 14:03**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	United Kingdom
Name of organization/institution	Canopy Products Limited
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Manufacturer of mainly softwood products for external use. Softwood is a sustainable raw material FSC/PEFC
Product Type	8
Alternative Identity and Properties	I am not aware of anything else in the market place that could be used.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	I am not aware the industry has had chance to develop alternatives to using Propiconazole. More time is needed.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	If you ban now manufacturers will switch production to none softwood timber i.e. a hardwood which would have devastating consequences to our forests. Maybe put a tax on the use of Propiconazole on a volume basis and then it will force the manufacturers in to product development.
Information above is confidential	
Justification for confidentiality	

Hazards and Risks of the Alternative	Alternatives I understand don't work. A natural alternative needs to be found.
Information above is confidential	
Justification for confidentiality	
Availability	I am not aware of any alternatives.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 34	**2021/09/03 14:14**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]

Country	Denmark
Name of organization/institution	VinduesIndustrien - Association of Danish Window Manufacturers
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	With a market share of 85-90%, wood is the predominant material used in Denmark for the manufacture of windows and doors, as it has been for the last 3-400 years. The type of wood typically used (for window production) is Nordic Pine, of which the climate-exposed parts (of the window) contain a large proportion of heartwood. To secure a lifespan on 30-40 years for wooden windows in the wet and humid Danish climate it is necessary to protect the wood from decay by means of fungicides. Other types of wood, eg. hardwood, are only used to a very limited extent. Modified wood is not yet used for window production. The high market share for the use of wood is due to the Danish building heritage, and that the Danish house owners still prefer this material in their homes, as wood is a renewable and sustainable resource that stores CO2, protects drinking water and provides habitats for flora and fauna during growth.
Product Type	8
Alternative Identity and Properties	Three active substances are used for wood protection, fulfilling the efficiency required for use in Class 3. The substances are used in different combinations and concentrations, depending on the wood type and the quality of the wood. The actives substances are: -Propiconazole, which comes under the BPR exclusion criteria, Article 5(1) in December 2022. - Tebuconazole, which is reaching it expiry date on September 2022 and also risks falling under BPR exclusion criteria 5(1). - IPBC, which is solely effective against discoloring fungi ("Blue Stains"). The Danish Association of Manufacturers of Windows and Exterior Doors (VinduesIndustrien) is not aware of any other product currently approved in Denmark. Alternative types of wood: The Danish Association of Manufacturers of Windows and Exterior Doors (VinduesIndustrien) is not aware of any large-scale use of any alternative types of wood – or use of modified wood – for the manufacture of windows. For the windows to retain their properties and functionality, they need to be treated with wood

	preservatives. In the view of The Danish Association of Manufacturers of Windows (VinduesIndustrien), alternative – or modified wood types – are not useable and cannot replace the use of softwood plus wood preservatives - due to the scale of use of softwood and its availability and easiness of processing. Besides, naturally durable wood species are not available in sufficient quantities to supply neither the Danish, nor the global need for the window industry (and to a larger extend, the woodwork industry).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole is a very suitable substance for use in an industrial process like flow coating, which is the standard method in Denmark for application of fungicides. Vacuum impregnation has been phased out due to the use of heartwood and flow coating. To introduce a new substance will require a lengthy process due to testing of the efficiency and the compatibility with other components in the window or door. As an indication, the approval process of a new Active Substance usually takes 3-5 years, to which another 3-5 years is needed to get Biocidal Products approved. The window industry would only then be able to test the compatibility and the aging of threated window, which requires several years for results to be available (e.g., most windows would require a 5-years outdoor exposure test, usually conducted in humid climate condition in Malaysia).
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In Denmark, mainly sustainable wood from the Nordic countries is used for window production. Other types of wood are imported from outside the EU, e.g. hardwood from Asia or America is only used to a very limited extent. Compared to other wood types, Nordic pine is the most sustainable option for production of windows and outer doors. The fast-growing nature of Nordic pine and the short distance of transport (and -time) makes it the preferred choice for the industry and allows its sourcing from responsible and sustainable forestry. With no option to protect the wood from decay by means of active substances, the lifespan of windows and outer doors will be significantly reduced, increasing the relative cost of wooden

	windows, and wood as a window/outer door material will probably be replaced by other - and less sustainable materials, such as PVC and aluminum. A prohibition will have a market changing effect on wood manufacturing companies.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Denmark has already reduced the use of active substances (Propiconalzole, Tebuconale and IPBC) by increasing of the use of quality wood (heartwood). However, if the use of active substances mentioned in section 1 are not allowed in the future, the lifespan of a wooden window/outer door will be significantly reduced. Propiconazole is a very efficient substance, and alternative, less efficient substances will increase the required amount used, resulting in a higher risk of exposure. With a non-renewal of Propiconazole, the window industry would have to offer lower-grade products, presenting a higher risk of wood rotting fungi and therefore a greater stability and integrity risk for the end-users.
Information above is confidential	
Justification for confidentiality	
Availability	There is currently no alternative to the three active substances mentioned in section 1. No products with alternatives to the active substances mentioned in section 1 (eg. Penplufen) have been approved yet and meet the industries requirements.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	An immediate ban of the use of Propiconazole and Tebuconazole will leave the wooden window industry with no option to produce wooden windows with an expected durability of 30-40 years as the market requires. An increase in the use of alternative wood types from outside of the EU, eg. Asia, Russia and America (which also require protection) will increase the cost of the window and make wooden windows less competitive to alternative window materials, such as aluminum and PVC. Besides, importing wood species from outside EU will be done at the expense of

	the currently low environmental impact of Nordic pine due to transportation on long distances. Currently, no product has been approved in class 3, containing the new substance Penplufen. To introduce a new active substance requires a minimum of 5 years for testing of the durability and the compatibility with other materials, such as screws, stains, paint corrosion.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 35	**2021/09/03 14:44**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Finland
Name of organization/institution	Finnish Federation of Woodworking Industries
I do not wish the name of my organisation/institution to be published on the ECHA website.	

General information	Wood is the only renewable material for building. In Finland wood has been used centuries for construction and it is now becoming preferred material as it has been identified as a solution for mitigation of climate change. This effect is recognised by many of the EU policies like climate and Green Deal in general.
Product Type	8
Alternative Identity and Properties	In Finland the main tree species are sofwood and birch is the only hardwood commercially used. As an organic material, wood is susceptible to the attack of unwanted organisms: active substances are needed against wood discoloring fungi ("blue stains"), wood rotting and wood destroying fungi, insects (in some countries). Most of this happens when wood is used in humid conditions (outdoor like cladding and decking, ground contact) or there is a risk that during the building process wood product can be in touch with weather. Examples of wood products used in humid conditions are beams (solid wood or laminated veneer lumber, CLT, glue-laminated timber), plywood, facade elements. Wood product can be installed in contact with humic concrete that will dry only later on (windows and doors).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	There are three different ways to use substances to protect the wood product. Wood can be impregnated to have long term durability in ground contact or permanently wet conditions. Surface treatment to be used in permanent buildings e.g. roofing and flooring structures where during use surfaces are exposed to occasional high moisture. These products are e.g. structural plywood panels and beams. Third way is painting the product (visible cladding, facades, fencing, etc.) where the biocide prevents discoloring of the painted surface. Impregnation and surface treatment with the biocidal product is made in controlled factory conditions. The treatment gives protection against wood colouring and decaying fungi during the construction and end-use and ensures that the strength properties of the product remain during the lifetime. With the increase of industrial prefabrication also painting is more and more done in factories on painting lines. Treatment products are currently based on Propiconazole, with or without a combination of Tebuconazole or IPBC. At the moment, no

	suitable alternatives to the use of Propiconazole or Tebuconazole are readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives).
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In case of non-renewal of Propiconazole, manufacturers would be left without authorised Active Substances that can be used for biocidal treatment. The only alternative to the production of less durable products. That would also give way to products with higher CO2-emissions and fossile origin. The availability of proper products is of vital importance for our industry.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	As reported by several national studies done in 9 European countries, the very few biocidal products that are propiconazole-free either contain Tebuconazole (whose authorization expires before Propiconazole) or are have a lower efficacy, being based only on IPBC. The wood industry currently uses a combination of Propiconazole and 1 or 2 other Active Substances, allowing manufacturers to significantly reduce the concentration and the quantity of Active Substance use for wood impregnation. Without this option, the industry would need to use other substances at higher concentration levels, which would pose a greater risk of exposure.
Information above is confidential	
Justification for confidentiality	
Availability	We have been told by the chemical industry that at present alternatives do not exist. Furthermore product development and testing take a long time and also need a lot of resources. And after all that development work it takes a long time to prove the efficacy of the products and to get the acceptance and registration. The prerequisite for introducing new product or coating process is that it will be better for the user and the environment than propaconazole. The time scale for alternative chemicals

	/chemical combinations/processes that can replace propaconazole can not be given at the moment.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Our industry agrees with the necessity for finding a method of wood protection system with the equivalent technical and economic efficiency, and better health and safety profile. It is known that research work aiming to find an alternative is ongoing, but such product is not commercially available yet. Therefore our industry sector is still dependent on the availability of sustances with sufficient performance.
Information above is confidential	
Justification for confidentiality	
Other comments	There is active research ongoing with finding new ways to enhance durability of wood. Especially we try to find biochemicals that could be used for treatment and there are some early indications of the performace level of such chemicals. It is a long process before an innovation on that sector will be available on commercial basis. Before that we are dependent on the substances currently used.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 36	**2021/09/03 14:48**
FirstName	[redacted]

FamilyName	[redacted]
Email	[redacted]
Country	[redacted]
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is	

confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	If a ban were to occur, we anticipate an escalation in material costs and fewer opportunities to use wood in construction, leading to a severe drop in demand and resulting in job losses and business closures in the wood industry. Added to these risks is the environmental impact of moving away from wood as a preferred construction material and losing the sustainability benefits this brings such as sequestered CO2, wildlife habitats and an easily accessible source of material.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 37	**2021/09/03 15:44**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of organization/institution	Flügger group A/S

I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	As a supplier of paint and wood protective solution to professional painters as well as consumers, we depend on that our biocide suppliers can supply us with a PT8 solution. We are in not in a situation where we can develop and apply our own PT8 solution, and currently there are no authorized PT8 products available for our markets without propiconazole, meaning without propiconazole we cannot supply our customers with a PT 8 solution.
Product Type	8
Alternative Identity and Properties	After reviewing the alternatives to propiconazole on the list of approved active substances for PT8, no other single active substance can be considered as a replacement for propiconazole. The reason being that all other PT8 substances have disadvantages compared to propiconazole. In order for the active substance to be applied in our product it must be active against both a wide range of mold and blue stain. A number of approved substances are only active against insects, or only effective against e.g. Blue stain, a number are subject to exclusion criteria due to classification as Repr. 1B. or Carc 1B. A significant amount is incompatible with formulations, as they are cationic which are not suitable for anionic formulations or are causing discoloration. A few substances could partly be considered as alternatives; Tebuconazole, but it is in the renewal process and in risk of being classified Repr. 1B., in addition is Tebuconazole less active against blue stain. DCOIT, but there are no authorized products with DCOIT, and there is very limited knowledge about use of DCOIT as PT8. IPBC is in many cases used in combination with propiconazole but never alone, IPBC is very water soluble and can cause yellowing of the top coat. Penfluen is a new active and very little experience exist and no authorized product. Therefore, if we want to obtain a low biocide containing product which is still highly efficient and has a high quality, we must use propiconazole.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Untreated wood exposed to the environment, is in risk of

	degradation by different fungi, that will attack the wood in different manners, causing loss of stability, strength and deterioration of visual expression. Besides from keeping the appearance of the wood surface neat using a wood preservative with an efficient active is crucial for the protection of wooden building materials such as wooden windows, loadbearing structures, doors, decking, cladding or fences, that is exposed to weather, and to insure a long-lasting sustainable product. As different fungi attack the wood in different ways, some destroy cellulose or hemicellulose other will attack lignin. Some attacks softwood other hardwood more, and in different humidity, there is a central need for availability of different types of fungicides. It is already today a challenge to properly preserve wood and it will not be possible in the future with fewer actives. As mentioned in section 1, only propiconazole is capable of having the sufficient efficacy, without causing discoloration on top coat, being compatible with the formulation used, or being corrosive against nails, screws or other buildings materials.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	With an increased focus on CO2 reduction and use of sustainable building materials, wood, such as pine or spruce, is a key material in the construction sector and therefore it is crucial that we can preserve these kinds of woods, and currently no biocide suppliers that have a PT8 product that can substitute the propiconazole-based product we are offering the market now. Pine and spruce have many upsides compared to other materials; it grows plentifully across Europe. It is cost-effective, strong compared to weight, a sustainable resource that stores CO2, good insulating properties and easy to process. But to ensure a long-lasting life for such wood, it is necessary to have efficient preservatives. If not available, manufacturers and our customers will have to switch to other kind of wood, that are less available, imported from outside EU, more expensive and less easy to process. Furthermore, it could cause a higher risk of material shortage, or results in significantly reduced life span of the wood used today, or even a shift from using wood to a less sustainable building material such as PVC or aluminium. Offering a PT8 product means that we can supply a full package of outdoor wood protection products, and by not having a PT8 product in our assortment, we will not only lose turnover related to PT8

	but to all our outdoor products.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Products which are alternatives to the ones containing propiconazole, either contain tebuconazole, which has a shorter approval period than propiconazole, or need much higher amount of active substance increasing the risk of the user being exposed. Applying these alternatives s also means a shortening of the life span of the wood if not applied frequently, and a higher risk of losing the structural integrity in building materials.
Information above is confidential	
Justification for confidentiality	
Availability	There are no authorized PT8 products available in Denmark, Finland, without propiconazole. In Norway and Sweden there is one available product without propiconazole but it contains Tebuconazole, shorter approval period than propiconazole.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	There are no active substances available that can substitute propiconazole, no other active substances have the technical feasibility or the efficacy which characterizes propiconazole. There are no authorized PT8 products available in Denmark and Finland, without propiconazole. In Norway and Sweden there is one available product without propiconazole but it contains Tebuconazole, that has a shorter approval period than propiconazole. Without propiconazole it will be impossible for us to offer a proper PT8 product to the marked, and it will be impossible for the construction sector to produce building materials in wood with a long lifespan. Meaning that our customers will have to change to less accessible woods or e.g. to PVC and aluminium, that is significantly less sustainable.
Information above is confidential	

Justification for confidentiality	
Other comments	Even if a new solution or active should be available soon, it takes years of testing, it will take 5-10 years of testing to approve a new preservation solution.
Information above is confidential	
Justification for confidentiality	
References	The use of Propiconazole in wood preservatives (PT 8) – background paper (2021) prepared by Træ- og Møbelindustrien, DI BYG, DI Dansk Byggeri, Vinduesindustrien, Dansk Industri og Danmarks Farve- og Limindustri (2021)
Attachments (non-confidential information)	the use of Propiconazole in wood preservatives PT8.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 38	**2021/09/03 15:49**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of organization/institution	Danish Coatings and Adhesives Association
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The Danish Coatings and Adhesive Association represents among others, manufacturers of wood preservatives (PT8). It is products for superficial treatment such as wood oils, impregnating oils and primers etc. that protects against wood-destroying fungi and blue staining fungi.

	Propiconazole is of great importance in these PT8 products which are supplied for consumer, professional and industrial use and are applied to e.g. exterior facade paneling, joinery for window frames and doors, for claddings, decking and fencing. The reason for applying PT8 products is to extend the service life of native softwood.
Product Type	8
Alternative Identity and Properties	Wood preservatives (PT8) More than 40 actives substances are listed as approved to be used in PT 8 products. However, the options a manufacturer of wood preservatives has for substituting propiconazole by other approved actives substances are not existing in the short term. On the list of approved active substances there are substances with efficacy against insects only and therefore these are not relevant to use against wood-destroying fungi. Further there are several approved substances with classifications that are unacceptable. They may be effective fungicides but have other disadvantages. Examples: • Boron compounds (Repr. 1B and very soluble in water and leaching from wood in-service), • Creosote (Carc. 1B, is vPvB and PBT and oil based and cannot be used for waterborne solutions), • Copper compounds (highly toxic to water living organisms and does not degrade in the environment and discolor the wooden surface), • Substances with no efficacy for wood decay, only blue stain and some niche substances which for different reasons are not compatible or effective. Then there are the 4 fungicides left that may be regarded as alternatives for use both above ground and in-ground contact. Tebuconazole is currently in the renewal process and is at high risk for being classified Repr. 1 B just as propiconazole. Tebuconazole is however less efficient against blue stain and does not offer the same synergetic effects as propiconazole. DCOIT has very limited use in wood preservation and there are currently no authorized wood preservatives containing DCOIT. IPBC is frequently used in combination with Propiconazole but is not an alternative for single use. It is not stable and can cause yellowing of surfaces. Penflufen is a new substance of which there is very little experience, but it is known to have limited efficacy towards blue stains. There are currently no authorized biocidal products which contain it. Further there are no new non-approved actives substances in the pipeline to be approved.
Information above is confidential	

Justification for confidentiality	
Technical Feasibility	For the manufacturers of wood preservation products, Propiconazole is very valuable, because it is the most effective active substance for relevant use. Propiconazole is effective against both wood decaying fungi and blue stain and in relatively low concentrations. It can be used in water-based paint systems and functions technical well within the formulations. It combines well and has good synergetic effect with other biocides such as e.g. IPBC, which means that you can use less biocides in total. Tebuconazole does not have that property. The PT8-products containing propiconazole are well tried and tested during decades and have proven their worth in both their efficacy and their technical application.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	To ensure a long service life the use of wood at exterior applications will require protection against attack of wood decaying organisms. In this respect wood preservatives play a key role. At present there is no alternative active substances to propiconazole and no alternative to the wood preservatives that contains propiconazole. If a suitable wood preservative is unavailable it will disrupt the value chain from native softwood to the processed wood products and to the lifespan of a building. Without a suitable wood preservative, the manufacturer of a construction product cannot guarantee the service life, and the service life must be expected to be significantly shorter which means more replacements. It will be more expensive, and it will not make sense from a sustainability perspective either. If there was an alternative in the pipeline the cost involved in bringing a wood preservative to the market is high and will involve test cost in categories as efficacy, tox, ecotox, stability and leaching test, R&D development and regulatory specialist resources, consultancy fee for dossier building, BPR authorization fees and finally sales- and marketing support material preparation. The estimated total cost for developing a new wood preservative is a minimum of 800 000 € for the manufacturer of the wood preservative. Further it will take about 6 years to go through the necessary steps. Other expenses will be borne by the user of the wood preservative in the case of an industrial user.
Information above is	

confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	There are no suitable alternatives to propiconazole on the market that pose a lower risk to human health or the environment - see 1. Alternative Identity and Properties
Information above is confidential	
Justification for confidentiality	
Availability	There are no suitable alternatives to wood preservative available on the market.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	A background paper (see References) has been prepared by manufacturers of wood preservatives (PT8), industrial users of PT8 products and their organizations and covers both industrial, professional, and private use of these. The background paper specifically addresses the use of propiconazole in superficial wood protection and industrial wood impregnation and it provides information on why propiconazole remains a very important active substance for the product type. The background paper gathers available knowledge on the use of propiconazole in wood preservatives focusing on control of fungal attack and show that the alternatives are not yet in place.
Information above is confidential	
Justification for confidentiality	
Other comments	Alternative technologies to the use of traditional wood preservatives have been introduced to the market. Due to costs, limited availability and technical difficulties these techniques are not widely used. These new technologies could be matured, but the time frame for this is at least 5–10 years. Further, they can mainly be used for cladding and decking. To avoid the need for wood preservation, an alternative choice of wood could be prioritized. You could choose hardwood species of European or tropical origin where the heartwood part has a natural high durability against fungi, but such a choice will be associated with

	much higher costs and much lesser availability. Further there will be sustainability aspects. The advantage of using native softwood is the availability, reliable wood quality, transport distance, price, easiness to process etc. and that explains why hardwood species despite its higher durability against decay in not the widespread choice in the broader building sector.
Information above is confidential	
Justification for confidentiality	
References	The use of Propiconazole in wood preservatives (PT 8) – background paper (2021) prepared by Træ- og Møbelindustrien, DI BYG, DI Dansk Byggeri, Vinduesindustrien, Dansk Industri og Danmarks Farve- og Limindustri (2021) - please find link to reference here: https://www.danskindustri.dk/siteassets/medlemsforeninger/dfl/dfl-mener/aktuelle-emner/dfl_propiconazole-in-wood-preservatives_rapport_web.pdf
Attachments (non-confidential information)	DFL_Propiconazole in wood preservatives_rapport_WEB.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 39	**2021/09/03 16:20**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Belgium
Name of organization/institution	CEI-Bois (European Confederation of Woodworking Industries)
I do not wish the name of my organisation/institution to be published on the ECHA website.	

General information	The European Confederation of Woodworking Industries (CEI-Bois) represents 22 European and National organisations from 16 countries and is the body backing the interests of the whole industrial European wood sector: more than 180,000 companies generating an annual turnover of 152 billion euros and employing 1 million workers in the EU. CEI-Bois represents the entire wood-based value chain: from timber traders to the sawmill industry, to manufacturers of panels, packaging and wood-based construction products. It also associates WEI, the European industry trade association representing the pressure treated wood industry. The European Woodworking Industry has a key role in the development of sustainable construction for a climate-neutral European economy and advocates for the use of timber construction as an immediate way to achieve long term carbon storage in products, as also recognised in the 2020 Circular Economy Action Plan. It is estimated that timber construction could store between 10 million to 700 million tons per year, while also reducing emissions due to the production of alternative materials such as steel and concrete, according to a recent Nature study (Churkina et al., 2020). The importance of turning the construction sector from a carbon source to a carbon sink has also been recognised by President Von der Leyen in her State of the Union address to the European Parliament in September 2020, in the Renovation Wave Strategy, and more recently in the new EU Forest Strategy. The European wood sector is thus a key contributor to the objectives of the EU Green Deal and offers a positive example of circular bioeconomy in action: European timber processing and wood products manufacturing generates low to zero waste, as resulting by-products and residues can be used as raw material for other wood-based products and renewable energy source. Timber products are not only long-lasting, but can be easily repaired, re-purposed or recycled, thus prolonging the carbon storage effect.
Product Type	8
Alternative Identity and Properties	As an organic material, wood is susceptible to the attack of unwanted organisms: active substances are needed against wood discoloring fungi ("blue stains"), wood rotting and wood destroying fungi, insects (in some countries). All wood products intended for Use Class 3 as defined in EN 335 (i.e., situations in which the wood-based product is exposed to the weather) like windows and doors, fencing, decking, cladding and certain wood-based packaging solutions must be treated against fungal attacks. Other examples of wood products used in humid conditions are beams (solid wood or

	laminated veneer lumber, CLT), plywood, facade elements. Treatment products are currently based on Propiconazole, with or without a combination of Tebuconazole or IPBC. At the moment, no suitable alternatives to the use of Propiconazole or Tebuconazole are readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives). In particular, research conducted in 9 different European countries (Austria, Belgium, Denmark, Finland, France, Germany, Norway, Sweden, the Netherlands) failed to identify alternatives to propiconazole-based products to treat timber windows and doors suitable for industrial use: the very few alternatives identified either contain Tebuconazole (whose authorization expire in September 2022) or are only based on IPBC which usually does not present a sufficient efficacy against wood-destroying fungi (for reference see the Annex II to the Position paper attached). Research is thus needed to develop and authorize alternative wood preservatives, although results cannot be expected in the short term, but only in 5 to 10 years as a best-case scenario. The manufacturers of paints are actively searching for alternative chemicals that could replace propiconazole, but product development and testing take a long time and also need a lot of resources. And after all the development work it takes a long time to prove the efficacy of the products and to get the acceptance and registration. Some alternative wood species and materials are naturally durable towards wood-destroying fungi, (e.g. the heartwood of White Oaks), but their availability on the market is very scarce due to quantity and price limitations. For windows and doors they represent overall less than 5% of timber used by industry in Europe and the same limited amount will be the case for fencing, decking and cladding. Furthermore, alternatives are not suitable for all applications because of their weight and density, among other factors. As such, hardwoods cannot represent for the moment a viable market alternative to softwoods (such as pine or spruce), which on the other hand, require impregnation with active substances. (See also section 4 below).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	To ensure the durability of wooden applications in the European humid climate, protection against fungal attack is needed. Therefore, manufacturers of wooden applications,

	such as windows and doors, fencing, decking, cladding and packaging are currently using the approved Active Substance (AS) Propiconazole in combination with one or two other Active Substances (Tebuconazole and/or IPBC) when impregnating timber. The combination is essential to keep the total amount of Active Substances at a minimum, limit the concentration of impregnation product and at the same time ensure a long service life for the windows and doors. Over the past decades, the timber industry has been optimizing their impregnation processes to prevent any leaching to the environment, limit the use of chemicals and reduce the concentration of timber impregnation (e.g. switch from solvent to water-based treatment). The impregnation process of timber products is handled with care by manufacturers and is carried out on finished components, preventing any risk of spreading biocidal products via wood chippings. Besides, processes are also mostly carried out in closed process equipment with water-based impregnation and reuse of excess liquid in a closed system. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the wood industry would be left without any option of impregnation as of January 2023. In fact, research is needed to develop solutions suitable for biocidal treatment products that can be used at industrial level and that is compatible with other materials (to prevent corrosion of screws, stains on top coat or paint). The process of product development, testing and production at commercial level would take at least 5 to 10 years.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In case of non-renewal of Propiconazole, manufacturers would be left without authorised Active Substances that can be used for biocidal treatment. The only alternative to the production of less durable products or the closing down of operations would be a switch to alternative wood species that are naturally more resistant to fungal attack. This option, however, is hardly feasible for a number or reasons, including weight and cost. The durability of hardwood species (and in particular of hartwood, the core layers of the log) is in general very good. However, European hardwood species like Oak are used to a limited extent for windows and doors, fencing, decking and cladding. This is related to several factors including the availability of resources and material costs. For example, hardwood represents less than

	5% of timber used in the window and door industry in Europe, and to an equivalent extend for fencing, decking and cladding. Imports of tropical hardwoods represent a significant share in some markets (e.g., in the Netherlands) but cannot sustain alone the demand of the European mass market. Besides, imports from tropical countries imply higher transportation costs. It is to be noted that already now, because of the Covid-19 pandemic restrictions, the industry is facing bottlenecks and logistic problems that make it increasingly difficult to source raw materials for industrial use, which, combined with a surge of the demand, is causing a rally of sawnwood prices to unprecedented levels.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	As reported by several national studies done in 9 European countries, the very few biocidal products that are propiconazole-free either contain Tebuconazole (whose authorization expires before Propiconazole) or are have a lower efficacy, being based only on IPBC. The wood industry currently uses a combination of Propiconazole and 1 or 2 other Active Substances, allowing manufacturers to significantly reduce the concentration and the quantity of Active Substance use for wood impregnation. Without this option, the industry would need to use other substances at higher concentration levels, which would pose a greater risk of exposure.
Information above is confidential	
Justification for confidentiality	
Availability	As explained above, no immediate alternatives are available in the next 5 to 10 years. In particular, substances free of Propiconazole contain Tebuconazole (see annex II to the position paper attached), which also falls under exclusion criteria of the Biocidal Product Regulation, Art. 5(1). One possible alternative is Pefluflen, but the approved products that are based on this substance do not meet the industry requirements, as today it is not suitable for products in Use Class 3 in any EU country for industrial preservative treatments of wood.
Information above is	

confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Considering the unprecedented consequences of the ban of Propiconazole for the use of weather exposed timber applications like timber windows and doors, fencing, decking, cladding and packaging, the absence of alternative biocidal products and the limited risk of leaching in the environment, CEI-Bois calls for a renewal of the approval of Propiconazole until an equivalent substitute is available, tested and assessed for use wood applications, for the following reasons: • Availability of several approved Active Substances important: E.g. the timber industry currently uses a combination of Propiconazole and 1 or 2 other Active Substances, allowing manufacturers to significantly reduce the concentration and the quantity of Active Substance use for wood impregnation. • There are currently no suitable alternatives for use in manufacturing of windows and doors, fencing, decking, cladding and packaging: Out of the studies conducted in 9 countries, no impregnation product free from Propiconazole and Tebuconazole was deemed suitable for industrial needs. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the industry would be left without any option of effective biocidal impregnation as of January 2023. • The approval process of the Biocidal Product Regulation requires 5-10 years before a new Active Substance can be used in wood impregnation products. • New alternative solutions and processes have to be thoroughly tested for their health and environmental properties: Any wood preservation/protection solution placed on the market requires the durability of windows and doors to be tested for at least 5-10 years. Hence, European manufacturers timber windows and doors, fencing, decking and cladding, require a certain transition period to implement new alternative solutions • Wood construction has been recognised by the EU as a way to decrease the carbon dioxide emissions of building. Wood as an organic and renewable material is promoted and it replaces other building materials with higher emissions. Furthermore wood stores carbon for the lifetime of the building product. Paints or coatings are necessary for using wood outdoors or in humid conditions and treatment decreases the need for maintenance and prolongs the lifecycle of the products.
Information above is confidential	

Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	• HFA: Holzforschung Austria – Study on authorized wood preservatives for industrial use as primers to manufacture wooden windows (HFA-A.Nr.: 2635/2020/1-HO) • FCBA: Institut Technologique FCBA – Survey of products registered to date for the preservation of wood intended for the manufacture of exterior joinery (n°401/20/162ZBis) • DHI: DHI Group – PT 8 products approved in Denmark, Norway, Sweden and Finland (11817983) • SHR: Stichting Hout Research – Approved wood preservatives in Belgium and The Netherlands (21.0298-B)
Attachments (non-confidential information)	CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives 2021-08.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 40	**2021/09/03 16:28**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	United Kingdom
Name of organization/institution	Mumford & Wood Limited
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	We employ 80 staff in the manufacture of external joinery

	(Windows& Doors) without the use of the preservative treatments we will no longer be able supply products into the general market place. this means that with no alternative or extension to this product we may have to close our business. we as an industry need to have an extension or replacement before we ban these products.
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is	

confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 41	**2021/09/03 17:42**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Belgium
Name of organization/institution	EOS
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Through its member federations and associated members, EOS represents some 35,000 sawmills in 11 countries across Europe (Austria, Belgium, Denmark, Finland, France, Germany, Latvia, Norway, Romania, Sweden, Switzerland) manufacturing sawn boards, timber frames, glulam, decking, flooring, joinery, fencing and several other wood products. Together they represent around 80% of the total European sawn wood output in a sector that has a turnover of around 35 billion EUR and employs about 250,000 people

	in the EU.
Product Type	8
Alternative Identity and Properties	As an organic material, wood is susceptible to the attack of unwanted organisms: active substances are needed against wood discoloring fungi ("blue stains"), wood rotting and wood destroying fungi, insects (in some countries). All wood products intended for Use Class 3 as defined in EN 335 (i.e., situations in which the wood-based product is exposed to the weather) like windows and doors, fencing, decking, cladding and certain wood-based packaging solutions must be treated against fungal attacks. Other examples of wood products used in humid conditions are beams (solid wood or laminated veneer lumber, CLT), plywood, facade elements. Treatment products are currently based on Propiconazole, with or without a combination of Tebuconazole or IPBC. At the moment, no suitable alternatives to the use of Propiconazole or Tebuconazole are readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives). In particular, research conducted in 9 different European countries (Austria, Belgium, Denmark, Finland, France, Germany, Norway, Sweden, the Netherlands) failed to identify alternatives to propiconazole-based products to treat timber windows and doors suitable for industrial use: the very few alternatives identified either contain Tebuconazole (whose authorization expire in September 2022) or are only based on IPBC which usually does not present a sufficient efficacy against wood-destroying fungi (for reference see the Annex II to the Position paper attached). Research is thus needed to develop and authorize alternative wood preservatives, although results cannot be expected in the short term, but only in 5 to 10 years as a best-case scenario. The manufacturers of paints are actively searching for alternative chemicals that could replace propiconazole, but product development and testing take a long time and also need a lot of resources. And after all the development work it takes a long time to prove the efficacy of the products and to get the acceptance and registration. Some alternative wood species and materials are naturally durable towards wood-destroying fungi, (e.g. the heartwood of White Oaks), but their availability on the market is very scarce due to quantity and price limitations. For windows and doors they represent overall less than 5% of timber used by industry in Europe and the same limited amount will be the case for fencing, decking and cladding. Furthermore, alternatives are not suitable for all applications because of their weight and density, among

	other factors. As such, hardwoods cannot represent for the moment a viable market alternative to softwoods (such as pine or spruce), which on the other hand, require impregnation with active substances. (See also section 4 below).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	To ensure the durability of wooden applications in the European humid climate, protection against fungal attack is needed. Therefore, manufacturers of wooden applications, such as windows and doors, fencing, decking, cladding and packaging are currently using the approved Active Substance (AS) Propiconazole in combination with one or two other Active Substances (Tebuconazole and/or IPBC) when impregnating timber. The combination is essential to keep the total amount of Active Substances at a minimum, limit the concentration of impregnation product and at the same time ensure a long service life for the windows and doors. Over the past decades, the timber industry has been optimizing their impregnation processes to prevent any leaching to the environment, limit the use of chemicals and reduce the concentration of timber impregnation (e.g. switch from solvent to water-based treatment). The impregnation process of timber products is handled with care by manufacturers and is carried out on finished components, preventing any risk of spreading biocidal products via wood chippings. Besides, processes are also mostly carried out in closed process equipment with water-based impregnation and reuse of excess liquid in a closed system. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the wood industry would be left without any option of impregnation as of January 2023. In fact, research is needed to develop solutions suitable for biocidal treatment products that can be used at industrial level and that is compatible with other materials (to prevent corrosion of screws, stains on top coat or paint). The process of product development, testing and production at commercial level would take at least 5 to 10 years.
Information above is confidential	
Justification for confidentiality	

Economic Feasibility	In case of non-renewal of Propiconazole, manufacturers would be left without authorised Active Substances that can be used for biocidal treatment. The only alternative to the production of less durable products or the closing down of operations would be a switch to alternative wood species that are naturally more resistant to fungal attack. This option, however, is hardly feasible for a number or reasons, including weight and cost. The durability of hardwood species (and in particular of hartwood, the core layers of the log) is in general very good. However, European hardwood species like Oak are used to a limited extent for windows and doors, fencing, decking and cladding. This is related to several factors including the availability of resources and material costs. For example, hardwood represents less than 5% of timber used in the window and door industry in Europe, and to an equivalent extend for fencing, decking and cladding. Imports of tropical hardwoods represent a significant share in some markets (e.g., in the Netherlands) but cannot sustain alone the demand of the European mass market. Besides, imports from tropical countries imply higher transportation costs. It is to be noted that already now, because of the Covid-19 pandemic restrictions, the industry is facing bottlenecks and logistic problems that make it increasingly difficult to source raw materials for industrial use, which, combined with a surge of the demand, is causing a rally of sawnwood prices to unprecedented levels.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	As reported by several national studies done in 9 European countries, the very few biocidal products that are propiconazole-free either contain Tebuconazole (whose authorization expires before Propiconazole) or are have a lower efficacy, being based only on IPBC. The wood industry currently uses a combination of Propiconazole and 1 or 2 other Active Substances, allowing manufacturers to significantly reduce the concentration and the quantity of Active Substance use for wood impregnation. Without this option, the industry would need to use other substances at higher concentration levels, which would pose a greater risk of exposure.
Information above is confidential	

Justification for confidentiality	
Availability	As explained above, no immediate alternatives are available in the next 5 to 10 years. In particular, substances free of Propiconazole contain Tebuconazole (see annex II to the position paper attached), which also falls under exclusion criteria of the Biocidal Product Regulation, Art. 5(1). One possible alternative is Pefluflen, but the approved products that are based on this substance do not meet the industry requirements, as today it is not suitable for products in Use Class 3 in any EU country for industrial preservative treatments of wood.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Considering the unprecedented consequences of the ban of Propiconazole for the use of weather exposed timber applications like timber windows and doors, fencing, decking, cladding and packaging, the absence of alternative biocidal products and the limited risk of leaching in the environment, CEI-Bois calls for a renewal of the approval of Propiconazole until an equivalent substitute is available, tested and assessed for use wood applications, for the following reasons: • Availability of several approved Active Substances important: E.g. the timber industry currently uses a combination of Propiconazole and 1 or 2 other Active Substances, allowing manufacturers to significantly reduce the concentration and the quantity of Active Substance use for wood impregnation. • There are currently no suitable alternatives for use in manufacturing of windows and doors, fencing, decking, cladding and packaging: Out of the studies conducted in 9 countries, no impregnation product free from Propiconazole and Tebuconazole was deemed suitable for industrial needs. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the industry would be left without any option of effective biocidal impregnation as of January 2023. • The approval process of the Biocidal Product Regulation requires 5-10 years before a new Active Substance can be used in wood impregnation products. • New alternative solutions and processes have to be thoroughly tested for their health and environmental properties: Any wood preservation/protection solution placed on the market requires the durability of windows and doors to be tested for at least 5-10 years. Hence, European manufacturers timber windows and doors, fencing, decking

	and cladding, require a certain transition period to implement new alternative solutions • Wood construction has been recognised by the EU as a way to decrease the carbon dioxide emissions of building. Wood as an organic and renewable material is promoted and it replaces other building materials with higher emissions. Furthermore wood stores carbon for the lifetime of the building product. Paints or coatings are necessary for using wood outdoors or in humid conditions and treatment decreases the need for maintenance and prolongs the lifecycle of the products.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	• HFA: Holzforschung Austria – Study on authorized wood preservatives for industrial use as primers to manufacture wooden windows (HFA-A.Nr.: 2635/2020/1-HO) • FCBA: Institut Technologique FCBA – Survey of products registered to date for the preservation of wood intended for the manufacture of exterior joinery (n°401/20/162ZBis) • DHI: DHI Group – PT 8 products approved in Denmark, Norway, Sweden and Finland (11817983) • SHR: Stichting Hout Research – Approved wood preservatives in Belgium and The Netherlands (21.0298-B)
Attachments (non-confidential information)	CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives 2021-08.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 42	**2021/09/03 17:46**
FirstName	[redacted]

FamilyName	[redacted]
Email	[redacted]
Country	United Kingdom
Name of organization/institution	PRONTO JOINERY LTD
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	If a ban were to occur, we anticipate an escalation in material costs and fewer opportunities to use wood in construction, leading to a severe drop in demand and resulting in job losses and business closures in the wood industry. Added to these risks is the environmental impact of moving away from wood as a preferred construction material and losing the sustainability benefits this brings such as sequestered CO2, wildlife habitats and an easily accessible source of material.
Product Type	8
Alternative Identity and Properties	No alternative at present.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	If a ban were to occur, we anticipate an escalation in material costs and fewer opportunities to use wood in construction, leading to a severe drop in demand and resulting in job losses and business closures in the wood industry. Added to these risks is the environmental impact of moving away from wood as a preferred construction material and losing the sustainability benefits this brings such as sequestered CO2, wildlife habitats and an easily accessible source of material.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	If a ban were to occur, we anticipate an escalation in

	material costs and fewer opportunities to use wood in construction, leading to a severe drop in demand and resulting in job losses and business closures in the wood industry. Added to these risks is the environmental impact of moving away from wood as a preferred construction material and losing the sustainability benefits this brings such as sequestered CO2, wildlife habitats and an easily accessible source of material.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	If a ban were to occur, we anticipate an escalation in material costs and fewer opportunities to use wood in construction, leading to a severe drop in demand and resulting in job losses and business closures in the wood industry. Added to these risks is the environmental impact of moving away from wood as a preferred construction material and losing the sustainability benefits this brings such as sequestered CO2, wildlife habitats and an easily accessible source of material.
Information above is confidential	

Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 43	**2021/09/03 18:12**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	United Kingdom
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	

Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	If a ban were to occur, we anticipate an escalation in material costs and fewer opportunities to use wood in construction, leading to a severe drop in demand and resulting in job losses and business closures in the wood industry. Added to these risks is the environmental impact of moving away from wood as a preferred construction material and losing the sustainability benefits this brings such as sequestered CO_2, wildlife habitats and an easily accessible source of material.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	

Attachments (confidential information)	
Justification for confidential attachment	

Comment 44	**2021/09/03 18:13**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	Verband Fenster + Fassade (VFF)
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Verband Fenster + Fassade (VFF) is member of EuroWindoor AISBL which submitted a detailed answer to the public consultation today (reference number 4463af26-7e47-46f4-ae6c-5dda63fcc21c). We support the EuroWindoor input completely and we refrain from repeating the content here again. This is in no way intended to diminish the statements on the problem for the German wooden window and door market.
Product Type	8
Alternative Identity and Properties	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Information above is confidential	

Justification for confidentiality	
Economic Feasibility	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Information above is confidential	
Justification for confidentiality	
Availability	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Information above is confidential	
Justification for confidentiality	
Other comments	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Information above is confidential	
Justification for confidentiality	
References	See EuroWindoor answer to the public consultation on potential candidates for substitution of Propiconazole.
Attachments (non-confidential information)	EuroWindoor answer to public consultation on Propiconazole 2021-09.pdf
Attachments (confidential information)	

Justification for confidential attachment	

Comment 45	**2021/09/03 19:05**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	France
Name of organization/institution	FIPEC (French Paints, Printing Inks, Artist Colours and Adhesives Association)
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The National Association of Industries for the Wood Preservation and Derived Materials (SPB), created in 1974, brings together manufacturers and distributors of wood preservatives and maintenance products as well as termite protection products. The activities of the SPB deal with techniques and products formulated to preserve raw or machined wood against degradation agents (wood decay fungi, molds, termites and wood boring insects) as well as finishing systems to beautify and maintain onsite timber. It includes biocidal products (TP 8 and TP 18) and non-biocidal products. Since 2011, the SPB has joined the FIPEC, a federation which now has 5 unions active in the fields of paints, inks, colours, glues and adhesives and wood maintenance and preservation products. The missions of the SPB consist of: • Promote the use of treated wood in all relevant fields of application. • Study the technical, normative, and regulatory problems concerning the profession. • Coordinate relations with the various ministries: Environment, Industry, Housing, as well as the CEN (European Center for Standardization) and the FCBA (Technological Institute Forest Cellulose Wood-Construction Furniture). • Search with various professional organizations for all means of action to: - Organize, develop, promote, and defend the wood preservation professions, - Represent the profession with the public authorities and any independent body. • Actively contribute to respect for the environment and participate in the promotion of sustainable

	development policies. • Initiate and help research in favor of: - The improvement of methods of protecting wood and derived materials, - Respect for the user and reduction of the environmental impact. Why do we treat timber? • European species have insufficient natural durability for most uses. • Wood is an organic material which is by nature biodegradable. •Wood species have very variable characteristics among themselves and even within the same species. • Wood is a heterogeneous material due to its structure. • The treatment homogenizes the durability performance of the wood.
Product Type	8
Alternative Identity and Properties	Biocidal alternative : Propiconazole has a unique efficacy spectrum against wood destroying and discoloring fungi. In the actual list of existing approved substances in TP8, there is no active substances which could substitute the propiconazole with the same efficacy spectrum. Substances classified as substance candidate for substitution (for example Tebuconazole) or candidate for exclusion could not be considered as alternative fungicides for development of new alternatives. Consequently, it is not possible to "simply" substitute Propiconazole by another available active in the currently marketed formulation. Formulations must be reworked from scratch. We can differentiate different fields of application where propiconazole is used: • Industrial anti-sapstain treatment • Industrial use class 2 and 3 treatment with metal free system •Industrial use class 3 and 4 treatment with copper-based system • Professional remedial treatment: curative treatment of timber on site. • Industrial and professional wood coatings • Nonprofessional users: retail in DIY shops. SPB is not active in the nonprofessional markets and focus only in the industrial and professional applications. Application in the anti-sapstain treatment: For anti-sapstain applications, alternative actives include IPBC and quaternary ammonium. However, these actives present a limited spectrum of efficacy and some technical constraints: decomposition by UV light and by hydrolyze, leaching, instability on the substrate… The expectations of the wood industry (sawmills) are very high in terms of efficacy (protection of freshly sawn timber against sapstain and mold). The formulations currently marketed meet with difficulties the needs of the industry. Propiconazole supports the efficacy of these formulations as both sapstain and mold inhibitor. Application in the use class 2 and 3 treatment with metal free system: In this application, formulations marketed are a combination of an insecticide and a

	fungicide. Products are applied in industrial processes: dipping, vacuum pression or spraying tunnels. Propiconazole is present in most of the formulations. Substitution of Propiconazole by quaternary ammonium failed so far because of severe technical limitations like high corrosivity of treatment installation and degradation of the insecticide by the quaternary ammonium. Such products represent a niche. Penflufen is an alternative but do not match the efficacy spectrum of propiconazole. Application in the use class 3 and 4 with metal-based system Formulations are a combination of copper carbonate with a co-biocide like propiconazole. They are applied by vacuum and pressure process (autoclave). Alternative to propiconazole are quaternary ammonium and Cu HDO. Propiconazole based products are more costs effective and represent a significative market share. Application in remedial treatment: curative treatment of timber on site : Fungicide protection can be only preventive (expect for dry rot treatment). The use of fungicide for this application is under discussion. The use of propiconazole could probably be substituted. Application of industrial and professional coatings : Propiconazole is used as an additive at very low concentration in order to give anti-sapstain properties and to control mould. It is usually combined with IPBC. IPBC cannot be used alone due to its UV degradation. Non biocidal alternatives : The main available non-biocidal treatment effective against wood destroying fungi is the thermal treatment. However, this treatment technique significantly modifies the mechanical properties of the treated timber which cannot be used in construction / building applications. The heat treatment process does not provide termite protection.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Replacing Propiconazole with alternative actives can be difficult according to the field of application. In most of the application, propiconazole based products are very hard to replace due to the broad efficacy spectrum of this active. It is particularly the case in the application fields as anti-sapstain and as use class 2 and 3 (metal free system). Replacing Propiconazole with alternative actives substances will lead to a loss of efficacy and to a significant cost increase. A higher dosage of alternative substances will be necessary to reach a minimum efficacy with toxicological and eco-toxicological impacts. The time needed to develop a

	new product must be considered. Lab testing and field testing are long lasting (about 5 years). Registration process according to BPR takes between 3 to 5 years to obtain an approval. Considering the non-biocidal treatment like heat treatment, these processes are very high energy-consuming and generate waste emissions (negative environmental footprint) and cannot be used for load bearing applications. These techniques have been available for a long time and never convinced the wood processing industry because of severe technical limitations. It is today a niche market for decorative timber.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Developing new wood preservatives with actives other than propiconazole will result in higher prices of the formulations. The end-consumers will have to pay higher prices for the protected timber. This will penalize the competitiveness of the wood as construction material against competing materials (metal, concrete…). The development of new active substances and wood preservatives associated with an extremely long time to market represents a high financial risk for a very limited and fragmented market. Products for niche markets (like dry rot control in building for instance) will certainly disappear because the financial investment is much higher than the turnover of the market itself. The only alternative will be in most cases the demolition of the building.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	We are not competent to evaluate the hazards and risks of alternative wood preservatives.
Information above is confidential	
Justification for confidentiality	
Availability	Some active substances like copper in its derivates (carbonate, oxide for instance) have a limited availability due to growing other application (electromobility for instance). It leads to a drastic price increase of the final treated articles. Propiconazole is available on the market at

	low cost.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	The wood preservative manufacturers have tried several new fungicides from plant protection or other biocidal applications. However, these have been found to be either of low efficacy against the fungi relevant to wood protection, or to have similar or worse toxicological profiles, or to be unsuitable for wood protection due to their properties. The development, testing and registration of a new active substances for wood preservation is a highly costly, lengthy, and financially risky. Since the introduction of the BPD in 1998, only 2 new fungicides have been submitted for approval in PT8. The reclassification of Propiconazole as Reprotoxic Cat 1B in December 2016 came very unexpected for both the plant protection and biocide industry experts. Due to the time to develop, test and approve a new active substance for PT8 of the BPR (typically 9 to 13 years) it is impossible for the industry to introduce a replacement active for Propiconazole in less than 4 years after the relevant RAC opinion has been published.
Information above is confidential	
Justification for confidentiality	
Other comments	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
References	
Attachments (non-confidential information)	

Attachments (confidential information)	[redacted]
Justification for confidential attachment	

Comment 46	**2021/09/03 19:23**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	United Kingdom
Name of organization/institution	Enviroquest Research Ltd
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Response to all comments can be found in the attachment provided
Product Type	8
Alternative Identity and Properties	See attachment
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	See attachment
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	See attachment
Information above is confidential	

Justification for confidentiality	
Hazards and Risks of the Alternative	See attachment
Information above is confidential	
Justification for confidentiality	
Availability	See attachment
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	See attachment
Information above is confidential	
Justification for confidentiality	
Other comments	See attachment
Information above is confidential	
Justification for confidentiality	
References	ECHA Biocidal Active Substances Database ECHA Biocidal Products Database UK authorised Biocidal Products Database
Attachments (non-confidential information)	Propiconazole Review (1-Sep-21).pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 47	**2021/09/04 00:56**
FirstName	[redacted]

FamilyName	[redacted]
Email	[redacted]
Country	Netherlands
Name of organization/institution	European Wood Preservative Manufacturers Group (EWPM)
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Members of the European Wood Preservative Manufacturers Group (EWPM) supply wood preservative products to the European timber industry. Members of EWPM are committed to innovation and have already launched a number of sustainable solutions in the preservatives market. The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the members' innovation strategies. Wood is the natural choice as a sustainable material. Sustainably managed forests are a renewable resource, as timber structures lock up the CO2 captured in growing trees and can act as a net sink of greenhouse gas. The use of wood as a renewable material is key to achieve the objectives of a circular economy and of the European Green Deal. However, the sustainable use of home-grown European timber requires effective chemical wood preservation so as to increase its service life and to secure its technical properties over decades. Indeed, wood preservation contributes to sustainable material substitution when treated wood is used to replace energy- and carbon-intensive alternative materials such as cement, steel or plastic. Moreover, wood preservation contributes to the maintenance of a positive harvesting balance in Europe with a constantly growing forest acreage. Propiconazole is used in more than 50% of all wood preservative products authorised in Europe (status 13 August 2021: 1785 authorised BP for PT 8 with 932 BP containing Propiconazole) and substituting one of the most commonly used active substances is technically very difficult at this time. Removing Azoles from the PT 8 market, specifically Propiconazole and Tebuconazole, would limit the long-term performance of water-based wood preservatives and thus significantly impact the preservatives market and possibly the wood industry overall. The continued use of wood as sustainable material would be significantly under threat. Wood is subject to a natural biological degradation process

	by fungi and insects and untreated wood deteriorates fast, particularly in situations in which the wood or wood-based product is permanently exposed to the weather, subject to frequent wetting or in contact with the ground or water. Commercially important European wood species such as pine and spruce are not durable and hence require effective preservation for applications such as construction, agricultural fencing, utility poles and other structural timbers, wooden decking, cladding, etc. Effective wood preservation significantly extends the service-life and sustainability profile of wood. Treated timber stores carbon for decades longer than untreated decay-susceptible wood. Without the sustainable use of home-grown European timber it would be difficult to meet the European Green Deal objectives but will instead further drive deforestation of rain forests and increase CO2 emissions.
Product Type	8
Alternative Identity and Properties	More than 50% of all authorised wood preservative products (product type, PT 8) in Europe contain Propiconazole and substituting one of the most commonly used active substances is technically very difficult at this time for the following reasons. There is a lack of suitable and sufficient alternative active substances and non-chemical technologies. Alternative wood preservative products available today only provide limited efficacy in comparison. More time is needed to develop new active substances to match the performance of Propiconazole. Non-chemical technologies and materials are either not effective, not practical or too costly in comparison to chemical wood preservation and generally less favorable in life cycle assessments. Chemical wood preservation For wood or wood-based products for use above ground and particularly those products permanently exposed to the weather, subject to frequent wetting, in contact with ground or fresh water (Use Class 2 to 4) any preservation product must provide timber with significantly enhanced durability against the most extreme biological deterioration pressures. Especially European home-grown tree species such as pine and spruce are not durable without effective preservation. Untreated timber may need replacing within ca. 3 to 5 years, whereas effectively treated timber may last up to 15-40 years or more depending on specification. A longer service life for wood contributes to a more responsible use of natural resources and forests; it also makes wood a strong competitor to carbon-intensive alternative materials. To achieve the necessary protection, wood preservative products and application techniques need to match the

	requirements. The formulation of wood preservatives is critical and the biocidal active substances need to be carefully chosen. In each use situation of treated wood, a variety of fungal species threatens the appearance (wood staining fungi, moulds) and/or the mechanical stability (wood rotting fungi) of the wood. As not all fungicides in wood preservation are equally effective against the different fungal species, combination of two or more different fungicides is common practice to formulate effective wood preservative products. Propiconazole has a broad spectrum of efficacy and thus, for the most versatile use situations, it is an indispensable combination partner for other fungicides. Propiconazole is a key active substance and all approved alternatives come with disadvantages and need higher active substance concentrations, have less efficacy against specific fungi, also meet exclusion criteria or have other limiting properties such as sensitisation, non-colourless, etc. New active substances are needed towards a more sustainable approach to wood preservation. Whilst the possibility to develop new wood preservation chemistries is low, due to commercial, technical and regulatory challenges, for PT 8 applications 'new' active substances can be adapted from other sectors, in particular plant protection, as for example has been done with Penflufen. Such an approach can reduce some of the costs, possibly reduce timelines and also some of the uncertainty associated with the approval of a new active substance. However, the development, testing, optimization and retesting as well as the final registration process for a wood preservative based on new or alternative active substance combinations takes many years. Therefore, the chance for short- to medium-term substitution products is rather limited. In summary, the loss of Propiconazole would have a detrimental impact on the wood preservatives sector and on the European timber industry in general. Loosing this key active substance would significantly reduce the chemical diversity and significantly reduce the choice of products. New active substances to effectively substitute Propiconazole are feasible in the mid to long-term, but more time and investments are needed to develop such innovative and sustainable wood preservative solutions. Alternative technologies There are a few wood modification treatments available on the market deemed not to contain biocides. The claim is they work through physical effects by modifying the wood structure such it is no longer a food source. However, efficacy is likely to be very limited in comparison. Alternative wood preservation technologies are significantly different from traditional chemical wood treatments which currently are carried out by a great

	number of SMEs. Highly specific manufacturing facilities are required and processes are said to have very high capital and running costs with high energy inputs. Timber sourcing is selective and at least one process currently imports wood from New Zealand. The number of manufacturing locations is very limited and gives rise to movements of untreated and 'treated' timber across Europe. One such process for example modifies timber by acetylation. Another example process is furfurylation. Also heat treatments where the wood polymers are chemically degraded by heat have been developed. However, all such treatments have niche uses only and at the present time are not mainstream alternatives for treated wood. Clearly, they would not be suitable for replacing treated wood particularly for Use Class 3 or 4. Alternative materials There are certain types of hardwoods which resist biological degradation and are promoted as alternatives to preservative treated wood. Whilst there is no doubt they will work in some situations, hardwoods often lead to higher environmental and economic costs than treated wood. For example, certain types of exotic tropical hardwoods from Asia or South America may not require additional preservation treatments, however their value chain is often associated to a higher risk level of deforestation, biodiversity loss and degradation of critical natural habitats. It is also important to consider the trade balance of the EU wood-based economy and the global environmental externalities. Around 97% of softwood and 90% of all wood used in the EU is sourced from European forests, with very few quantities of imported wood from outside the EU. The EU is also a champion of sustainable forest management and natural resource conservation, as its overall forest area is increasing by 800,000 ha every year since 1990. Thanks to the combination of sustainable forest management practices and wood preservation technologies, only 64% of annual growth is harvested, which ensures a sustainable use of natural resources1. Other types of alternative materials include steel and concrete (especially in the construction sector), plastic composites and fiberglass. However, they do not possess many of the desired properties that can be achieved with treated wood. They also often imply higher economic and environmental costs as many of those materials are energy- and/or carbon-intensive. The ability of such alternatives to perform for their intended purposes over longer time periods has also yet to be shown. In comparison, the benefits of wood are supported through life-cycle analysis, which has shown that wood and preservative treated wood has a better overall profile than other competing materials.

	In summary, there are alternative technologies and materials which could be used in place of preserved wood but none are as cost effective, sustainable or provide the unique properties of wood. Some alternative technologies have limited use but are not currently viable as replacements particularly for preservative treated wood in Use Class 3 and 4 end uses. 1. Treated wood – a sustainable choice (EWPM/WEI 2019)
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The wood preservation market requires products that can demonstrate a broad spectrum of activity in use and beyond standard laboratory tests. Propiconazole formulations in particular in combination with Tebuconazole provide this level of efficacy. Such products can increase the service life of timber up to 25 years, compared to three to five years in case of untreated timber. Propiconazole is a very important and key active substance in wood preservation and substitution is technically very difficult at this time. This is particularly the case for Use Class 3 and 4 where the wood is either continually exposed to the weather, subject to frequent wetting, in contact with the ground or water. The main challenge in developing an alternative is maintaining the required performance. The latter has to be proven in formal tests - to fulfil the requirements of the BPR authorization – as well as by long-term field tests and optimally by in-use experience to be accepted by the market. Work on alternative active substances has been underway for the last 5 to 10 years, focusing on the use of existing BPR PT8 approved active substances; however, none of the alternatives has shown to provide suitable performance. New active substances are needed to replace Propiconazole (and Tebuconazole). However, even if a new active is identified and all technical and regulatory testing is successful, formulations containing such actives are unlikely to be commercially available until approx. 2030. The anticipated timelines are based on the requirement for long-term field test data, particularly for Use Class 4 ground contact applications and time required for approval of the active substances and authorisation of biocidal products.
Information above is confidential	
Justification for confidentiality	

Economic Feasibility	Effective wood preservation is essential to extending the service life of wood, in particular home-grown European species. Removing Azoles from the PT 8 market today, specifically Propiconazole (and Tebuconazole) would limit the long-term performance of water-based preservatives and thus significantly impact the ability for wood products to compete against less sustainable materials such as concrete, steel and plastics/composites. A significant negative impact on the wood preservatives market, but also the wood industry overall is highly likely and continued use of wood as sustainable material would be significantly under threat. Substituting Propiconazole (and Tebuconazole) may be feasible in the long-term however, this scenario would face considerable economic challenges. The main underlying reason is that typically wood preservation products serve a relatively small market, with technical requirements and incompatibilities, etc. limiting the spectrum of applications. The business case for developing new active substances and products is further complicated by high developmental and regulatory costs, long timelines and a high degree of uncertainty. In general, the biocidal products industry is less attractive to investors compared to other chemical sectors, such as pharmaceuticals, etc. The up-front investment costs for biocidal products range up to 10+ million Euro. Costs per active substance approval application including study costs can be estimated at ca. 5 million Euro, with approval fees increasing periodically. Costs for product development and application for product authorisation are in the range of ca. 5-10 million Euro. This includes not only the biocidal product data package and application fees, but needs to consider the development pipeline with product variants and failures, product design and formulation, facilities for and testing of product in lab & field, manufacturing and treatment facilities, process upscaling and optimization, marketing and commercialization support, etc. The timelines to return on investment are extremely long with ca. 7 to 13 years to market. Preparation of active substance approval applications can be achieved within ca. four to five years, with product development and authorisation at a minimum of 10 years. Finally, there is a high risk of failure in the development of new wood preservation solutions for the active substance, but then also in biocidal product development. This is owed not only to the technical difficulties that need to be overcome, but also to the dynamic regulatory framework currently in place in Europe. The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the innovation agenda of EWPM member companies. Whilst

	the industry is committed to identifying alternatives to Propiconazole, it must be recognized that this is a very complex and lengthy process and more time is needed. The continued availability of Propiconazole would ensure that effective wood preservation products remain available to the market and support the sustainable use of European home-grown timbers in the short- to mid-term.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the innovation agenda of EWPM member companies. EWPM member companies are committed to innovation and have already launched a number of sustainable innovations in the preservatives market. In line with the objective of a sustainable use of biocides, innovation is aimed to further reduce the hazards and risks whilst improving the efficacy of wood preservation.
Information above is confidential	
Justification for confidentiality	
Availability	Propiconazole is a key active substance for wood preservation in Europe, with more than 50% of authorised products containing this active substance. Substitution is technically very difficult at this time. There is a lack of suitable and sufficient alternative active substances and non-chemical technologies. EWPM member companies are working to overcome this limitation in line with the European Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design. EWPM member companies are committed to innovation and have already launched a number of sustainable solutions in the preservatives market. The first step to developing a new PT 8 product based on new active substances is the identification of suitable chemistries and specific molecules. This process can be lengthy (up to 10 years) and in general needs to rely on information gained from associated sectors or derivatives of already known chemistries. Generation of entirely new chemistries is not feasible as efforts and costs for such development are extremely high, while there are major uncertainties regarding the approval of the active substance and its market success. However, in any case,

	data requirements for active substance approvals are very extensive and must be met prior to submission of the dossier. Once a suitable chemical substance has been identified, an application for approval as an active substance can usually only be submitted after about 4 to 5 years. Experience has shown that the evaluation by the competent authorities and the granting of the active substance approval are carried out after a further 2 to 4 years. The application for authorisation of a corresponding biocidal product is usually subsequently evaluated, which takes another 2 to 3 years. In conclusion, the actual first placing on the market of a biocidal product with a new active substance can only be achieved in 7 to 13 years after identification of a new substance. Further, for any such product to be successful commercially the long-term efficacy needs to be confirmed and the product needs to be established in the market.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Wood is the natural choice as sustainable material. Effective wood preservation significantly extends the service-life and thus sustainability profile of wood. Without the sustainable use of home-grown European timber it will be difficult to meet the European Green Deal objectives but will instead further drive deforestation of rain forests and increase CO2 emissions. Removing Azoles from the PT 8 market today, specifically Propiconazole (and Tebuconazole) would limit the long-term performance of water-based preservatives and thus significantly impact the ability for wood products to compete against less sustainable substrates such as concrete, steel and plastics/composites. A significant negative impact on the wood preservatives market, but also the wood industry overall is highly likely and continued use of wood as sustainable material would be significantly under threat. Propiconazole (and Tebuconazole) is a key active substance in the PT 8 wood preservatives market and there is a lack of suitable and sufficient chemical and non-chemical alternatives. Alternative wood preservative products available today only provide a limited efficacy in comparison. Non-chemical technologies and materials are either not effective, not practical or too costly in comparison to chemical wood preservation and generally less favorable in life cycle assessments. The continued availability of Propiconazole (and Tebuconazole) would ensure that effective wood preservation products remain available to the

	market and support the sustainable use of European home-grown timbers in the short- to mid-term. New active substances to effectively substitute Propiconazole are feasible in the mid- to long-term, but more time is needed to develop such innovative and sustainable wood preservative solutions.
Information above is confidential	
Justification for confidentiality	
Other comments	None
Information above is confidential	
Justification for confidentiality	
References	Treated wood – a sustainable choice (EWPM/WEI 2019)
Attachments (non-confidential information)	Sustainability_Brochure_May_2019_SINGLES.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 48	**2021/09/04 18:19**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Poland
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	According to ongoing public consultation on the renewal of

	the approval of propiconazole (CAS: 60207-90-1) registered as an existing active substance in PT8, we declare that this substance is used by many of our customers in the production of wood protection products. We supply the propiconazole to the global producers and family owned companies known on the Polish and foreign market for the excellent quality of their products. Manufactured wood protection products are intended for industrial and professional customers, but also dedicated for DIY users. Propiconazole (in various forms/ concentrations in which it is supplied) is an extremely important and developmental element of our portfolio.
Product Type	8
Alternative Identity and Properties	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Technical Feasibility	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Economic Feasibility	[redacted]

	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Hazards and Risks of the Alternative	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Availability	[redacted]

Information above is confidential	on
Justification for confidentiality	[redacted]
Conclusion on suitability and availability of the alternative	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Other comments	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 49	**2021/09/05 07:39**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Austria

Name of organization/institution	Timber Construction Austria
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	It is about the approval of the approval of Propicoanzole, Tebuconazole and IPBC. In order to achieve the national climate goals and also the goals of the "European Green Deal", the proportion of timber construction must be increased. Chemical wood protection is required in areas of wood construction where wood protection, through the primary goal of constructively protecting the wood, cannot be achieved. Timber construction companies must be able to fall back on proven products, both in terms of workmanship and durability.
Product Type	8
Alternative Identity and Properties	According to the manufacturing industry, a period of at least 5 years is required for the development of an equivalent product and adequate testing for durability, discoloration, etc. with different types of wood. So there is currently no alternative.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Reliable wood preservatives are required for commercial use in order to guarantee protection against blue stain and wood-destroying fungi with acceptable drying times. A ban on the active substances currently in use, such as propicoanzole, tebuconazole and IPBC, would have serious consequences for timber construction. Certain constructions could then no longer be made with wood or the durability would be severely limited.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	The consequences of the use of inadequately tested alternatives would be incalculable high for the timber construction companies.

Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	The hazards and risks of inadequately tested alternative products are in particular inadequate protection against blue stain, ineffective protection against wood-destroying fungi and unacceptable drying times.
Information above is confidential	
Justification for confidentiality	
Availability	No alternative products are currently available.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	As no alternative products are available with sufficient testing of the properties required, the approval of Propicoanzole, Tebuconazole and IPBC to the professional application to be maintained for at least 5 years from 2022 restricted.
Information above is confidential	
Justification for confidentiality	
Other comments	Naturally, the member companies of Timber Construction Austria also want products without harmful "side effects", but are dependent on those products that are available on the market.
Information above is confidential	
Justification for confidentiality	
References	-
Attachments (non-confidential information)	
Attachments (confidential information)	

Justification for confidential attachment	

Comment 50	**2021/09/05 12:33**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Sweden
Name of organization/institution	TMF – Swedish Federation of Wood and Furniture Industry
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Timber is a critical rawmaterial to the building industry and a prerequisite for a reduced climate footprint in the construction sector. The European green deal aims at pushing EU into a resource efficient and competitive economy with zero CO2 emission by 2050. To reach this goal, finite resources must be replaced by climate neutral and renewable raw materials. Wood is a renewable, organic raw material which also embodies CO2. Organic materials are degradable and are affected by microorganisms such as rot and fungi. Wood will therefore need surface treatment or impregnation to withstand longtime climate exposure and to avoid premature ageing and disposal. This applies to the outdoor use of doors, windows, wood paneling and other carpentry. Climate benefit and efficient utilization of renewable raw material must be weighed against the use of certain chemical substances. These substances protect the product from wood-destroying microorganisms and strongly enhance the product service life. It is essential to use wood preservatives with efficient protection against wood destroying fungi.
Product Type	8
Alternative Identity and Properties	Results from recent studies, carried out in several EU member states, show that there are currently no registered wood preservatives free of propiconazole (or tebuconazole). Therefore, there are no available alternatives that can

	provide adequate wood protection. In Sweden, mainly softwood (pine and spruce) from sustainable forestry is traditionally used for buildings and various construction products, e.g. windows and doors. It's easy to process and often available in close proximity to the industry, and it stores CO2, thus rendering a low climate footprint. For Swedish conditions, alternative types of wood are not possible to use because spruce and pine dominate. The availability of hardwood in Sweden (and Europe) is very limited and comes at high cost. The use of hardwood is therefore not relevant for mass production.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Biocidal products based on propiconazole give efficient protection against wood destroying fungi and are highly compatible with industrial processes. There is no other wood preservative substance on the market providing the same adequate protection. A core challenge with an alternative biocidal substance is its compatibility with materials of other product components, e.g. corrosion of metal elements, discoloring on top coat. In addition, testing over long time is required for evaluating product ageing resilience and material compatibility and to ensure a long product service life.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	No relevant alternative biocidal product free of propiconazole is currently available. Switching to alternative wood species is not a feasible solution due to limited quantities and the risk of material shortage as well as the risk of sourcing wood from less responsible forestry. Further, it will render increased cost and long transport distances. The climate footprint will be significantly higher than the current situation. Timber is a renewable resource critical to the construction industry achieving the EU objective of climate neutrality by 2050. However, without adequate protection against biological attacks, climate exposed parts of the buildings will be exposed to high risk of deterioration which will significantly reduce the service life, leading to frequent replacements and higher environmental impact. It is of utmost importance that climate benefit and

	efficient raw material utilization of renewable resources are weighed against the use of certain chemical substances. In addition to sustainable feasibility, it is also economically feasible to ensure long life of wooden products. It is not feasible to dispose of products prematurely. Especially not when the industry is shifting to circular business models with more sustainable products and less waste, in accordance with the European circular economy action plan (CEAP). Swedish wooden, triple glazed windows comply with stringent demands for environmental adaptation, quality and energy efficiency as well as long product service life, and is a way to fulfill the green deal.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Biocidal products free of propiconazole do not meet required efficacy criteria for the preservation of wood and therefore do not provide adequate protection against biological attacks. Without adequate protection, the structural durability of construction products will be seriously jeopardized. The risk of not being able to use propiconazole is that wood cannot be used in construction products, such as windows. Instead, the industry would be directed to use non-renewable materials such as PVC, which, by the way, is a material that is about to be phased out in favor of more environmentally friendly alternatives.
Information above is confidential	
Justification for confidentiality	
Availability	There is currently no biocidal product approved in any EU member states which meets the requirements on efficacy against wood destroying fungi and discoloring fungi. Using alternative wood species is not a relevant alternative.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	There is currently no alternative biocidal product free of propiconazole available in the current context of the BPR. Using alternative wood species is not an option since it is only available in limited quantities in Europe and would require import from countries outside EU. These are slow

	growing species and therefore not suitable for large-scale industry. Demand is likely to exceed supply, leading to significant increase in raw material prices, followed by a potential shortage of raw materials throughout Europe. There is also as risk of sourcing from less responsible and non-sustainable forestry.
Information above is confidential	
Justification for confidentiality	
Other comments	In the absence of an alternative to propiconazole, a ban would leave the wood industry without any acceptable solution, with the risk that wood cannot be used in construction products. The consequence would be a major risk to the competitiveness of Swedish and European wood industry. Also, the use of PVC would most likely increase at the expense of wood which overall increases the ecological load and increases GHG emissions.
Information above is confidential	
Justification for confidentiality	
References	TMF Position Paper Joint Position Paper EuroWindoor - SBS - CEI Bois Study DHI Goup (DK, FI, NO, SE)
Attachments (non-confidential information)	TEW(21)20final_CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives 2021-08.pdf; TMF Position Propiconazole - ECHA Hearing.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 51	**2021/09/05 22:43**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of	VELUX A/S

organization/institution	
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Wood is used as a construction material in many contexts. For windows it is used because of its good strength-to-weight ratio, its insulation properties, its easy processing, and its low environmental footprint. As a renewable and sustainable resource, wood stores CO2, protects drinking water and forms a habitat for flora and fauna. The wood in all VELUX windows comes from responsible forestry and lives up to FSC or PEFC standards. The use of wood in the construction sector has a positive environmental impact and is therefore considered to be a cornerstone in the decarbonization of the European building stock and reaching climate neutrality by 2050. The important role of wood as a natural and organic construction material is also acknowledged in the recently launched New European Bauhaus. However, a prerequisite for obtaining a sustainable Life Cycle Assessment for softwood is durability. Decades of experience and a state-of-the-art technology set-up enables VELUX to produce premium quality wooden windows with a long lifetime. An essential part of the manufacturing process is the use of wood impregnation for guaranteeing functionality, aesthetics and safety of the windows for many years.
Product Type	8
Alternative Identity and Properties	Wood exposed to outdoor climate needs protection to counteract fungal attack and thus ensure a durability of the products up to 40 years. Therefore, VELUX uses the approved active substance Propiconazole in combination with Tebuconazole and/or IPBC when impregnating wooden windows. The combination is essential to keep the concentration of active ingredients to a minimum – therefore limiting exposure for users and environment – and to ensure the durability of the products, which secures that a typical VELUX window has a positive climate footprint throughout its entire life cycle. For VELUX, alternative wood preservatives must be sought within Biocidal Products, therefore requiring that not only the Active Substance itself is approved, but also that the Biocidal Product is authorized in the production country. For several years, VELUX has reviewed the alternatives to Propiconazole on the active substance list for Product Type 8. But, as also stated by IHD

	Dresden (see attachment), there are currently no direct substitutes that can be used for Use Class 3 (acc. to EN 335). To identify any new wood impregnations available in the near future, VELUX has been in contact with all major coating and biocide producers resulting in more than 100 meetings to understand their individual technical roadmaps and challenges. By this knowledge and input from IHD Dresden, Danish Technological Institute, Holzforschung Austria, Institute Technologique FCBA and others, only two potential alternatives to Propiconazole were identified. The alternatives are either solely based on IPBC or on a combination of IPBC and Tebuconazole. Due to limited availability of data and test results from the suppliers and some misleading information in the National and ECHA database (e.g. registration errors on Target Organisms or Use Category), VELUX initiated an internal test program. The test program includes tests on process and compatibility (e.g. corrosion of metal parts and migration through the paint) as well as efficacy against rot and blue stain accelerated tests by outdoor exposure. While the Active Substance Penflufen, recently approved for PT8, might constitute a potential future alternative to Propiconazole, there is currently no biocidal product authorized in any Member State that could qualify for to Use Class 3, which is a critical requirement for windows. Some potential solutions should also be mentioned outside the scope of Active Substances and Biocidal Products. These solutions are either coming from naturally "durable" wood species and require smaller amounts of wood preservatives. However, these are only available in very limited quantities compared to regular fast-growing European wood species and would not constitute a sustainable alternative for the industry (see comments on Economic Feasibility and Availability). The same remark should be done regarding modified wood also applies to our industry (see Economic Feasibility and Availability). As a manufacturer of building materials, VELUX is affected by many - sometimes conflicting – regulations/ordinances and standards/norms with The Construction Products Regulation (305/2011) being one of the most central. Therefore, VELUX asked EPPA SA to perform a comprehensive overview of standards and legislation applicable to the use of Wood Preservative Products in the EU Member States (see attached documents). Where possible, specific information on use of PT8 class 3 is provided, although standards and legislation have usually a more general scope; specific information on the use may be found in the authorization decision and summary of product characteristics of the biocidal product

	in question. From a legal perspective it is unclear, which requirements take precedence. Based on VELUX' own research, tests and experience, third-party investigations, and dialog with suppliers etc. we reach and recognize the same conclusion as the joint position paper by CEI-Bois, EuroWindoor and SBS (August 2021), which is based on multiple studies across the EU, that currently, there are no alternatives that can be used directly by manufacturers of wooden products for Use Class 3, without a considerable time and development effort.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The VELUX Group pays close attention to protecting the environment as much as possible, and VELUX is fully aware that Propiconazole is classified as toxic to reproduction. VELUX has, therefore initiated short- and long-term technology development programs with the goal to minimize and eventually supersede the biocidal products used today with biocidal-free alternatives. To do so, VELUX has to identify solutions that can meet a strict list of requirements: - Reaching a Use Class 3 performance for the wood - Being resistant to wood discoloring fungi ("blue stains") - Being resistant to wood destroying and wood rotting fungi - Not containing any Substance of Very High Concern (SVHC) - If using biocides, these should be authorized, suitable for industrial use in a flow coat process, and be waterborne to avoid the emission of VOCs Short-term solution: Our goal is to develop products that increase the quality of life for homeowners and society as a whole, while reducing our environmental impact to a minimum. Therefore, VELUX has continuously taken a number of actions to reduce the use of the active chemical substances in the impregnation liquid, and we are working at high pressure, including with relevant suppliers, institutes, etc., to find potential alternatives. However, at present there are no approved alternatives and in addition, a transition to a possible substitute presupposes that this is thoroughly tested in relation to both durability and environmental nuisance, which is a very time-consuming process. From past experience, a BPR approval takes a minimum of 5 years, in addition to several years of compatibility testing (corrosion test with metal parts, potential risk of migration through paint etc…) VELUX do not own the registration of any PT 8 product. Only by being in dialog with the suppliers we can have an influence on which product they will apply

	for. The challenge is that we need products claiming efficacy against both wood rot and blue stains, but the registration process is time consuming and complex. By the time a product is approved, the producer usually only has a few years payback time for their development costs and costs for BPR registration. That is one of the main reasons why no tailormade products are available. For wood impregnation VELUX is using a flow coating process, where only waterborne low dry content products can be processed. To rebuild this process is a time consuming and costly task, involving the supplier of the coating technology, the coating producer and process engineers. Expected development time is 2-3 years. Durability tests show that different impregnations have different impact on the coating adhesion properties over time. Tests to get the classification as Use Class 3 take min. 3-5 years outdoor exposure, where we test the compatibility and the effect against blue stain and rot. Long-term solution: Shifting to a more sustainable economy is today's top priority to maintain a safe and healthy environment. VELUX has committed to an ambitious sustainability strategy. The sustainability goal can only be reached by a shift to more sustainable materials. Already today, wood is a key component for VELUX products being a natural material from renewable sources. The combination of low CO2 footprint, outstanding material properties and customers desire to ensure a healthy living environment makes it a priority for VELUX to secure the long-term relevancy of wood. Moreover, we explore opportunities for increasing the relevancy for future products by adding new innovative technologies. As there is currently no suitable solution available in the market to ensure the durability of wood without the use of biocides, it has been a priority for VELUX to initiate development to identify and mature environmentally friendly ways of preserving wood in its products. VELUX focuses on co-development in a larger international ecosystem consisting of the best research institutes in the field, experts, and industrial players, all aimed to bridge research to industrial applications.
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Economic Feasibility	VELUX has little influence on new Biocidal Product approvals. We rely on the expertise and guidance from our suppliers. It is difficult to predict how a next generation wood impregnation must look like. Many Biocides are approved for PT8. However, they differ in area of efficacy

	and not all can be incorporated in impregnation e.g. due to lack of stability when processing. Additionally, we also need insurance that the products do not have negative impact on other materials in the treated product. This may be different from other Use Classes and will not be tested by the applicant (coating supplier). VELUX must ensure to fulfill CE marking and VOC requirements and our own service life expectations. Outdoor exposure test, accelerated tests, blue stain efficacy test (EN 152) and wood destroying fungi efficacy test (EN 839) are time consuming and expensive. Additional process tests, implementation and adjusting or rebuilding application processes must also be considered. In the absence of equivalent alternatives, the use of a lower grade solution would necessarily lead to a reduced service lifetime of the window for the end users, and would therefore require more frequent replacement and maintenance. Alternative wood species, although they constitute an acceptable technical solution to limit the use of biocidal products, would have a significant financial impact on the window industry. A global shift would induce immediate price increase on raw materials due to limited resources (durable wood is sourced from slow-growing species, making forestry more difficult to maintain due to very long time range) and eventually a global shortage if most of the Use Class 3 wood currently used by the industry should be sourced from durable wood species. Besides, this change would require to modify processing lines by replacing machinery and tools due to the different nature and hardness of durable wood species. By seeking for alternative solutions outside conventional Active Substances and Biocidal Products, the financial consequence of purchasing modified wood (e.g. Accoya) instead of fast-growing soft wood (e.g. pine, spruce) would be app. 4-5 times higher based on today's market prices. However, in case of a global industry shift towards such solutions, the global production would not be sufficient to supply the entire window market (not to mention the woodwork industry), which would first lead to a significant price increase and eventually to material shortage issues. Finally, based on information from relevant authorities, specific Member States are not expected to approve Tebuconazole and IPBC based products. The VELUX supply chain for wood windows and wooden components relies on production in several countries and window components are moved from production site to production site. To have alternative impregnations approved in some countries and not in others complicates the supply chain and would most likely require an increased transportation of windows and window

	components with negative impact on the environment. A total reallocation of production will have a negative business impact and a change to less sustainable materials could be the consequence not only for VELUX but for other producers as well.
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Hazards and Risks of the Alternative	[redacted]
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Justification for confidentiality	[redacted]
Availability	As described in the previous paragraphs, the VELUX Group

	– together with our wood preservative suppliers – have only identified limited and lower-grade alternatives. Alternatives based on Tebuconazole – although they reach the needed efficacy against blue stains and wood rot – require a greater amount of wood preservatives. Besides, due to its end of approval period, Tebuconazole faces a risk of being phased out before Propiconazole itself and therefore cannot be considered as an "available" alternative. By widening the scope of our research – and downgrading the requirements – VELUX identified some biocidal products solely based on IPBC. However, as mentioned in the previous comments, these products do not present any efficacy against wood rot and therefore cannot be seen as an available alternative to Propiconazole. Looking forward, the Active Substance Penflufen (approved for PT8) might become a suitable alternative when used in combination with other substances. However, there are currently no product authorized in any European Member States with a preservation level meeting Use Class 3, which is required for the window industry. The absence of authorized solutions as well as the minimum testing time required by the window industry (≥ 5 years) de facto excludes Penflufen from the list of available alternatives to Propiconazole. In addition, there is currently no Biocidal Product which is at the same time suitable for the window industry and authorized in all European Member States: the national status of authorizations makes it even harder to find industrial solutions, as manufacturers should seek different solutions in parallel in different production countries. By looking at alternatives outside the scope of Active Substances and Biocidal Products, some specific wood species ("durable" wood species) might require less preservation against fungi. However, these wood species are available in very limited quantities, and the global sustainable production would not be sufficient to supply a significant part of the window industry. Alternative wood preservation methods like modified wood (e.g. Accoya) also represent a technically acceptable alternative, but the very limited global production capacity de facto excludes these solutions for the window industry. As a conclusion, none of the abovementioned solutions can be deemed available as alternative to the use of Propiconazole for window frames.
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Conclusion on suitability	To conclude, no alternative impregnation can currently be

and availability of the alternative	found to replace Propiconazole, meeting all requirements for the window industry and being authorized in all European Member States. Today, the only alternatives are either solely based on IPBC or on a combination of Tebuconazole and IPBC. As previously highlighted, alternatives only containing IPBC do not have sufficient efficacy against wood rot and the approval for Tebuconazole is expiring in September 2022. The Active Substance Penflufen, although promising and approved for PT8 until 2026, does not currently have any authorized biocidal product compatible with Use Class 3. By the time any registration and authorization is processed under BPR rules, Propiconazole will have reached its expiry date, leaving the industry with no transition solution. As regards potential solutions outside the scope of Active Substances and Biocidal Products, while alternative wood species, like durable wood species, could in theory constitute an acceptable technical solution to limit the use of biocidal products, these wood species are only available in very limited quantities, and the global sustainable production would not be sufficient to supply a significant part of the window industry.
Information above is confidential	
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Other comments	
Information above is confidential	
Justification for confidentiality	
References	Position on the use of Propiconazole in wood preservatives, IHD Dresden, 2020 (attached) Study: National Requirements for Wood Preservative Products - An Overview of standards and legislation applicable to the use of PT8, EPPA, 2021 (attached) Task3 Overview of UC3-approved alternatives, EPPA, 2021 (attached) Position Paper: The use of propiconazole in wood preservatives, Dansk Industri, available at: https://www.danskindustri.dk/medlemsforeninger/dfl/nyhedsarkiv/2021/1/propiconazol-og-trabeskyttelsesmidler/ Position Paper: The use of Propiconazole in wood preservatives for timber windows and doors, EuroWindoor – CEI Bois – SBS, available at: https://www.eurowindoor.eu/fileadmin/redaktion_eurowindoor/Position_Papers/CEIBois-EuroWindoor-

	SBS_joint_position_on_use_of_Propiconazole_in_wood_preservatives_2021-08.pdf
Attachments (non-confidential information)	20200622_IHD_position_propiconazole.pdf; National Requirements for Wood Preservative Products_PT8.pdf; VeluxTask3OverviewUC3-approvedalternatives01.09.2021.xls
Attachments (confidential information)	[redacted]
Justification for confidential attachment	

Comment 52	**2021/09/05 23:27**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	LANXESS Deutschland GmbH
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Please note: - In 2018, LANXESS has submitted in 2018 the following document to support the renewal of the approval of the active substance Propiconazole in PT8: "RPA (2018): Propiconazole Impact Assessment, report for Lanxess Deutschland GmbH, September 2018, Loddon, Norfolk, UK". We are asking the members of the BPC to consider the discussions in this document. Although some of the numbers have changed since the completion of this document, the description of the state-of-the-art of wood preservation and the general findings remain valid. - Literature references are indicated by Square brackets "[ ]" and listed below, under "References" Wood is a natural

	construction material which, as such, is susceptible to biological degradation. There are a number of threats to the appearance (e.g. wood staining fungi, moulds) and to the structural integrity (e.g. wood boring insects, wood destroying fungi) of wood. Hence, wood needs to be preserved to maintain its appearance, and, most importantly, its stability throughout its service life. A longer service life for wood contributes to a more responsible use of natural resources and forests; it also makes wood a strong competitor to carbon-intensive alternative materials. Therefore, wood preservation is of critical importance in the context of the European Green Deal, given the increased greenhouse gas emission targets for 2030 (-55% compared to 1990 levels) and the climate neutrality objective for 2050 (European Climate Law).[1] Maintaining healthy and sustainable ecosystems such as forests will contribute to achieve EU and international climate change mitigation objectives through the carbon sink effect. It will also enable the development of a competitive and sustainable bio-based economy with highly innovative and renewable forest-based products (e.g., treated wood for construction), with a lower carbon footprint than traditional energy-intensive alternatives (e.g., cement and metal for construction, concrete, PVC). In the EU, in most cases domestically grown wood is treated. Europe's forest cover (excluding the Russian Federation) is increasing by an average of 560,000 ha every year since 1990,[2, p. 16], or 15 km² every day. Thanks to sustainable forest management and wood preservation techniques, only 64% of the annual growth is harvested.[3] It has to be noted that the majority of wood which is harvested in Europe is softwood, typically from pine and spruce. The advantages are that the wood is quickly growing, easily processible and suitable for construction uses, however, particularly softwood needs preservation against aforementioned biological threats, thus emphasizing the need for wood preservation. Hardwood has a higher natural protection against attack by fungi and insects, however hardwood trees are often slow growing, thus cannot be used exclusively.[4] Currently, there are 34 active substances (excluding Propiconazole) approved for use under the BPR for PT8. (Note: CAS numbers and, where appropriate, full names are listed under "Other information" below). There has been no application for renewal submitted by the relevant deadline for three of them (in alphabetical order: Boric oxide, Disodium octaborate tetrahydrate, Tolylfluanid), so it is already known that they will be discontinued [5]. Within the remaining 31, six are exclusively insecticides (in alphabetical order: Bifenthrin,

	Chlorfenapyr, Cypermethrin, Etofenprox, Fenoxycarb, and Permethrin), three are fumigants and thus for curative rather than preventive treatment (in alphabetical order: Dazomet, Hydrogen cyanide, Sulfuryl fluoride), six fall under exclusion criteria or are candidates for substitution (in alphabetical order: Boric acid, Creosote, Tebuconazole, three tetraborates), four are barely represented in authorized biocidal products (in alphabetical order: DCOIT, K-HDO, OIT, and Potassium sorbate), leaving 12 viable fungicides available to the wood preservative industry to replace Propiconazole, including (in alphabetical order): - Cu-HDO - Four inorganic copper compounds (basic copper carbonate, copper (II) oxide, copper hydroxide, or granulated copper) - IPBC - Penflufen - Five quaternary ammonium compounds ("quats", including ADBAC/BKC (C12-16), ATMAC/TMAC, Bardap 26, DDACarbonate, DDAC) The aforementioned alternatives cannot be considered as complete substitutes for Propiconazole in all of its applications, and they are likely to require co-biocides. Indeed, when combined with Propiconazole, other active substances can be used at relatively low concentrations, but if they were used in the absence of Propiconazole, then their concentration would need to be raised. Propiconazole is being evaluated for use in wood preservatives, as a fungicide against wood rotting fungi and wood staining fungi for timber (in as well as not in ground contact) (use class 2-4). Thus, in the following, this contribution will focus on the preventive control of fungi by Propiconazole and its potential alternatives. Comparison to insecticides and fumigants is not possible and therefore omitted. The use classes, as defined in DIN EN 335:2013, describe the outer conditions, to which wood is exposed, and which promote the biological disfiguration or destruction of wood or wooden products. The use classes relevant for Propiconazole are: Use class 2: Wood outdoors under roof, not exposed to weathering Use class 3: Wood outdoors, above ground, exposed to weathering; Use class 3 is sub-divided in use class 3.1 and 3.2: Use class 3.1: As use class 3, with the further specification that the wood will not stay wet for long Use class 3.2: As use class 3, with the further specification that the wood will stay wet for extended periods of time Use class 4: Wood outdoors, in contact with ground or fresh water In this contribution, we are categorizing the different uses, which are relevant for Propiconazole, according to the following scheme: 1) Anti-sapstain use (pre-treatment of freshly sawn timber (temporary protection)) 2) Industrial treatment of structural wood (Use class 3.2-4) 3) Industrial

	treatment of joinery (Use class 2-3.1) 4) Brush and spray applications for professionals (Use class 2-3) 5) Brush applications for DIY users (Use class 2-3) Effective wood preservatives protect the wood from any of the harmful organisms which are prevalent in the respective use situation, which is addressed by the different use classes, and by the biological tests required for evaluating the efficacy of wood preservatives for the preventive treatment of solid timber as defined in DIN EN 599-1:2009.[8] Fungicidal active substances show varying efficacy against the fungi responsible for wood disfigurement (blue stain fungi, moulds) and structural degradation of wood (wood destroying fungi). Therefore the common practice in wood preservation is to combine different fungicides in order to get the highest performance at lowest possible use rates. Propiconazole holds an important role in the portfolio of active substances as it possesses a broad spectrum of efficacy against both wood destroying and wood staining fungi. It also lends itself to a broad range of applications in use classes 2 to 4, as well as acting as a pre-treatment against sapstain/blue staining fungi.
Product Type	8
Alternative Identity and Properties	Ordered by the different uses, as introduced above under "General information", the different alternatives which are known to us are: 1) Anti-sapstain use For this purpose, freshly sawn hardwood and softwood lumber, poles, posts, timbers and other wood products are treated to control sapstain and mould during storage and transport. The products which are nowadays relevant for this use are widely based on combinations of IPBC with Propiconazole (the most common formulation – the efficacy of IPBC alone does not cover all occurring fungi and needs to be combined with a secondary fungicide) or Propiconazole with boron compounds (including boric acid and several borates). Without Propiconazole, anti-sapstain products would lose a highly efficacious and commonly used active substance. Biocidal alternatives: Participants in a targeted consultation carried out for LANXESS have stated that it may be possible to use formulations based on IPBC in combination with a quaternary ammonium compound, although such formulations have drawbacks as pointed out under "Technical feasibility" below, and thus, according to our information, are currently not used. Non-Biocidal alternatives: A non-biocidal alternative to prevent the growth of sapstain and mould in freshly sawn timber is kiln drying (i.e. drying the timber in an oven). 2) Industrial treatment of structural wood (Use class 3.2-4) The

	formulations which are nowadays widely used are aqueous formulations, containing a solubilized inorganic copper compound (as listed under general information above) in combination with a co-biocide. The co-biocides cover a gap in the efficacy spectrum of inorganic copper compounds against copper tolerant fungi. Thus, the co-biocides, added in relatively small amount, allow for significant lowering of the effective retentions of copper in treated wood. Commonly used in these formulations are three different types of co-biocides: - One option is to use a combination of an inorganic copper compound with Propiconazole and/or Tebuconazole ("copper/azole"). Propiconazole has been known to perform well as the "azole" compound in such formulations (Nicholas, Schultz, 2003). Tebuconazole (a candidate for substitution, thus not regarded as a future-oriented replacement for propiconazole) can also be used in this application. Compared to Propiconazole it is even slightly more active against the wood destroying fungi which are the main hazard for constructional wood, but it lacks the efficacy against wood discolouring fungi. Propiconazole and Tebuconazole are also frequently applied as a mixture (typically 1:1), which allows for a significant lowering of the active substance retentions (lowest amount of copper and added azoles). This benefit is due to a complementarity in efficacy of both azoles against the different species of wood rotting fungi. [6, p. 27] The other two available options do not contain azoles and are therefore biocidal alternatives: Biocidal alternatives: - One alternative are formulations containing a combination of an inorganic copper compound and a tertiary ammonium salt ("copper/quat"). (the different quats are listed above under "General Information") - The second alternative are formulations containing a combination of an inorganic copper compound and Cu-HDO ("copper/Cu-HDO"). Penflufen is a new active substance which received its first approval in 2019. Although it has the potential to replace Propiconazole, very few wood preservatives have been authorized so far. In aqueous formulations, Penflufen is currently suitable for metal-free products intended for the use classes 2 and 3 only (see under Technical Feasibility). Non-biocidal alternatives: The process of furfurylation permanently modifies the cell walls of wood in order to increase stability, durability and hardness of wood. In the process, the wood is first impregnated with furfuryl alcohol, followed by curing and drying of the impregnated wood using heat, causing the furfuryl alcohol to polymerize. The polymer produced is stable and does not leach from the

	wood. The material which is produced is good for use as decking (use class 3) but not for applications with ground contact (use class 4) 3) Industrial treatment of joinery (Use class 2-3.1) Typical products contain a combination of the fungicides Propiconazole and IPBC. The formulation may additionally contain an insecticide if required in the use situation. Biocidal alternatives: In principle, formulations based on the fungicides Tebuconazole and IPBC can address the same use. Formulations based on IPBC as the only fungicide are a theoretical option. The IPBC content in these formulations needs to be quite high, giving rise to technical issues (see below). Non-Biocidal alternatives: As an alternative, tropical hardwood species, having a natural resistance against wood rotting fungi, may be used. However this brings about issues of sustainability and environmental concerns (See below under "Hazards and risks of the alternative"). Alternative construction materials for windows and doors may be plastic or aluminium. Acetylation is a chemical process which transforms free hydroxyl groups in the wood cell wall into acetoxy groups which makes the cell wall hydrophobic. Acetylated wood is appropriate for joinery products. Heat treatment, i.e. the controlled chemical degradation of wood polymers by heat transfer, can also increase resistance to fungal decay. It is achieved by heating wood at temperatures between 180°C and 250°C, in an oxygen poor atmosphere to prevent combustion. 4) Brush, spray and injection applications for professionals (Use class 2-3) Propiconazole is appreciated for its fungicidal and anti-blueing effects, especially in combination with IPBC and sometimes quats. Indeed, such formulations have several modes of action, thus avoiding the development of resistance. This is an essential element to be taken into account in the field of chemical protection of wood as there is no other active substance with the same biocidal properties. The application of wood preservatives by brushing tends to be carried out on cut or machined surfaces that have been previously treated, but may be used to provide primary surface treatment or supplementary treatment. Thus, brush treatment of wood is typically used to prolong product life. Open spraying and injection applications, both at low pressures (lower than or equal to 5 bar), are executed by professionals with utmost caution, using full personal protective equipment. The application by spraying or injection has, in some places, the advantage that the wood preservative can be applied to areas which a brush could not reach, or where brushing would not be effective or more dangerous (e.g. under roofing, the small-pieced structures

	and the need to work over head give a clear advantage of spraying over brushing). Biocidal alternatives: Formulations based on the fungicides Tebuconazole and IPBC. Formulations based on the fungicide IPBC only. However, these formulations have a lower efficacy against wood rotting fungi and thus usually do not pass the required DIN EN 113-1 test against wood destroying basidiomycetes. Non-Biocidal alternatives: Effective non-biocidal alternatives are not known to us. 5) Brush applications for DIY users (Use class 2-3) Typically, products based on a combination of Propiconazole and IPBC are used. The application of wood preservatives by brushing tends to be carried out on cut or machined surfaces that have been previously treated, but may be used to provide primary surface treatment or supplementary treatment. Thus, brush treatment of wood is typically used to prolong product life. Biocidal alternatives: Formulations based on the fungicide IPBC only. However, these formulations have a lower efficacy against wood rotting fungi and thus usually do not pass the required DIN EN 113-1 test against wood destroying basidiomycetes. Non-Biocidal alternatives: Effective non-biocidal alternatives are not known to us.
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Technical Feasibility	1) Anti-sapstain use Biocidal alternatives: Formulations based on IPBC in combination with quaternary ammonium compounds (quats) are less effective than Propiconazole containing products against sapstain. In addition, these formulations tend to suffer from compatibility issues when combining these substances at the required concentrations, and sensitivity to leaching. Non-Biocidal alternatives: Kiln drying does not offer long-term protection for wood against sapstain or blue-stain, since upon exposure to moisture, the wood may become susceptible to fungal attack again. Susceptibility varies depending on wood species, wood moisture, weather conditions and fungal virulence. 2) Industrial treatment of structural wood (Use class 3.2-4) Biocidal alternatives to copper/azole formulations: Copper/quat formulations can replace copper/azole formulations in some applications, but suffer from several limitations: - The inherent acidity of quaternary ammonium salts, so that they may give rise to the corrosion of metal joints which are in contact to the treated wood - Lower long-term efficacy. Failures of wooden structures treated with copper/quat formulations have been reported across

	Europe with the “Forêt, Cellulose, Bois-Construction, Ameublement”(FCBA) organization in France, restricting their end use due to premature failure. Copper/Cu-HDO formulations are an alternative, but are a proprietary technology which is only available by one supplier in Europe. Penflufen is a new active substance which received its first approval in 2019. Very few wood preservatives have been authorized so far. Penflufen has the potential to replace Propiconazole. It is currently not suitable for use in water based wood preservatives containing solubilized copper, the widely used formulation type for industrial treatment of structural wood. Thus, Penflufen is currently suitable for metal-free products intended for the use classes 2 and 3 only. Non-biocidal alternatives: Furfurylated wood is suitable for use as decking (use class 3), however it is not an alternative for ground contact applications (use class 4). 3) Professional treatment of joinery (Use class 2-3.1) It is important to note that for some sectors concerned by joinery there is a de facto requirement to use Propiconazole, given the preservative requirements matching its unique properties. This is particularly the case when European Standard EN 599-1 [8] needs to be applied, concerning the durability of wood and wood-based products, and European Standard EN 335 for windows and doors under use class 3.[9] Products based on alternative substances generally do not meet those standard requirements, which therefore leaves the market in a situation where only Propiconazole-based products can be effectively used for joinery. Typically used products are aqueous formulations containing a combination of the fungicides Propiconazole and IPBC. This combination is ideal due to their complementary efficacy towards staining fungi and rotting fungi. Both actives provide efficacy against both types of fungi, but Propiconazole is more active against wood rotting fungi, while IPBC is more active against wood staining fungi, thus allowing for optimizations of the active substance contents in a formulation and, consequently, lower amounts of both actives to be used. Biocidal alternatives: Formulations based on the fungicides Tebuconazole and IPBC perform well, although the efficacy profile of Tebuconazole is more directed towards wood rotting fungi, thus slightly more IPBC has to be used in the formulations to control the wood staining fungi. Formulations based on IPBC only will be inherently less effective against wood rotting fungi. It is not possible to raise the level of IPBC in a formulation at will, as a high IPBC retention will make the joinery prone to discoloration (yellowing) and may lead to leaching issues at higher concentrations, and, subsequently, a potentially

	shortened service life of the joinery. Non-Biocidal alternatives: In principle untreated tropical hardwood can be used; technical limitations are not known to us. Unplasticized Polyvinyl chloride (uPVC) is the most commonly used plastic in windows and doors. uPVC windows and doors can be made with metal reinforcements to increase rigidity. Windows and doors made from this material possess a number of important properties, including : • uPVC windows and doors are lightweight, durable, resistant to corrosion and do not require regular maintenance • They have good insulating properties to keep heat in and noise out and • uPVC windows are less expensive than timber products. However, uPVC frames can become discoloured as result of exposure to the sun and are also difficult to repair if scratched or dented, thus affecting their appearance. They may also not be suitable for use in historic buildings located in conservation areas and have a shorter lifespan (of around 30 years) compared to wood-based products. In addition compared to wood the disposal and waste treatment of uPVC containing waste is much more challenging from an environmental point of view (see under "Hazards and risks of the alternative"). For aluminium, there are several drawbacks in using it as a material in the construction of windows and doors. They are difficult to repair if damaged or if accessories become loose. Windows and doors made from aluminium have high thermal conductivity and therefore have poor insulating capacity compared to wood-based products. This can result in condensation, leading to excess moisture and potential health issues associated with the growth of mould and fungi . Acetylated wood is suitable for joinery products. However, it has to be noted here that the commonly used wood at present is high quality Radiata Pine sapwood from New Zealand, and thus not sourced locally. Thus, the focus is different, and the target market for acetylated wood tends to be the hardwood market and not treated softwoods. Heat treatment of wood is another form of increasing resistance to decay from wood decay fungi. It also improves dimensional stability. It results in a material referred to as thermally modified wood. The process involves the controlled chemical degradation of wood polymers by heat transfer. Although this treatment has been shown to be effective for decay prevention, it is at the expense of lowering the mechanical properties. The surface hardness of the wood is improved, but the bending, compression, stiffness and shear strengths are considerably weakened.[11] Compared to Propiconazole, thermally modified wood is not suitable for all forms of timber

	construction materials that require treatment. 4) Brush, spray and injection applications for professionals (Use class 2-3) These are uses which are relevant for the maintenance of existing structures. Propiconazole is appreciated for its fungicidal and anti-blueing effects, especially in combination with IPBC and sometimes quats. Indeed, such formulations have several modes of action, thus avoiding the development of resistance. This is an essential element to be taken into account in the field of chemical protection of wood as there is no other active substance with the same biocidal properties as propiconazole. Biocidal alternatives: Formulations based on the fungicides Tebuconazole and IPBC perform well, although the efficacy profile of Tebuconazole is more directed towards wood rotting fungi, thus slightly more IPBC has to be used in the formulations to control the wood staining fungi. Formulations based on IPBC only will be inherently less effective against wood rotting fungi. It is not possible to raise the level of IPBC in a formulation at will depending on various factors: at higher IPBC concentrations, e.g. skin sensitizing properties, yellowing of the treated wood, and leaching issues can arise. Thus, the use of IPBC as the only fungicide diminishes the durability of the wood. 5) Brush applications for DIY users (Use class 2-3) As for the professional use, this use is relevant for the maintenance of existing structures. Propiconazole combined with IPBC is a common active substance combination in this use. Biocidal alternatives: Formulations based on IPBC alone as the only fungicide will be inherently less effective against wood rotting fungi. It is not possible to raise the level of IPBC in a formulation at will, depending on various factors: at higher IPBC concentrations e.g. skin sensitizing properties, yellowing of the treated wood, and leaching issues can arise. Thus, the use of IPBC as the only fungicide diminishes the durability of the wood.
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Justification for confidentiality	
Economic Feasibility	Overall, it is estimated that wood preservation typically adds up to 2-5% to the cost of wood for use classes 2-3-4 (service life up to 15 years) and up to 8% for increased service life (30-60 years).[3] A longer service life for wood contributes to a more responsible use of natural resources and forests. It also makes wood a strong competitor to carbon-intensive alternative materials. Vice versa, a less effective preservation leads to a diminished durability and a

	lower service life expectancy, resulting in an economical damage which in the worst case leads to a loss in the long-term performance of wood preservatives and significantly affects the ability for wood products to compete against less sustainable and more energy-intensive materials, such as concrete and steel in the construction sector and plastics/composites in other sectors (e.g., outdoor wooden items). 1) Anti-sapstain use Biocidal alternatives: As compared to the currently used wood preservative formulations with the active substance combinations Propiconazole-IPBC or Propiconazole-Boron, it is important that substitutes are equally effective as the current solutions. This is not seen among the discussed biocidal alternatives (IPBC in combination with quaternary ammonium salts). The loss of Propiconazole and the subsequent use of products containing alternative active substances could result in an increased prevalence of sapstain in freshly cut timber, with this having significant economic implications. Non-biocidal alternatives: Kiln drying is very energy intensive and is associated with high cost. Smith et al. (1991) have compared the cost of kiln drying to the cost of treating lumber with anti-sapstain formulations. Updating these to 2018 costs and converting to Euros gives estimated costs of kiln drying of €22-45/m³ and estimated costs of chemical treatment of €2-4/m³.[7, p. 46] These figures are confirmed by other sources. , Sejdiu et al (2015) calculated that the costs of conventional kiln drying of beech wood (with a starting moisture content of 60% and final content of approximately 10%) are around €29 per m³ of wood. More generally they note that the kiln drying of wood is costly at around 10% of the value of the wood. Searching of on-line sites reveals a higher additional cost for kiln dried wood compared to treated, air dried timber of around 15% or higher.[11] It has to be kept in mind that wetting of the wood will increase its susceptibility to fungal attack again, with the potential to render the costly treatment useless. Consequently, kiln dried wood requires higher attention (potentially increasing the cost) to ensure its protection from moisture. 2) Industrial treatment of structural wood (Use class 3.2-4) Biocidal alternatives: Compared to copper/azole formulations, the use of copper/quat formulations in industrial treatment of structural wood results in an immediate price impact as the preservative product costs are likely to increase by 25%. With increased chemical retentions, the overall treatment cost will increase even further with up to 50% in many cases. The early failures which have been reported to French FCBA after use of

	copper/quat formulations could also result in severe economic damage. Propiconazole is used in combination with copper compounds to bridge the gap in the spectrum of activity against copper tolerant fungi, e.g. Rhodonia sp. (formerly termed Poria sp.). The Rhodonia species are considered to be a major cause of failure of industrial wood products in Use classes 3 and 4. Failure of these kinds of product, such as railway sleepers, utility poles and agricultural posts, can cause major disruption, economic losses and may result in danger to human and/or animal health. Copper azole treated timber has had an excellent track record for over twenty years and dominates most of these high risk end uses. The preservation and safety of these utility type timbers is an important area for development due to the threat to creosote of removal from the market. Copper/Cu-HDO formulations are a proprietary technology which is only available by one supplier in Europe. The relative treatment cost are not known to us. Non-Biocidal alternatives: For furfurylated wood (suitable only for use class 3), stakeholders participating in the Impact Assessment by RPA (2018) have claimed that this process is energy intensive and expensive compared with treated wood.[7, p. 30] 3) Professional treatment of joinery (Use class 2-3.1) Biocidal alternatives: The treatment costs using different biocidal alternatives are not known to us. Most importantly, alternatives have to be equally effective, warranting a similar service life duration, which is not expected in case of wood preservatives based on IPBC as the only active substance. Non-Biocidal alternatives: Commercially, the use of tropical hardwood which is imported to remote destinations increases the production cost of joinery. As compared to plastic or aluminium wooden windows and doors have a number of advantageous properties compared to products made from other materials. Wood is a durable material and when treated with preservatives and, appropriately maintained, a lifespan of over 60 years is possible. Thus, external doors and windows made from wood are considered to have the longest serviceable life compared to other materials used in these applications. Part of the reason for this long useable lifespan is that wooden windows and doors can frequently be repaired without the need to replace the whole window unit or door. This is sometimes not possible for windows and doors made from other materials. For acetylated wood, stakeholders have claimed that this is an expensive option compared to treated wood and may not be economically feasible in all cases. The target market for this kind of wood tends to be the hardwood market and not treated

	softwoods due to the high costs, typically four times that of treated softwood. Capital and running costs are extremely high, with plants used to manufacture acetylated wood being constructed of stainless steel and requiring high energy input. Only one commercial operation exists in Europe. 4) Brush, spray and injection applications for professionals (Use class 2-3) Biocidal alternatives: When using alternative formulations, no particular impact on the treatment price is anticipated. Failure of wooden constructions due to lowered protection, however, will result in economic losses. 5) Brush applications for DIY users (Use class 2-3) Biocidal alternatives: When using alternative formulations, no particular impact on the treatment price is anticipated. It is important that non-professional users have the option to carry out maintenance on their wooden properties, with effective products. Private persons will not hire professionals on each occasion to carry out maintenance, hence without non-professional uses of wood preservatives, the durability and appearance of wooden structures is very likely to decline over time.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	1) Anti-sapstain use Biocidal alternatives: Products based on IPBC/quaternary ammonium compounds (quats) have a lower risk from today's point of knowledge, since Propiconazole and, if present, boron compounds are classified for reproductive toxicity (both R1B), while this does not apply to IPBC (currently under evaluation) and quaternary ammonium compounds. In formulations combining IPBC with quats, IPBC in high dosages may give rise to skin sensitization, and the inherent acidity of quats further increases the risk in handling the products and the treated wood. Leaching issues are to be expected, leading to an increased environmental exposure against both IPBC and quats. Non-Biocidal alternatives: No common health risk is associated with kiln drying. 2) Industrial treatment of structural wood (Use class 3.2-4) As elaborated in chapter 6.4 "Human health impacts" and in chapter 6.5 "Environmental Impacts" of the RPA Impact Assessment (2018), copper/propiconazole formulations are typically supplied at low Propiconazole concentrations of ≤0.2%(w/w) when used in conjunction with Tebuconazole at the same concentration. In the RTU treatment solution the concentration would be less than 0.02% (w/w). The wood preservatives obtained from biocidal product

	manufacturers are mixed with water inside a closed system to treat the wood. Worker contact with the wood preservative and treated wood is excluded until the wood is dried. The process is strictly regulated, e.g. under the BPR and IED.[13] Moreover, the use of closed systems in the industrial treatment of wood is considered to be a common practice across the EU. For example, in Sweden, sawn timber is treated industrially according to the standards of the Nordic Wood Preservatives Council.[14] The environmental classification and risk assessments in copper/azole products are primarily driven by copper rather than Propiconazole. It is highly unlikely that wood preservatives based on other active substances would have a significantly lower risk to the environment. All known wood preservatives for this sector are based on copper and it is not likely that any co-biocide will notably reduce the overall risk. Biocidal alternatives: In copper/azole formulations, both Propiconazole and Tebuconazole are currently under evaluation for renewal. From today's point of view, both actives hold classifications for reproductive toxicity (Propiconazole: Repr. 1B; Tebuconazole: Repr. 2), and leaching of both tends to be low, thus there is no clear advantage in using one or the other azole. Note that the 1:1 combination of Propiconazole and Tebuconazole results in higher efficacy, allowing for application of the lowest retentions of azole and copper when used together.[6] With copper/quat formulations, the acidity of the quaternary ammonium salts may lead to risks in handling. The required high retentions may also give rise to increased environmental exposure via leaching. The early failures which have been reported after use of copper/quat formulations could result in severe risks to human health e.g. by accidents. Copper/Cu-HDO formulations are a proprietary technology which is only available by one supplier in Europe. Non-biocidal alternatives: The production of furfurylated wood is highly energy intensive, which may be an environmental concern, depending on the choice of energy source. Particular risks are not known to us. 3) Professional treatment of joinery (Use class 2-3.1) Biocidal alternatives: For formulations based on a combination of Tebuconazole and IPBC it should be noted that both actives are currently under evaluation for renewal of approval. From today's point of view, there is no clear advantage over Propiconazole-IPBC products since Tebuconazole holds a reproductive toxicity classification (Repr. 2) as well and is a candidate for substitution. Due to the need for an increased the IPBC content formulations based on IPBC only have an increased risk of skin

	sensitization, and an increased risk of environmental exposure via leaching. Non-Biocidal alternatives: The use of tropical hardwoods that do not require preservation, e.g., from Asia or South America, has important climate and human health consequences due to deforestation, biodiversity loss and the degradation of natural habitats. The production of uPVC is an energy intensive process and produces a number of toxic waste compounds, including dioxins, vinyl chloride and heavy metals (although such emissions are tightly controlled by European and national legislation). Although rigid PVC recycling rates are increasing compared to the recent past (where most PVC waste was landfilled), it is likely the majority of recycled, rigid PVC is down-cycled into low-grade plastic products. In addition, old PVC products may potentially contain legacy additives such as lead, cadmium, organotins.[15, Footnote 105] While wood can be recycled or at least thermally utilized (in industrial facilities) after the end of its service life, uPVC containing waste (which is difficult to separate) is mostly burnt using fossil fuels, and leaves between 0.4 kg and 1.4 kg of hazardous waste (due to the increased chlorine content) per kg of PVC.[16] The production of aluminium is an energy intensive process and generates significant amounts of pollution including carbon dioxide, sulphur dioxide, polyaromatic hydrocarbons (PAHs), fluorine and dust, thus its production can have potentially significant environmental impacts. The production of acetylated wood is highly energy intensive, which may lead to an environmental concern depending on the choice of energy source. However, although species of European wood have been examined for the production of acetylated wood include Scots Pine (sourced from Scandinavia) and Beech (sourced from Germany), nevertheless the commonly used wood at present is high quality Radiata Pine sapwood from New Zealand, requiring long-range transport. Particular risks are not known to us.[17] When choosing a sustainable source of energy, the environmental impact of heat treatment of wood is low as, during the heating of the wood at temperatures between 180°C and 250°C in an oxygen poor atmosphere, the emissions from the thermal degradation of the wood can be retrieved, condensed and purified. Heat treated wood can also be recycled at the end of its life-cycle.[11, Footnote 30] 4) Brush, spray and injection applications for professionals (Use class 2-3) Biocidal alternatives: Propiconazole and IPBC are currently under evaluation for renewal of approval. From today's point of view, in formulations based on IPBC only, IPBC in high dosages increases the risk of skin sensitization as well

	as the risk of increased environmental exposure via leaching. 5) Brush applications for DIY users (Use class 2-3) As for the professional brushing uses brush treatment of wood by non-professional users is typically used to prolong product life, also in the maintenance of existing structures. Biocidal alternatives: Propiconazole and IPBC are currently under evaluation for renewal of approval. From today's point of view, in formulations based on IPBC only, IPBC in high dosages increases the risk of skin sensitization as well as the risk of increased environmental exposure via leaching.
Information above is confidential	
Justification for confidentiality	
Availability	1) Anti-sapstain use Biocidal alternatives: No impact on availability expected. Non-biocidal alternatives: The amounts of wood to be kiln dried are limited by the oven capacities and the duration of the process. 2) Industrial treatment of structural wood (Use class 3.2-4) Biocidal alternatives: No impact on the availability of copper/azole or copper/quat formulations expected. Copper/Cu-HDO formulations are a proprietary technology which is only available by one supplier in Europe. Non-biocidal alternatives: The availability of furfurylated wood is limited, since only two commercial operations with limited capacity exist in Europe. 3) Professional treatment of joinery (Use class 2-3.1) Biocidal alternatives: No impact on the availability expected. Non-biocidal alternatives: An extended use of tropical hardwood is not advisable since an increase in the use of wood from rain forests will bring further environmental damages related to biodiversity loss and climate change. For uPVC and aluminium no impact on the availability is expected. For acetylated wood there is only one commercial operation, with limited capacity, existing in Europe. In addition, the quality requirements for wood are so high that sourcing is already problematic, and the preferred wood is high quality Radiata Pine sapwood from New Zealand. Species of European wood which have been examined for this process include Scots Pine (sourced from Scandinavia) and Beech (sourced from Germany) but are apparently less used. Heat treatment of wood may also be limited by the oven capacity and the duration of the process. In addition, availability of suitable facilities is limited. 4) Brush, spray and injection applications for professionals (Use class 2-3) Biocidal alternatives: No impact on the availability expected. 5) Brush

	applications for DIY users (Use class 2-3) Biocidal alternatives: No impact on the availability expected.
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Justification for confidentiality	
Conclusion on suitability and availability of the alternative	1) Anti-sapstain use The widely used standard in this application are products based on IPBC-Propiconazole or Propiconazole-boron compounds. Without Propiconazole, anti-sapstain products would lose a highly efficacious and commonly used active substance. Suitable alternatives are not available on the short to medium term. Biocidal alternatives: With technical disadvantages (e.g., compatibility of the treatment product, acidity, leaching issues) formulations based on IPBC in combination with a quaternary ammonium compound may be used. Non-Biocidal alternatives: Kiln drying is an energy intensive and costly process. The capacities of available facilities are limited, and the wood needs to be carefully protected from moisture afterwards. 2) Industrial treatment of structural wood (Use class 3.2-4) The formulations which are nowadays widely used are aqueous formulations, containing an inorganic copper compound, in combination with co-biocides: either propiconazole and/or tebuconazole, quaternary ammonium salts or Cu-HDO Commonly used in these formulations are three different types of co-biocides - To replace or supplement Propiconazole by Tebuconazole in copper/azole formulations results in formulations of similar risk, at high performance. Remarkable is the complementary efficacy of Propiconazole and Tebuconazole in mixtures, allowing for lower active substance retentions of both azole and of the copper salt. The concentrations of azoles in concentrates (0.2-0.3%) and even more in the in final dilutions (usually lower than 0.02%) are low and the processes are carried out in closed systems. - Copper in combination with quaternary ammonium salts can be used, however these products pose technical disadvantages, e.g. due to the inherent acidity of quaternary ammonium salts, giving rise to corrosion of metal joints which are in contact to the treated wood. The amount of copper in these formulations is increased (compared to copper/azole formulations) giving rise to environmental concerns. Also the long-term efficacy of these formulations is questionable, judged by reports of premature failures of wooden structures treated with copper/quat formulations across Europe by the Forêt, Bois, Construction et Ameublement (FCBA) organization in

	France. - Copper/Cu-HDO formulations are a proprietary technology, only available by one supplier in Europe. - Penflufen is a new active substance which received its first approval in 2019. Very few wood preservatives have been authorized as yet. Although Penflufen has the potential to replace Propiconazole, it is currently not suitable for use in water based wood preservatives containing solubilized copper, the widely used formulation type for industrial treatment of structural wood. Penflufen in aqueous formulations is currently suitable for metal-free products intended for the use classes 2 and 3 only. Non-biocidal alternatives: As a non-biocidal alternative, furfurylated wood is an alternative for use as decking (limited to use class 3). However, the price and availability issues are obstacles to a widespread use. 3) Industrial treatment of joinery (Use class 2-3.1) Typical products use a combination of the fungicides Propiconazole and IPBC. The formulation may additionally contain an insecticide if this is required. Biocidal alternatives: Formulations based on the fungicides Tebuconazole and IPBC, which cannot be regarded as an alternative to Propiconazole-IPBC formulations since Tebuconazole itself is a candidate for substitution. Formulations based on IPBC as the only fungicide have a relatively high IPBC content, giving rise to yellowing of the treated wood and high leaching of IPBC. Non-Biocidal alternatives: Tropical hardwood without preservation can be used, but has a high environmental impact due to deforestation, biodiversity loss and the degradation of natural habitats. Plastic or aluminium are alternative materials which, in general, cause high energy consumption and pollution in their production. Also the durability of the joinery is considered inferior to wooden products. Acetylated wood is suitable for joinery, however the cost of production, the sourcing of raw materials and the limited production capacities restrict their use. Heat treatment is an energy intensive process with limited availability and results in a product with reduced mechanical properties. 4) Brush, spray and injection applications for professionals (Use class 2-3) The standard nowadays are formulations based on propiconazole and IPBC, frequently in combination with a quaternary ammonium salt. Such formulations have several modes of action, thus avoiding the development of resistance and allowing for effective maintenance on wooden structures. Biocidal alternatives: Formulations based on the fungicide IPBC, as the only active substance, usually have a lower efficacy against wood rotting fungi. 5) Brush applications for DIY users (Use

	class 2-3) Typically products based on a combination of Propiconazole and IPBC are used. Brushing is performed by non-professional users as a primary treatment or in the maintenance, to prolong the service life of wooden structures. Biocidal alternatives: Formulations based on the fungicide IPBC, as the only active substance, usually have a lower efficacy against wood rotting fungi. As a summary, Propiconazole is a highly important active substance in many areas of chemical wood preservation. Propiconazole holds an important role in the portfolio of active substances as it possesses a broad spectrum of efficacy against both wood destroying and wood staining fungi. It also lends itself to a broad range of applications in use classes 2 to 4, as well as acting as a pre-treatment against sapstain/blue staining fungi. Although there is a seemingly high number of approved active substances, the number of feasible alternatives in each application is limited, and a technically and economically suitable, sufficiently available and low risk substitution will be, on the short term, very difficult or impossible.
Information above is confidential	
Justification for confidentiality	
Other comments	The currently approved active substances (35) under BPR PT 8 are: Propiconazole (Exclusion, CAS No. 60207-90-1) No application for renewal submitted (3): Boric oxide (CAS No. 1303-86-2) Disodium octaborate tetrahydrate (CAS No. 12280-03-4) Tolylfluanid (CAS No. 731-27-1) Insecticides (6): Bifenthrin (CAS No. 82657-04-3) Chlorfenapyr (CAS No. 122453-73-0) Cypermethrin (CAS No. 52315-07-8) Etofenprox (CAS No. 80844-07-1) Fenoxycarb (CAS No. 72490-01-8) Permethrin (CAS No. 52645-53-1) Fumigants (3): Dazomet (CAS No. 533-74-4) Hydrogen cyanide (CAS No. 74-90-8) Sulfuryl fluoride (CAS No. 2699-79-8) Under exclusion criteria or candidate for substitution (CfS) (6): Boric acid (Exclusion, CAS No. 10043-35-3) Creosote (Exclusion, CAS No. 8001-58-9) Disodium tetraborate (Exclusion, CAS No. 1330-43-4) Disodium tetraborate decahydrate (Exclusion, CAS No. 1303-96-4) Disodium tetraborate pentahydrate (Exclusion, CAS No. 12179-04-3) Tebuconazole (CfS, CAS No. 107534-96-3) Substances with very few representation in authorized products (4): DCOIT (4,5-dichloro-2-octyl-2H-isothiazol-3-one, CAS No. 64359-81-5) K-HDO (Cyclohexylhydroxydiazene 1-oxide, potassium salt, CAS No. 66603-10-9) OIT (2-octyl-2H-isothiazol-3-one, CAS No. 26530-20-1) Potassium sorbate

	(CAS No. 24634-61-5) Viable fungicides available to the wood preservative industry to replace Propiconazole (12): Cu-HDO (Bis (N-cyclohexyl-diazenium-dioxy)-copper, CAS No. 312600-89-8) Basic copper carbonate (CAS No. 12069-69-1) Copper (II) oxide (CAS No. 1317-38-0) Copper hydroxide (CAS No. 20427-59-2) Granulated copper (-) IPBC (3-iodo-2-propynyl butylcarbamate, CAS No. 55406-53-6) Penflufen (CAS No. 494793-67-8) ADBAC/BKC (C12-16) (Alkyl (C12-16) dimethylbenzyl ammonium chloride, CAS No. 68424-85-1) ATMAC/TMAC (Coco alkyltrimethylammonium chloride, CAS No. 61789-18-2) Bardap 26 (Poly(oxy-1,2-ethanediyl), .alpha.-[2-(didecylmethylammonio)ethyl]- .omega.- hydroxy-, propanoate (salt), CAS No. 94667-33-1) DDACarbonate (Reaction mass of N,N-didecyl-N,N-dimethylammonium carbonate and N,N-didecyl-N,N-dimethylammonium bicarbonate, CAS No. 894406-76-9) DDAC (Didecyldimethylammonium chloride, CAS No. 7173-51-5)
Information above is confidential	
Justification for confidentiality	
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Attachments (non-confidential information)	
Attachments (confidential information)	[redacted]
Justification for confidential attachment	

Comment 53	**2021/09/05 23:36**
FirstName	[redacted]

FamilyName	[redacted]
Email	[redacted]
Country	Sweden
Name of organization/institution	The Sherwin-Williams Company
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Our company offers coatings for a variety of articles used in exterior environments, such as windows. We use waterborne coatings containing propiconazole which helps to form a sustainable protection of the wood (PT 8), thus extending is useable life. The coating products are approved for use classes 2 and 3 (used above ground with occasional or frequent exposure to weather)
Product Type	8
Alternative Identity and Properties	Under the BPR there are 46 active substances listed for PT 8, according to ECHA's database Among these substances, the ones below (41 in total) cannot be used (or are technically infeasible) in wood preservation: - 12 are effective against insects only; - For 4 substances the approval has expired; - 6 boron compounds are classified Repr.1B, and therefore they are subject to the exclusion criteria (BPR Art. 5); - 5 copper compounds have technical limitations for use in wood preservation, as, for example, they can cause discoloration of the surface coating; - The substance named Creosote is classified Carc.1B, so it is subject to exclusion criteria; - 3 substances (OIT, Tolylfluanid, and Potassium sorbate) have efficiency only against blue stain, so they have limited efficacy for wood preservation; - The substance Dazomet may be a candidate for substitution; approval is due for renewal next year; - The substance K-HDO is only approved for wood composites and currently only covers use class 3. Furthermore, the approval is due for renewal next year and it is a suspected endocrine disruptor; - The substance Trichoderma harzianum strain T-720 has not yet been approved for wood protection; - 7 Quats (quaternary ammonium compounds) are not widely used in paint systems due to some of them having compatibility issues with the waterborne coating that have pH on the slight

	alkali side. N-(3- aminopropyl)-N-dodecylpropane-1,3-diamine was explored as a potential option, but information was received late 2020 regarding the BPC opinion not to approve this substance for use in PT 8. The remaining 5 biocides are: - Propiconazole; - Tebuconazole, is due for renewal in 2022 and the outcome is uncertain due to its Repr.2 classification and there could also be a risk for a classification as Repr.1B in the future due to it being part of the azole family; - DCOIT, which has limited use in wood preservation since it is corrosive which is negative for handling and for the application equipment. It has low stability and is also believed to be a skin sensitizer; - IPBC is widely used in wood protection but to use it alone without the combination with propiconazole would require higher concentrations which causes a yellow discoloration of clear coating systems. It is a potentially viable option for pigmented systems however BPR approval and commercialization for this alternative is at risk after the current scheduled PPC review date therefore an extension is required to maintain preservative availability on the market. - Penflufen is a newly approved substance (in 2019). There are no authorized products containing penflufen available today and we expect some further 3-4 years until they are available. In conclusion: there are no currently existing biocides in the PT 8 list able to replace propiconazole. As alternative to the use of biocides in the paints, there are some existing technical wood modification processes aimed at protecting the wood against fungi. By making the wood to react with certain chemicals or by treating the wood at high temperatures (180°-220°C), the purpose of this modification is to partially either fill or transform the cell walls in the wood to reduce the ability to absorb water, which is needed by fungi. As result the wood is more stable and resistant to fungal attack. However, the use of these modified timber alternatives is prohibitively expensive and availability is not sufficient for current production volumes. Heart wood from pine and spruce may also offer protection equivalent to the use of preservative treatments. However, this would require use of 100% heart wood which is difficult to achieve for window manufacturers and would also lead to unnecessary waste since only part of the wood being used. Other wood species such as larch and oak give increased protection but would not be a solution for the entire market due to availability and cost. In conclusion: there are some limited alternatives to avoid the use of biocides in paints, but at the moment they cannot replace the need for biocides.
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Justification for confidentiality	
Technical Feasibility	The purpose of using propiconazole is to provide the article with long-term protection against rot and blue stain, thereby extending the lifetime of the article, thereby reducing the need for repairing, repainting or replacement and limiting the generation of waste. As reviewed in the earlier section, the alternatives do not fulfill the required needs for protection or have technical issues for using them such as discoloration of the coating or incompatibility issues with the paint. For the manufacturers of wood preservatives, Propiconazole is the most efficient PT 8 active substance, as it is effective against fungal decay and blue stain, even at low concentrations.
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Justification for confidentiality	
Economic Feasibility	[redacted]

	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Hazards and Risks of the Alternative	Wood has traditionally been used in construction for exterior uses such as joinery for windows and doors and for claddings. With the increased focus on the use of sustainable building materials, wood has become a key material in the building sector contributing to achieve sustainability goals such as those part of the EU Green Deal. Propiconazole has a well proven effect since many years of protecting wood used in exterior applications thereby extending the lifetime of these articles. This is a more sustainable solution than having to repaint of even replace articles due to the wood being deteriorated which would obviously lead to more raw material consumption of both the coatings and of the wood and would potentially lead to a significant increase in waste. The use of renewable wood resources is is also a more sustainable alternative compared to alternatives such as PVC. Please see point 1. Currently there is no biocide approved for PT 8 which can replace propiconazole in wood preservation.
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Justification for confidentiality	
Availability	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]

	[redacted]
Conclusion on suitability and availability of the alternative	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Other comments	-
Information above is confidential	
Justification for confidentiality	
References	Dansk Industri, Danmarks Farve- og Limindustri, Vindues industrien etc. (2021) The use of Propiconazole in wood preservatives (PT 8) ECHA database Life-cycle study: WoodForGood in UK
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 54	2021/09/06 00:48
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Belgium
Name of organization/institution	Janssen Pharmaceutica NV
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Wood is one of the few sustainable building materials, which are readily available and are well introduced in the building industry. As such it is of vital importance to promote and increase the use of timber in construction and in order to reduce carbon dioxide emissions contributing in the effort to counteract the global warming. Wood has some features making it a very effective tool in these efforts: During growth, trees remove carbon dioxide from the atmosphere and convert it to wood tissue. Therefore, processed timber has a very favorable carbon dioxide balance, not only because comparable low energy is used to process timber, but especially due to the carbon dioxide bound in the timber matrix. However, the carbon dioxide is only bound as long the timber stays intact. Unfortunately, European wood species commonly used in construction belong to durability class four (4) or five (5) or contain huge portions of non-durable sapwood (durability class 5) and therefore are highly susceptible for decay and degradation by fungi and insects. Even more unfortunately, degradation by fungi and insects will decompose the wood tissue again into carbon dioxide and water and will undo the favorable CO2 binding effect. Proper effective wood preservation is therefore the most essential building block to guarantee a long service life and correspondingly a long positive effect on global warming. Propiconazole is used in 1003 of the 2822 current national BPR-product-authorisations for PT8 (wood preservatives) across the EEA (= 36%) and it is therefore clearly be judged as an active ingredient that is very important to guarantee effective wood preservation. Replacing it in case of a non-reapproval, will be a tremendous challenge and only few suited solutions are

	available and authorised yet. Industry and competent authorities will need more time - To develop new wood preservatives suited to cover all applications needed to guarantee a comprehensive wood preservation approach. - To apply the likely revised list of endpoints of the very few potential surrogate-active ingredients of propiconazole. - To establish corresponding product approvals in the different member states. A re-approval of propiconazole for a period of at least five years is urgently needed to complete all these processes and to prevent severe market disruptions that is likely to result in wood being improperly protected against decay, consequently becoming a less favored material for construction with the resultant reduction in benefits.
Product Type	8
Alternative Identity and Properties	No active ingredient is suited to serve as suitable 1:1 surrogate for propiconazole. There are only three active ingredients which may serve as potential surrogate, but each of them is associated with certain risks (details see technical feasibility). We focus on the assessment of potential active ingredients as replacement for propiconazole as other industry members and associations have more expertise to comment on non-biocidal and non-chemical alternatives.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	May currently used active ingredients serve as a substitute for propiconazole? For the further explanation, the following actives will be grouped, as the same argumentation applies to all members of the corresponding group: 1. Copper based active ingredients (Cu-a.i. / 5): granulated copper, basic copper carbonate, copper hydroxide, copper III oxide (i), 2. Boron based active ingredients (B-a.i. / 6): disodium octaborate tetrahydrate, disodium tetraborate, disodium tetraborate decahydrate, disodium tetraborate pentahydrate, boric oxide, boric acid 3. Quaternary or tertiary ammonium like active ingredients (Quats / 6): ADBAK/BKC, ATMAC/TMAC, DDA carbonate, DDAC, Bardap 26 (i) , Diamine (i) Excluding propiconazole, there are 24 PT8 active ingredients currently used in the European Economic Area (EEA): • Two (2, permethrin and cypermethrin) are insecticides and cannot preplace propiconazole due to lack of efficacy •

	three (3, sulfuryl fluoride, hydrogen cyanide and Dazomet (2)) are gases or used for fumigation only and cannot preplace propiconazole due to complete incompatibility with all formulation types in which propiconazole is used • One (1, K-HDO) is used only for a special application (glueline treatment) and cannot replace propiconazole due it's very specific properties (2) • One (1, creosote) meets exclusion criteria in article 5(1)(a) and 5(1)(e). It has a harmonised classification in accordance with Regulation (EC) 1272/2008 as Carcinogenic Category 1B, and contains constituents that have Persistent, Bioaccumulative and Toxic (PBT) properties in accordance with the criteria set out in Annex XIII to Regulation (EC) 1907/20066. For these reasons, strong use limitations are imposed and creosote can hardly be seen as potential substitute for propiconazole. • Six belong to the group of B-a.i.s (6 / see above). Completely ignoring the ongoing / outstanding re-approval process of these active ingredients, it can be said that for technical reasons, none of these active ingredients can replace propiconazole. The main reason is the very high water solubility, causing high emissions and preventing any attempt to obtain a long term efficacy in those applications typical for propiconazole: Surface application of preservatives intended for UC 3. • Four belong to the group of Quats (4 / see above). None of these ingredients can replace propiconazole as due to their specific chemical and physical properties Quats are judged being incompatible with paint formulations in the concentrations required to obtain efficacy against discoloring and wood degrading fungi. In general, Quats have a different spectrum than propiconazole and are much more efficient against discoloring fungi than degrading basidiomycetes. Furthermore, Quats are considered being corrosive to metals and correspondingly treated timber may cause corrosion to fasteners. • Four belong to the group of Cu-a.i. (4 / see above). Copper containing products are designed as binder free products for penetrative treatments or industrial surface applications. The efficacy spectrum of copper based active ingredients is different from propiconazole. Copper provides excellent efficacy against soft rot and bacteria, organisms which are most important in the UC4 environment. However, copper has low efficacy against wood discoloring fungi and especially against copper tolerant wood degrading fungi. In contrary, propiconazole performs less against soft rot and bacteria but very well against discoloring fungi and copper tolerant wood degrading fungi. Therefore, propiconazole is

	an excellent active ingredient for UC 3 applications and overall outperforms copper in many UC 3 applications. Therefore, none of the current copper containing products can replace the currently authorised propiconazole containing products used for manual, professional or industrial surface application in combination with a surface coating. Furthermore, it has to be mentioned that all copper based active ingredients have a distinct color while propiconazole is a nearly colorless active ingredient which can be used to formulate completely transparent, colorless products. The net result is that there are only 3 possible active substances remaining that are further evaluated below, these remaining 3 are; ☐ Tebuconazole Tebuconazole is a triazole (as propiconazole) and subject to re-approval for PT 8 as well. A high risk of using tebuconazole as substitute for propiconazole is the ongoing re-approval process including but not limited to the potential assessment of the endocrine disruption properties. Independent on this, tebuconazole is used in 690 product authorisations, but in 67% (462) of the cases it is used in combination with propiconazole due to the synergistic effects of this combination (see: 7, 8 & 9). Therefore, it can be expected that in all these formulations the portion of propiconazole cannot be substituted by the same amount of tebuconazole, but a higher total amount of tebuconazole is needed to compensate for the loss of the synergistic effects. In order to prevent severe market disruptions, a re-approval of propiconazole for at least 5 years is essential, providing time to consider, if tebuconzole is re-approved, potential restrictions and the likely revised list of endpoints of tebuconazole, to correspondingly adapt or develop the formulations and to authorise a sufficient number of replacement products . ☐ IPBC IPBC is a iodopropargyl derivate and as well as tebuconazole subject of re-approval in PT 8. As long as the corresponding list of endpoints is not published, respectively the re-approval is not granted, the use of IPBC as surrogate for propiconazole is subject of a number of unknown risks. Due to its excellent efficacy against discoloring fungi, IPBC is used in 1948 of the 2822 national BPR-product-authorisations (corresponds to 69%), either as single fungicide or in combination with triazoles (see Table 1 below). However, traditionally products containing IPBC as single fungicide never claimed efficacy against decay, but usually claimed efficacy against blue stain and discoloring fungi only. Table 1: Number of authorised products containing IPBC as only fungicide or in combination with other fungicides IPBC 1050 IPBC /propiconazole

	503 IPBC / tebuconazole 204 IPBC / propiconazole / tebuconazole 191 The combination of propiconazole and IPBC is very commonly used in wood preservation due to the complimentary spectrum of both fungicides (IBPC being effective against discoloration and propiconazole against wood decay). In addition, the price efficiency and the fact that the combination of both fungicides results in stable and robust products, easy to formulate. The combination tebuconazole and IPBC was for a number of technical and commercial reasons for a long time less popular and does not provide any technical benefit over the combination propiconazole / IPBC. However, the triple fungicide combination of IPBC, propiconazole and tebuconazole has a long history and is judged being a very robust combination with excellent long-term stability due to synergistic effects and the complimentary efficacy spectrum of the three fungicides. IPBC as single fungicide provides excellent efficacy against many discoloring fungi, but is weaker against wood destroying basidiomycetes than the two triazoles. Therefore, most formulations containing IPBC as only fungicide, claim efficacy against discoloration only (975 of 1050 national BPR-product-authorisations containing IPBC as single active = 93%). To control decay fungi, higher application levels of IPBC are needed, causing some specific challenges (e.g. yellowing of the surface) and were avoided for good reasons. At this moment not all of the few products containing IPBC as single fungicide and claiming efficacy against decay, cover brown and white rot fungi, but claim efficacy against brown rot fungi only. Not covering the full spectrum of decay fungi relevant for UC 3 applications raise concerns that IPBC single formulations may not reach the same level of long term performance as the traditional propiconazole / IPBC combination. This is applies especially for the treatment of hardwood species which are more susceptible for white rot decay than hardwood species. Although numerous products containing IPBC as single fungicide are authorised and readily available in the EU, it cannot be assumed that the propiconazole containing products can be replaced by the currently authorised IPBC-only products as the latter ones typically do not claim efficacy against wood degrading basidiomycetes. The combination of tebuconazole and IPBC might be a suitable surrogate for the combination propiconazole / IPBC. However, the same regulatory concern as for tebuconazole single formulations applies: A high risk of using tebuconazole as substitute for propiconazole is the ongoing re-approval process including but not limited to the outstanding assessment of the

	endocrine disruption properties. ☐ Penflufen It must be noticed that only 2 penflufen containing products are authorised in 16 countries yet. Both products are typical preservatives for industrial application, usually applied on construction timbers and wood for outdoor uses. Due to the characteristics of such formulations, none is intended to replace the propiconazole formulations used in combination with top coats. Furthermore, in 10 of the countries, only one penflufen-containing product is authorised. Therefore, a re-approval of propiconazole for at least 5 years is essential, providing time to develop and approve a sufficient number of replacement products in order cover the entire use spectrum of propiconazole products and to prevent market disruptions. For completeness, it has to be mentioned that also the actives which are currently not used, neither can be seen as suited surrogates for propiconazole: The expired actives don't need to be discussed anymore. The ten actives currently not used are not suited for different reasons: Two belong to the group of Quats or of Cu-a.i. and were discussed already (3, copper III oxide and Bardap 26). Four are insecticides and do not provide any fungicidal efficacy (4, bifenthrin, etofenprox, chlorfenapyr and fenoxycarb) One is not used due to an unfavourable efficacy spectrum and severe environmental concerns (1, tolylfluanide) Two are not suited due to their efficacy spectrum which is completely different from propiconazole (2, OIT and potassium sorbate) One is not used especially due to the strong sensitising properties and correlated use limitations (1, DCOIT). The three active not approved yet are neither suited to replace propiconazole: One belongs to the group of Quats, discussed already (1, Diamine). One is used in industrial formulations only and used for completely different applications than the majority of propiconazole containing products (1, polymeric Betaine) One has a completely different efficacy spectrum and requires completely different formulation types / use conditions (1, Trichoderma harzianum).
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	see explanation in "Technical Feasibility"
Information above is confidential	
Justification for confidentiality	

Hazards and Risks of the Alternative	see explanation in "Technical Feasibility"
Information above is confidential	
Justification for confidentiality	
Availability	see explanation in "Technical Feasibility"
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Proper effective wood preservation is the most essential building block to guarantee a long service life of wooden products and wooden constructions and is needed to ensure a sustainable positive effect of the use of timber as building material on global warming. Propiconazole is used in 1003 of the 2822 current national BPR-product-authorisations for PT8 (wood preservatives) across the EEA (= 36%) and it is therefore clearly be judged as an active ingredient that is very important to guarantee effective wood preservation. Replacing propiconazole in case of a non-reapproval, will be a tremendous challenge and only few suited solutions are available and authorised yet and little long term experience is available whit these solutions. Industry and competent authorities will need more time - To develop new wood preservatives suited to cover all applications needed to guarantee a comprehensive wood preservation approach. - To apply the likely revised list of endpoints of the very few potential surrogate-active ingredients of propiconazole. - To establish corresponding product approvals in the different member states. A re-approval of propiconazole for a period of at least five years is urgently needed to complete all these processes and to prevent severe market disruptions that is likely to result in wood being improperly protected against decay, consequently becoming a less favored material for construction with the resultant reduction in benefits.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is	

confidential	
Justification for confidentiality	
References	1. ECHA 2021: Information on biocides / Biocidal active susbstances, 20th of Aug. 2021, https://echa.europa.eu/de/information-on-chemicals/biocidal-active-substances?p_p_id=dissactivesubstances_WAR_dissactivesubstancesportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&_dissactivesubstances_WAR_dissactivesubstancesportlet_sessionCriteriaId=dissActiveSubsSessionParam101401629474244445&_dissactivesubstances_WAR_dissactivesubstancesportlet_disas_user-performed-search=false&_dissactivesubstances_WAR_dissactivesubstancesportlet_delta=200&_dissactivesubstances_WAR_dissactivesubstancesportlet_tabs1=Search&_dissactivesubstances_WAR_dissactivesubstancesportlet_orderByCol=productType&_dissactivesubstances_WAR_dissactivesubstancesportlet_orderByType=desc&_dissactivesubstances_WAR_dissactivesubstancesportlet_resetCur=false&_dissactivesubstances_WAR_dissactivesubstancesportlet_cur=3 2. ECHA 2021: Information on biocides / Biocidal products / search result fot biocidal products authorised for PT8. 18th of Aug. 2021, https://echa.europa.eu/de/information-on-chemicals/biocidal-products?p_p_id=dissbiocidalproducts_WAR_dissbiocidalproductsportlet&p_p_lifecycle=1&p_p_state=normal&p_p_mode=view&_dissbiocidalproducts_WAR_dissbiocidalproductsportlet_javax.portlet.action=dissBiocidalProductsAction 3. Assessment Report Cyclohexylhydroxydiazene 1-oxide, potassium salt (K-HDO), Product-type 8 (Wood preservatives), 22 February 2008 Austria, 45 pp see: https://echa.europa.eu/de/information-on-chemicals/biocidal-active-substances/-/disas/factsheet/40/PT08 4. Assessment Report Dazomet, Product-type 8 (Wood preservatives), 11 March 2010 Belgium, 82 pp see: https://echa.europa.eu/de/information-on-chemicals/biocidal-active-substances/-/disas/factsheet/21/PT08 5. Renewal Assessment Report, Creosote, Product-type 8, 14 January, 127 pp see: https://echa.europa.eu/de/information-on-chemicals/biocidal-active-substances/-/disas/factsheet/19/PT08 6. Patent: Synergistic compositions containing propiconazole and tebuconazole. EP0393746, 10.04.1990 7. Patent: Mikrobizide Wirkstoffkombinationen. EP0510458, 10.04.1992 8. Patent: Mittel zum Konservieren von Holz und Holzwerkstoffen. EP0458060, 17.04.1991 9. Patent:

	Mikrobizide Wirkstoffkombinationen. EP0522398. 29.06.1992 (i) Currently not used in products authorised for PT 8
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 55	**2021/09/06 08:39**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Finland
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	According to our supplier for paint there is no currently an alternative substance to use for preventing fungi in our prouducts. Therefore we suggest that replacement substance will be developed before banning the use of Propiconazole. After an alternative product is developed there should be transition time for manufacturers.
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	

Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	

Justification for confidential attachment	

Comment 56	**2021/09/06 09:18**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Switzerland
Name of organization/institution	Lonza Cologne GmbH
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	LSI Wood Protection (Lonza Cologne GmbH) is the market leader in professional timber impregnation across Europe and has established a reputation over many years for developing high performance wood preservatives. The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the LSI strategic research and innovation agenda for chemicals. LSI is committed to innovation and has already launched a number of sustainable solutions in the preservatives market. Wood is the natural choice as sustainable material. Forests are a renewable resource, timber structures lock up the CO2 captured in growing trees and can be a net sink of greenhouse gas. The use of wood as a renewable material is key to achieve the objectives of a circular economy and of the European Green Deal. However, the sustainable use of home-grown European timber requires effective chemical wood preservation. Propiconazole is used in more than 50% of all wood preservative products authorised in Europe and substituting this key active substance is technically not feasible at this time. Removing Azoles from the PT 8 market, specifically Propiconazole and Tebuconazole would limit the long term performance of water based wood preservatives and thus significantly impact the preservatives market and possibly the wood industry overall. The continued use of wood as sustainable material would be significantly under threat. Wood is subject to a natural biological degradation process by fungi and insects

	and untreated wood deteriorates fast, particularly in situations in which the wood or wood-based product is permanently exposed to the weather, subject to frequent wetting or in contact with the ground or water. Commercially important European wood species such as pine and spruce are not durable and hence require effective preservation for applications such as construction, agricultural fencing, utility poles and other structural timbers, wooden decking, cladding, etc. Effective wood preservation significantly extends the service-life and thus sustainability profile of wood. Treated timber stores carbon for decades longer than untreated decay-susceptible wood. Without the sustainable use of home-grown European timber it will be difficult to meet the Green Deal objectives but will instead further drive deforestation of rain forests and increase CO2 emissions. The LSI Tanalith brand of wood preservatives is a range of best in class products built on Azole technology and ideal for construction, cladding, decking, agricultural fencing as well as utility poles and other structural timbers. The unique combination of copper and organic biocides makes the product highly effective and extends the service life of treated timber up to 25 years. Tanalith use is exclusively industrial and application to timber is via high pressure vacuum treatment.
Product Type	8
Alternative Identity and Properties	More than 50% of all authorised wood preservative products (product type, PT 8) in Europe contain Propiconazole and substituting this key active substance is technically not feasible at this time for the following reasons. There is a lack of suitable and sufficient alternative active substances and non-chemical technologies. Alternative wood preservative products available today only provide limited efficacy in comparison. More time is needed to develop new active substances to match the performance of Propiconazole. Non-chemical technologies and materials are either not effective, not practical or too costly in comparison to chemical wood preservation and generally less favorable in life cycle assessments. Chemical wood preservation For wood or wood-based products and particularly those products permanently exposed to the weather, subject to frequent wetting, in contact with ground or fresh water (Use Class 3 and 4) any preservation product must provide timber with significantly enhanced durability against the most extreme biological deterioration pressures. Especially European home-grown tree species such as pine and spruce are not durable without effective preservation. Untreated timber may need replacing within ca. 3 to 5 years, whereas

	effectively treated timber may last 15-40 years or more depending on specification. A longer service life for wood contributes to a more responsible use of natural resources and forests; it also makes wood a strong competitor to carbon-intensive alternative materials. To achieve the necessary protection, wood preservative products and application techniques need to match the requirements. For timbers in Use Class 3 and 4 preservatives need to be applied by industrial impregnation. Superficial application by other means is less suitable. The formulation of wood preservatives is critical and the biocidal active substances need to be carefully chosen, with Copper based products used almost exclusively. No other authorised combination of currently approved active substances (apart from Creosote) can adequately protect timber for the desired service life. Copper compounds are very potent fungicides and also undergo binding to the wood structure. This in part allows for long service lives but importantly can also reduce the potential leaching. Whilst Copper is an excellent biocidal active substance and has a broad fungal spectrum with protection against insects and termites, it requires a co-biocide. Correctly chosen co-biocides compliment the efficacy and allow significant reductions in overall Copper retentions. Very few of the currently approved active substances are effective as co-biocides, with only three main categories available. -Copper - Azoles - Copper - Quaternary ammonium compounds (Quats) - Copper - HDO used with other Copper compounds Some of the Copper-Azole products may contain Quats and some Copper-Quat and Copper HDO products may contain Borates. As of August 2021 there are 24 water based Copper containing PT 8 products listed as authorised under BPR. However, a number are from families and only a total of 11 authorisations are in fact substantially different. Five of those products contain Propiconazole. Of the others, two contain DDAC and DDA-carbonate, one contains Tebuconazole, one contains Cu-HDO (with and without Fenpropimorph), one contains Boric acid and Disodium tetraborate decahydrate and one is a Copper-Chrome product. The borate containing product is a remedial pole paste and is not therefore a primary wood preservative. The copper chrome product has a limited authorisation for specific uses due to the use of Chromium trioxide and cannot be regarded as an alternative. Thus, in the short-term the only BPR authorised alternatives to Propiconazole containing products are Copper-Tebuconazole, Copper-Quat and Cu-HDO products. All these alternatives come with limitations. Cu-HDO is patent protected and use therefore

	limited. Further, the limited efficacy of these products may lead to higher rates of pre-mature failures and require higher use rates and thus, substitution cannot be considered favorable. Towards developing new sustainable solutions in the mid to long-term the industry has considered other available active PT8 substances. However the choice is limited and likely to get further reduced in the future. The limitation is not only driven by regulatory developments, but of the currently approved PT 8 active substances none can deliver a comparable efficacy profile or only have niche use as insecticides, fumigants or other and thus not effectively substitute Propiconazole. Realistically only IPBC, DCOIT and Penflufen can be considered possible co-biocides to copper. However, all lack stability in the Copper-ethanolamine complex and come with other limitations, e.g. DCOIT being a potent skin sensitizer, so neither are likely to be a viable alternative to Propiconazole. New active substances are needed to towards a more sustainable approach to wood preservation. Whilst the possibility to develop new wood preservation chemistries is low, due to commercial, technical and regulatory challenges, for PT 8 applications 'new' active substances can be adapted from other sectors, in particular plant protection, as for example has been done with Penflufen. Such an approach can reduce some of the costs, possibly reduce timelines and also some of the uncertainty associated with the approval of a new active substance. In summary, the loss of Propiconazole would have a detrimental impact on the wood preservatives sector and potentially on the European timber industry in general. Loosing this key active substance would significantly reduce the chemical diversity and significantly reduce the choice of products. In the short-term only Copper-Tebuconazole, Copper-Quat and possibly some Copper-HDO products would remain as alternatives. New active substances to effectively substitute Propiconazole are feasible in the mid to long-term, but more time and investments are needed to develop such innovative and sustainable wood preservative solutions. Alternative technologies There are a few wood modification treatments available on the market deemed not to contain biocides. The claim is they work through physical effects by modifying the wood structure such it is no longer a food source. However efficacy is likely to be very limited in comparison. Alternative wood preservation technologies are significantly different to traditional chemical wood treatments. Highly specific manufacturing facilities are required and processes are said to have very high capital and running costs with high energy inputs. Timber sourcing is selective and at least one process

	currently imports wood from New Zealand. The number of manufacturing locations is be very limited and give rise to movements of untreated and 'treated' timber across Europe. One such process for example modifies timber by acetylation. However, due to the high costs the market is restricted to hardwoods. The price of treated material can be more than 8 times that of e.g. treated scots pine. Another example process is furfurylation, which again is expensive. Both products only have niche uses only and at the present time these treatments cannot be seen as mainstream alternatives for treated wood. Clearly, they would not be suitable for replacing treated wood for Use Class 3 or 4. Heat treatments where the wood polymers are chemically degraded by heat have been developed. Decay prevention has been shown effective in Use Class 2 and 3, however it is not suitable for all forms of construction as the mechanical properties are lowered. Whilst hardness is improved the bending, compression, stiffness and shear strengths are considerably weakened. Thus, heat treatment may be suitable in some uses but cannot replace traditional wood preservative treatments in many circumstances and certainly not in Use Class 3 and 4. Alternative materials There are certain hardwoods which resist biological degradation and are promoted as alternatives to preservative treated wood. Whilst there is no doubt they will work in some situations, hardwoods are expensive and a precious resource. The volumes required to replace preservative treated wood are huge and simply not sustainable. For example, certain types of exotic tropical hardwoods from Asia or South America may not require additional preservation treatments however, their value chain is often associated to a higher risk level of deforestation, biodiversity loss and degradation of critical natural habitats. It is also important to consider the trade balance of the EU wood-based economy and the global environmental externalities. Around 97% of softwood and 90% of all wood used in the EU is sourced from European forests, with very few quantities of imported wood from outside the EU. The EU is also a champion of sustainable forest management and natural resource conservation, as its overall forest area is increasing by 800,000 ha every year since 1990. Thanks to the combination of sustainable forest management practices and wood preservation technologies, only 64% of annual growth is harvested, which ensures a sustainable use of natural resources. Other types of alternative materials include steel and concrete (esp. in the construction sector), plastic composites and fiberglass. However, they do not possess many of the

	desired properties that can be achieved with treated wood. They also often imply higher economic and environmental costs as many of those materials are energy and/or carbon intensive. The ability of such alternatives to perform for their intended purposes over longer time periods has also yet to be shown. In comparison, the benefits of wood are supported through life-cycle analysis, which has shown that wood and preservative treated wood has a better overall profile than other competing materials. In summary, there are alternative technologies and materials which could be used in place of preserved wood but none are as cost effective, sustainable or provide the unique properties of wood. Some alternative technologies have limited use but are not currently viable as replacements particularly for preservative treated wood in Use Class 3 and 4 end uses.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The European timber industry requires products that can demonstrate a broad spectrum of activity in use and beyond standard laboratory tests. Copper-Propiconazole formulations in particular in combination with Tebuconazole provide this level of efficacy. Such products can increase the service life of timber up to 25 years, compared to three to five years in case of untreated timber. Propiconazole is a key active substance in wood preservation and substitution is technically not feasible at this time. This is particularly the case for Use Class 3 and 4 where the wood is either continually exposed to the weather, subject to frequent wetting, in contact with the ground or water. The main challenge in developing an alternative is maintaining the required performance. The latter has to be proven in formal tests - to fulfil the requirements of the BPR authorization – as well as by long-term field tests and optimally by in-use experience to be accepted by the market. Work on alternative active substances has been underway for the last 5 to 10 years, focusing on the use of existing BPR PT8 approved active substances, mainly IPBC, DCOIT and Penflufen. However, for the higher risk Use Class 3 and 4 applications where Copper has to be used in combination with an organic co-biocide remains a difficult challenge. In these instances best possible alternatives such as Penflufen are not stable in Copper formulations and thus not suitable and alternative co-biocides have to be used. In EN standard tests, Copper-Quat formulations are less efficacious than Copper-Triazole formulations. Copper-Azole

	formulations containing Propiconazole in combination with Tebuconazole are most effective at lowest concentrations, followed by Copper-Tebuconazole containing preservatives. Copper-Quat formulations have a much higher level of premature failure due to the narrower spectrum of activity against copper tolerant fungi. For example, significant failures of Copper-Quat formulations have been reported across Europe with the Forêt, Bois, Construction et Ameublement (FCBA) organisation in France restricting their end use due to premature failures. Due to the limited efficacy of Quat formulations and in particular Copper-Quat formulations, LSI is committed to identifying and bringing to the market active substances that are new to PT 8. Several promising candidates have already been identified. However, even if all technical and regulatory testing is successful, formulations containing such actives are unlikely to be commercially available until approx. 2030. The anticipated timelines are based on the requirement for long-term field test data, particularly for Use Class 4 ground contact applications and time required for approval of the active substances and authorisation of biocidal products.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Effective wood preservation is essential to extending the service life of wood, in particular home grown European species. Removing Azoles from the PT 8 market today, specifically Propiconazole and Tebuconazole would limit the long term performance of water based preservatives and thus significantly impact the ability for wood products to compete against less sustainable substrates such as concrete, steel and plastics/composites. A significant negative impact on the wood preservatives market, but also the wood industry overall is highly likely and continued use of wood as sustainable material would be significantly under threat. Substituting Propiconazole and Tebuconazole may be feasible in the long-term however, the economic challenges are great. The main underlying reason is that typically wood preservation products serve a relatively small market, with technical incompatibilities, etc. limiting the spectrum of applications. The business case for developing new active substances and products is further complicated by high developmental and regulatory costs, long timelines and high degree of uncertainty. In general, the biocidal products industry is less attractive to investors compared to other sectors, such as pharmaceuticals, etc. The up-front

	investment costs for biocidal products range up to 10+ million Euro. Costs per active substance approval application including study costs can be estimated at ca. 5 million Euro, with approval fees increasing periodically. Costs for product development and application for product authorisation are in the range of ca. 5-10 million Euro. This includes not only the biocidal product data package and application fees, but needs to consider the development pipeline with product variants and failures, product design and formulation, facilities for and testing of product in lab & field, manufacturing and treatment facilities, process upscaling and optimization, marketing and commercialization support, etc. The timelines to return on investment are extremely long with ca. 7 to 13 years to market. Preparation of active substance approval applications can be achieved within ca. four to five years, with product development and authorisation at a minimum of 10 years. Finally, there is a high risk of failure in the development of new wood preservation solutions for the active substance, but then also in biocidal product development. This is owed not only to the technical difficulties that need to be overcome, but also due to the dynamic regulatory framework currently in place in Europe. The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the LSI strategic research and innovation agenda for chemicals. LSI is committed to identifying alternatives to Propiconazole, but it must be recognized that this is a very complex and lengthy process and more time is needed. The continued availability of Propiconazole would ensure that effective wood preservation products remain available to the market and support the sustainable use of European home grown timbers in the short to mid-term.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	The Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design are central to the LSI strategic research and innovation agenda for chemicals. LSI is committed to innovation and has already launched a number of sustainable innovations in the preservatives market. In line with the sustainable use of biocides any new innovation is aimed to further reduce the hazards and risks whilst improving the efficacy of wood preservation.
Information above is confidential	

Justification for confidentiality	
Availability	Propiconazole is a key active substance for wood preservation in Europe, with more than 50% of authorised products containing this key active substance. Substitution is technically not feasible at this time. There is a lack of suitable and sufficient alternative active substances and non-chemical technologies. The LSI strategic research and innovation agenda for chemicals aims to overcome this limitation in line with the European Chemical Strategy for Sustainability and approach to Safe and Sustainable by Design. LSI is committed to innovation and has already launched a number of sustainable solutions in the preservatives market. The first step to developing a new PT 8 product based on new actives substances is the identification of suitable chemistries and specific molecules. This process can be lengthy (up to 10 years) and in general needs to rely on information gained from associated sectors or derivatives of already known chemistries. Generation of entirely new chemistries is not feasible as efforts and costs for such development are extremely high, while there are major uncertainties regarding the approval of the active substance and its market success. An example of successfully bringing an innovative wood preservative product to the market based on a new active substance adapted from the plant protection sector is Tanasote S40, a hot oil based product based on Penflufen. However, in any case data requirements for active substance approvals are very extensive and must be met prior to submission of the dossier. Once a suitable chemical substance has been identified, an application for approval as an active substance can usually only be submitted after about 4 to 5 years. Experience has shown that the evaluation by the competent authorities and the granting of the active substance approval are carried out after a further 2 to 4 years. The application for authorisation of a corresponding biocidal product is usually subsequently evaluated, which takes another 2 to 3 years. In conclusion, the actual first placing on the market of a biocidal product with a new active substance can only be achieved in 7 to 13 years after identification of a new substance. Further, for any such product to be successful commercially the long-term efficacy needs to be confirmed and the product established in the market. In the Tanasote S40 example mentioned above the development and authorisation of was achieved in 10 years.
Information above is confidential	

Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Wood is the natural choice as sustainable material. Effective wood preservation significantly extends the service-life and thus sustainability profile of wood. Without the sustainable use of home-grown European timber it will be difficult to meet the Green Deal objectives but will instead further drive deforestation of rain forests and increase CO2 emissions. Removing Azoles from the PT 8 market today, specifically Propiconazole (and Tebuconazole) would limit the long term performance of water based preservatives and thus significantly impact the ability for wood products to compete against less sustainable substrates such as concrete, steel and plastics/composites. A significant negative impact on the wood preservatives market, but also the wood industry overall is highly likely and continued use of wood as sustainable material would be significantly under threat. Propiconazole (and Tebuconazole) is a key active substance in the PT 8 wood preservatives market and there is a lack of suitable and sufficient chemical and non-chemical alternatives. Alternative wood preservative products available today only provide a limited efficacy in comparison. Non-chemical technologies and materials are either not effective, not practical or too costly in comparison to chemical wood preservation and generally less favorable in life cycle assessments. The continued availability of Propiconazole (and Tebuconazole) would ensure that effective wood preservation products remain available to the market and support the sustainable use of European home grown timbers in the short to mid-term. New active substances to effectively substitute Propiconazole are feasible in the mid to long-term, but more time is needed to develop such innovative and sustainable wood preservative solutions.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	CEI-BOIS (2019) WOOD - BUILDING THE BIOECONOMY WEI-IEO/EWPM (2019) TREATED WOOD A SUSTAINABLE

	CHOICE
Attachments (non-confidential information)	LSI_Propiconazole_Assessment of Alternatives_01Sept.2021.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 57	**2021/09/06 09:47**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Poland
Name of organization/institution	
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	In connection with the renewal of the authorization for the active substance Propiconazole (CAS: 60207-90-1) registered as an existing active substance in PT8, we declare that this substance has been used by us for over 20 years in the production of wood protection agents. Produced impregnates are intended for industrial and professional users but also for general customers. We currently have 21 biocidal products registered, 20 of them are wood impregnants in PT8, while 14 contains Propiconazole, which acts as an active substance is designed to protect wood against the development of basidiomycete fungi or to control them in already infected wood. Due to the changing standards and legal requirements, we have conducted numerous tests confirming the effectiveness of products containing Propiconazole.
Product Type	8
Alternative Identity and	

Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	Products containing propiconazole represent 90% of our sales in the retail and professional market. We are a small family company, however, we have experience and knowledge which makes us one of the largest producers of Polish wood preservatives, producing for many Polish and foreign companies. Most of the widely available wood impregnation products on the market are associated with Propiconazole. Limiting or withdrawing from the sale Propiconzole may lead to the market collapse (in the entire industry) of wood treatment and impregnation. Companies are not ready to spend further amounts on new effectiveness tests or studies confirming the safety of using products. The time that would be spent on this will lead to the removal of many companies from the industry for which the costs associated with the creation of new products will be too high.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the requirements resulting from BPR, we have performed tests confirming the safety of a product that has Propiconazole in the composition, for the environment (ecotoxicological tests) and for people (toxicological tests). We are currently undergoing research and preparing documentation for new products, which, despite the restrictions resulting from the provisions on classification and labeling (CLP), still contain Propiconazole as one of the active substances. Considering the time required to perform basic biocidal efficacy studies (e.g. EN 113 after EN 84 and EN 73) that last minimum 9 months, the time limit for introducing restrictions or withdrawal is too short and insufficient. Removing Propiconazole from the market in a sudden, uncontrolled manner, the same for impregnates

	intended for industrial and professional users as well as for general consumers will lead to the use of products with no greater efficiency and certainly no less harmful to both people and the environment. The withdrawal of this active substance will reduce the availability and variety of agents, resulting in greater resistance and resistance to existing fungi.
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	By caring for the interests and security of both users and manufacturers, we understand the needs of change. However, we believe that eliminating Propicoazole from the entire supply chain will not improve the situation. The withdrawal from the market should take place in long stages and the availability of substances should remain for products intended for professional and industrial recipients. This will enable the establishment of new biocidal products on the market with thoroughly tested properties and effectiveness that reduce the losses caused by wood fungus.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	

Justification for confidential attachment	

Comment 58	**2021/09/06 09:50**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	United Kingdom
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	This would seriously affect us from being able to carry out our work and as a company with 30 employees cause as serious issue.
Product Type	8
Alternative Identity and Properties	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Technical Feasibility	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Economic Feasibility	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]

Hazards and Risks of the Alternative	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Availability	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Conclusion on suitability and availability of the alternative	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Other comments	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 59	**2021/09/06 10:15**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]

Country	Poland
Name of organization/institution	Union of Employers - Manufacturers of Building Materials
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The use of wood based construction materials will play an important role to achieve European objectives of net greenhouse gas emission reduction in the near future. The 55% reduction target by 2030 as well as the climate neutrality objective by 2050 will require a significant increase in "nature-based solutions" as stated in the Renovation Wave strategy of the European Union. To achieve this increase in "nature-based" construction products, wooden products will have to remain reliable, energy efficient and long-lasting, and will therefore require wood preservatives to maintain the structural integrity of their components. Propiconazole is currently the most used Active Substance in Biocidal Products preventing the growth of wood-rotting, wood-destroying and wood-discoloring fungi.
Product Type	8
Alternative Identity and Properties	There are currently no one-to-one alternative to the use of Propiconazole in Biocidal Products. However, Propiconazole is usually used in combination with other Active Substances in order to reached the required efficacy against all wood fungi. Alternatively, more durable wood species might be used in construction products to limit the use of wood preservatives. Regarding alternative Active Substances and alternative Biocidal Products, the building industry has to meet multiple efficacy criteria to be able to use a given wood preservative solution. The main requirements to find a suitable Biocidal Product are the efficacy against wood-discoloring fungi ("blue stains"), the efficacy against wood-destroying and wood-rotting fungi, the efficacy against insects (in some countries), the compatibility with Use Class 3 (acc. To EN 335) for e.g. window products, the absence of Substance of Very High Concern (SVHC), and the authorization of the Biocidal Product in the manufacturing country. Besides, compatibility with other materials are needed for several industrial products like windows and doors manufacturing: the absence of corrosion when in contact with nails or screws, the absence of VOCs (Volatile

	Organic Compounds) and the absence of migration through coating or paint are some of the main industry specific requirements used for the choice of Biocidal Products. To date, few Biocidal Products can meet these requirements and almost exclusively use a combination of Propiconazole, Tebuconazole and IPBC. Tebuconazole is also candidate for substitution in September 2022 (earlier than Propiconazole) and IPBC alone cannot meet efficacy against wood-destroying and wood-rotting fungi (efficacy against blue stains only). Penflufen might also constitute another Active Substance in the near future but no Biocidal Product is currently authorized for Use Class 3 in PT8 (Wood Preservatives). Regarding biocidal-free alternatives, some specific wood species are naturally durable are do not require specific treatment against fungal attacks. However, these wood species are not available in sufficient quantities for the construction sector, are significantly more expensive and are mostly imported from outside Europe.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The main advantages of Propiconazole for wood preservation are its high efficacy against wood-destroying and wood-rotting fungi, as well as its strong compatibility with industrial processes (e.g. flow coat). One of the most critical technical challenge for the building material industry – besides the strict efficacy criteria – is the compatibility with other components and other materials. Most wood-based construction products use assembly and fixing systems such as screws, nails or glue. The compatibility with the material is critical to secure the structural integrity of the building and its components. Besides, several finishing aspects - paint, coating, lacquer – also require compatibility testing to avoid discoloration over time. All above-mentioned compatibility and aging criteria usually require testing over long periods of time (typically at least 3-5 years of outdoor exposure). Therefore, there is currently no suitable solution for the woodwork industry which, in the event of an future wood preservation solution, would still require 5 years of testing to approve the solution for long-lifespan building components.
Information above is confidential	
Justification for confidentiality	

Economic Feasibility	As described in the Technical Feasibility comment, and in the absence of one-to-one alternative Active Substance to Propiconazole, only durable wood species might be deemed suitable for use in construction materials. However, these wood species are available in very limited quantities and might introduce a significant risk of material shortage and associated price increase. Besides, durable wood species have to be imported from outside EU at a higher environmental cost, and present a higher risk to be sourced from less responsible forestry. In the event of ban of Propiconazole, manufacturers would be forced to use materials without a the appropriate wood preservative, therefore strongly reducing the expectable lifespan of products and requiring frequent replacement and maintenance (high financial impact for end-users).
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	In the event of a ban of Propiconazole, manufacturers would have to significantly increase the concentration of other Active Substances in their Biocidal Products (increasing the risk of exposure), without meeting the required efficacy against fungal attacks. Besides, the structural integrity of building materials would be compromised and create a risk for end-users (e.g. wood destroying fungi might compromise the integrity of window frame)
Information above is confidential	
Justification for confidentiality	
Availability	Only two Active Substances are currently available to prevent the growth of wood-destroying and wood-rotting fungi. Tebuconazole is currently suitable – when used in combination with IPBC – as efficient wood preservative for the building industry. However, its end of approval remains even shorter than Propiconazole (end of approval date for Tebuconazole: September 2022) and is used in fewer Biocidal Products. Penflufen, despites some promising characteristics for the industry, has not been Use Class 3 in Biocidal Product in any of the European countries.
Information above is confidential	
Justification for confidentiality	

Conclusion on suitability and availability of the alternative	Finally, based on today's available technologies, Propiconazole remains the cornerstone of wood preservative solutions. All alternative Active Substances are either about to expire (Tebuconazole) or not meeting the required efficacy (Penflufen, IPBC). Besides, Penflufen is not yet used in suitable Biocidal Products and would need – if available in the near future – to pass the authorization process before being used as wood preservatives. Alternative wood species are not available in sufficient quantities and have to be imported from outside EU at higher financial and environmental cost. Looking at currently available or future wood preservative solutions, a ban of Propiconazole would leave the industry without any acceptable solution to maintain the integrity of wooden construction products.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 60	**2021/09/06 10:27**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of	Confederation of Danish Industry, DI

organization/institution	
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The Confederation of Danish Industry – DI – is Denmark's largest, most representative, and most influential business and employers' organisation, covering manufacturing as well as service industries across sectors such as transport, energy, IT, health, trade and professional services. DI is a private business and employers' organisation representing approximately 18,000 companies in Denmark. Among those are both wood working industries, coatings and wood preservative manufacturers as well as 5,700 contractors and manufacturing companies within the building and construction sector.
Product Type	8
Alternative Identity and Properties	Wood preservatives (PT8) All wood products intended for outdoor use and humid conditions like windows and doors, fencing, decking, and cladding must be treated against fungal attacks. This especially accounts for products manufactured of soft wood, which is abundant in the northern Europe. Oils and primers containing active substances are needed for the treatment to protect wood against discoloring fungi, rotting, and destroying fungi, and in some geographic areas also against insects. Propiconazole is of great importance in PT8 products supplied for consumers, professional and industrial use for the application on e.g., exterior façade paneling, window frames, exterior doors, claddings, decking and fencing. Service life of products made of softwood is relatively short in an outdoor and humid environment if not treated with wood preservatives. A treatment with wood preservatives is necessary to obtain durable building parts and use wood as a sustainable building material. More than 40 actives substances are currently approved for different kinds of PT 8 products. However, no options exist among those substances to substitute propiconazole. Treatment products are currently based on propiconazole, either as the sole active ingredient or in a combination with tebuconazole (whose authorization period expires in September 2022) or in combination with IPBC. On the list of approved active substances some protect against insects, only, and cannot be used when aiming at a protection against wood-destroying fungi. Further, several of the approved

	substances are classified as carcinogenic or dislike hazard classifications, although they may be effective against fungicides, e.g. • Boron compounds (Repr. 1B, very soluble in water, leaching from wood) • Creosote (Carc. 1B, is vPvB and PBT, and can only be used in oil-based products) • Copper compounds (highly aquatic toxicity, persistent and discolors wood surfaces), Other approved substances are not efficient against wood decay. According to a member industry's research of possible and available alternatives no alternatives were found in a study carried out in 9 European countries (Austria, Belgium, Denmark, Finland, France, Norway, Sweden, the Netherlands). Alternatives to propiconazole-based products identified to be suitable for the treatment of wood for exterior uses all found to contain tebuconazole. So, for now, no suitable alternatives to the use of propiconazole or tebuconazole are readily available for manufacturers of wooden products in Product Type 8 as wood preservatives for outdoor use and outdoor and humid conditions. Tebuconazole is currently in the renewal process and will most likely also be classified Repr. 1 B, which doesn't make it a suitable candidate for substitution of propiconazole. Further, tebuconazole is less efficient and does not offer the same synergetic effects as propiconazole. According to our knowledge no new active biocidal substances are currently in the pipeline for approval leaving manufactures with a time horizon of probably up to 10 years for further development, testing and application for any substitutes.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Alternative technologies for wood preservation are currently being introduced to the market. However, both costs, limited availability as well as technical difficulties require these techniques to be matured – a realistic perspective would be that 5-10 years development could mature these technologies to be available for the relevant industries. Time for an approval process should be added to this time horizon. To avoid the need for wood preservation of natural softwood raised in Europe, hardwood species of European or tropical origin can be chosen. Such species have a natural high durability against fungi but is slower grown, will be associated with much higher costs and is of low availability. Further the need for transportation over long distances will have a negative impact on the products' sustainability and climate impact. The advantage of using local and regionally

	sourced softwood is the availability, reliable wood quality, transport distance, price, ease to process etc. explaining why hardwood species isn't used as a widespread choice in most sectors of the building sector. To ensure the durability of softwood applications in the humid climate in Europe, protection against fungal attack is needed. Manufacturers of windows, doors, fencing, decking, and cladding currently use propiconazole in combination with tebuconazole and/or IPBC to protect the timber. Using a combination of substances allows manufactures to keep the total amount of biocidal active substances at a minimum and to ensure a long service life contributing to a sustainable impact. Without this option, the industry would need to use other substances not yet re-evaluated at higher concentration levels, which would pose a greater risk of exposure. Research is needed to develop solutions suitable for biocidal treatment products that can be used at industrial level and that is compatible with other building materials (e.g., to prevent corrosion of screws and, stains on painted/treated surfaces etc.). A realistic optimistic case is that product development, testing and production at commercial level would require a process over 5 to 10 years.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	If a suitable wood preservative becomes unavailable, the value chain from native softwood to the processed wood products will be disrupted and will limit and to the lifespan of a building. Without a suitable wood preservative, the manufacturer of a construction product cannot guarantee the service life, and the service life must be expected to be significantly shorter which means more replacement and higher expenses. In case of non-renewal of propiconazole, manufacturers would be left without possibilities for biocidal treatment. The only alternative would be the production of less durable products or the closing down of operations. Switching to hardwood is costly and due to the low availability, an unrealistic solution. One of the top priorities for both EU and DI is to ensure a level playing field for European industry when protecting consumer's health and the environment from hazardous chemicals. DI reminds the Commission that banning some of the necessary active biocidal substances in building materials before alternatives have been found will push the balance in favourite for non-EU products. To ensure that building materials and parts of wood from non-EU countries fulfil the same standards when

	entering the European market will be difficult in this product area and will require a much stronger control and enforcement. The estimated total cost for developing a new wood preservative is minimum of 800 000 € for the manufacturer of the wood preservative related to the cost for efficacy, toxicity, ecotoxicity, stability and leaching tests, for R&D development, regulatory specialist resources, dossier building, BPR authorization fees. Further costs for sales- and marketing should also be added.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	There are no suitable alternatives to propiconazole on the market that pose a lower risk to human health or the environment. As mentioned above tebuconazole is currently in the renewal process and will most likely also be classified in the hazard class Repr. 1 B, which doesn't make it a suitable candidate for substitution of propiconazole.
Information above is confidential	
Justification for confidentiality	
Availability	There are no suitable alternatives to wood preservative available on the market.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	A background paper (see References) has been prepared by manufacturers of wood preservatives (PT8), industrial users of PT8 products and their organisations covering industrial, professional, as well of consumers use. The background paper addresses the use of propiconazole in superficial wood protection and industrial wood impregnation and provides the technical reasons for propiconazole to be an important active substance for the product type currently. Alternative technologies for wood preservation are currently being introduced to the market. However, costs, limited availability as well as technical difficulties these techniques require maturing and are not widely used. A perspective of 5-10 years might be realistic to mature these technologies.
Information above is	

confidential	
Justification for confidentiality	
Other comments	To avoid the need for wood preservation, an alternative type of wood could be prioritized. You could choose hardwood species of European or tropical origin where the heartwood part has a natural high durability against fungi, but such a choice will be associated with higher costs and much lesser availability. Further there will be sustainability aspects. It should be noted that in the aftermath of the Covid-19 pandemic restrictions, the industry is facing bottlenecks and logistic problems that make it increasingly difficult to source raw materials for industrial use, which, combined with a surge of the demand, is causing a rally of sawnwood prices to unprecedented levels. Limitations of propiconazole as preservative will only fuel that development. Please also note that it will require an enforced control and enforcement of imported goods to ensure that wood products imported to the EU fulfils the same standards in this area to protect citizens' health and the environment from hazardous chemicals.
Information above is confidential	
Justification for confidentiality	
References	The use of propiconazole in wood preservatives (PT 8) – background paper (2021) prepared by Træ- og Møbelindustrien, DI BYG, DI Dansk Byggeri, Vinduesindustrien, Dansk Industri og Danmarks Farve- og Limindustri (2021) https://www.danskindustri.dk/siteassets/medlemsforeninger/dfl/dfl-mener/aktuelle-emner/dfl_propiconazole-in-wood-preservatives_rapport_web.pdf
Attachments (non-confidential information)	dfl_propiconazole-in-wood-preservatives_rapport_web.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 61	**2021/09/06 11:16**

FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of organization/institution	Association of Danish Wood And Furniture Industries + DI Byggeri
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The Association of Danish Wood and Furniture Industries (Træ- og Møbelindustrien) and DI Construction Association (DI Byggeri) represents about 7.000 compagnies across the whole construction sector. We are therefore the biggest construction association in Denmark. With the increased political focus on CO2 reduction and use of sustainable building materials wood has become a key material in the building sector contributing to achieve the goals in the Danish strategy for sustainable buildings as well as the European Green Deal. The industry therefore has a key role in the development of a more sustainable construction economy. The two organizations therefore advocate for sustainable use of construction materials as an attractive way to achieve more sustainable buildings and constructions. We therefore also engage ourselves in securing substances that can protect wood products against wood decaying organisms in order to ensure a long service life of wood products which mainly are being used in wood for exterior applications.
Product Type	8
Alternative Identity and Properties	To ensure a long service life of wood products in exterior applications like windows, doors, fencing, decking and cladding often require protection against wood decaying organisms. In relation to this wood preservatives plays an important role. Propiconazole is one of only three active substances left under BPR which is relevant for protecting wood from fungal decay, wood discoloring fungi (“blue stains”), wood rotting and insects (in some countries). Wood preservatives are currently based on Propiconazole, often in a combination of Tebuconazole (with authorization period expiring in September 2022) or IPBC. Currently there are no suitable alternatives to the use of Propiconazole or

	Tebuconazole readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives). Market surveys conducted in 9 different European countries (Austria, Belgium, Denmark, Finland, France, Norway, Sweden, the Netherlands) found no alternatives to propiconazole-based products to treat wood for industrial use that are also free of Tebuconazole. In order to develop and authorize alternative wood preservatives, we estimate a minimum of 5 to 10 years of research. Naturally durable wood species such as European Oak and tropical hardwood can act as alternative, but availability is scarce due to limited quantity and high price. For this reason, hardwoods cannot represent an alternative to softwoods (such as pine or spruce which needs a treatment with wood preservation to ensure a long service life of the product).
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	To ensure a long service life of wooden applications in a Danish humid climate, manufactures of windows, doors, fencing, decking and cladding need to protect the products against fungal attack. Currently they are using Propiconazole in combination with Tebuconazole and/or IPBC. The combination of different substances is essential to keep the total amount of substances to a minimum. Using only a single substance would need more of the substance to ensure it to be effective. The industry has over the years been optimized the impregnation processes to minimize consumption and to prevent leach to the environment. This includes careful handling in closed systems as well as treatment on finished components, reducing risk of leach during the manufacturing process. If Propiconazole does not get a renewal, and if the same happens to Tebuconazole after expiry of current approval in September 2022, the industry will have no substance to impregnation as of January 2023. For this reason, we call for reapproval of Propiconazole for at least of 5 to 10 years to develop solutions suitable for biocidal treatment products that can be used at industrial level.
Information above is confidential	
Justification for confidentiality	

Economic Feasibility	If Propiconazole does not get a renewed approval, manufacturers will have no biocidal treatment to ensure long service life of wood applications in the outdoor environment. As a result, the industry will produce less durable products or simply stop their production. Naturally durable wood species such as oak and tropical hardwoods can act as an alternative to treated softwoods however to a limited extend due to cost and availability. It is estimated that naturally durable hardwoods represents less than 5% of timber used in the window and door industry as well as for fencing, decking, and cladding. The forest resource of these species is not available to increase this share to a satisfying level.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Currently manufactures of wooden applications exposed to outdoor and humid conditions are using Propiconazole in combination with Tebuconazole and/or IPBC. The combination of these different substances is essential to keep the total amount of substances to a minimum. Using only a single substance would need more of the substance to ensure it to be effective. Combination of substances is thus allowing manufacturers to significantly reduce the concentration and the quantity of substances. Without this option, the industry would need to use other substances at higher concentration levels, which would pose a greater risk of exposure.
Information above is confidential	
Justification for confidentiality	
Availability	According to our information there are no immediate alternatives available to propiconazole. For this reason, we call for reapproval of Propiconazole for at least of 5 to 10 years to develop solutions suitable for biocidal treatment products that can be used at industrial level. The substance Penflufen may act as alternative to control fungal decay of wood. However the products based on Penflufen do not meet the industry requirements for the time being.
Information above is confidential	
Justification for confidentiality	

Conclusion on suitability and availability of the alternative	With the increased political focus on CO2 reduction and the use of sustainable building materials, wood has become a key material in the building sector. It is a material that has traditionally been used in construction of loadbearing structures and for exterior uses, joinery for windows and doors, for claddings, decking and fencing. To ensure a long service life the use of wood at exterior applications will require protection against attack of wood decaying organisms. In this respect wood preservatives play a key role, always in combination with good construction practice and often with application of a topcoat. All active substances for wood preservatives will in the coming years be reassessed according to BPR. We are concerned that negative approval decisions would be made for most of them. Now there are only three active substances left that are relevant for use in surface coatings for protecting wood from fungal decay and blue stain. The availability of a range of active substances is essential to avoid the risk of building up resistance in the fungi. Today, most wood preservatives on the market contains propiconazole, especially in combination with IPBC. This combination of active substances is used both in industrial penetrating processes and superficial treatment sold for both industrial use but also to consumers and professional joiners and painters. Presently, there are only a few BPR approved wood preservatives for superficial use on the market that does not include Propiconazole. If the approval of propiconazole is extended for a sufficient time period, the industry has a possibility to find viable alternative solutions that can be tested and authorised for use in the wide range of wood applications that needs treatment in order to protect and prolong the lifetime of the materials. New alternative biocides may be developed on a longer term but with the limited selection of available biocides it is uncertain if this could be successful. It is still uncertain if alternatives could become available or if the new wood preservation products would be suitable for industrial production and the market requirements. We are only aware of one new active substance approved, penflufen, that may be used in PT8 products in the future. For manufactures and users of wood preservatives a transition to a possible substitute to propiconazole would take at least 5 years as both products and processes needs to be thoroughly tested in terms of both durability and possible environmental downsides. In addition, other obstacles may arise. Wood preservatives usually contain more than one active substance, and there is a risk that one of the active substances, which is also being re-evaluated, will have to be phased out during the

	process and inevitably phase out the wood preservative product as such. Several alternative technologies to the use of biocides have been introduced to the market, none of which are widely used. These new technologies could be matured, but the time frame for this is at least 5-10 years. Further, they can mainly be used for cladding and decking. If approval of propiconazole is not renewed it is expected that most of the relevant authorized wood preservatives will disappear from the market. The amount of authorized wood preservatives will be reduced to very few products. That will leave most of the industry without any options for the time being. Maintaining and expanding the use of the sustainable native material wood in the construction sector is an important contribution to achieving the goals in the European Green Deal. It must therefore be avoided that the properties of wood products deteriorate due to insufficient protective measures. If not, there is a risk that wood as a sustainable building material will be replaced by other non-sustainable or less sustainable materials, such as plastic and metal (steel, aluminium) but also wood plastic composites (WPC). It must be emphasized that there is a need for securing a certain transition period to implement new alternative solutions. At the present there is a high probability that alternatives are not equivalent or will not be available in time, thus endangering both the continuation of production and the quality of the wood products and the constructions. In the mid and long term, this could lead to a reduction in the use of wood which stands in opposition to a societal desire for reduction of CO2 emission and a shift to sustainable building materials. For the above reasons we strongly recommend that propiconazole is renewed for a new fiveyear period.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	The use of Propiconazole in wood preservatives (PT 8) – background paper (2021) prepared by Træ- og Møbelindustrien, DI BYG, DI Dansk Byggeri, Vinduesindustrien, Dansk Industri og Danmarks Farve- og

	Limindustri (2021)
Attachments (non-confidential information)	propiconazole-in-wood-preservatives_rapport.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 62	**2021/09/06 13:10**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of organization/institution	Danish Technology Institute
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Propiconazole is widely used for wood preservation to control wood rotting fungi (brown and with rot) and as a co-biocide for controlling blue stain fungi. It is preferably used in Use Class 3 with addition of Use Class 2 and 4. Industries which are using propiconazole are the wood impregnation industry (full cell impregnation) and the coating industry (surface treatment methods). Currently, 45 active substances (a.s.) are listed on the ECHA website for PT8 use (wood preservation). Of these, only 14 can be used for fungal control in Use Class 3, because the remaining 31 a.s. either have registrations that are expired, or will soon expire; or are new active substances with approval in progress; or are candidates for substitution; or are not approved for Use Class 3; or are Insecticides. In the impregnation industry where the main a.s. is copper (or copper variants) the following 10 biocides are used as co-biocide: DDACCholride, DDACcarbonate, Polymeric betaine, Bardap 26, Tebuconazole, Boric acids, Propiconazole, DDAC, Penflufen, ADBAC/BKC. In this group propiconazole has a

	minor influence and there are still 9 possible substitutions for propiconazole. Some of the listed a.s. are challenged as well e.g. Boric acid and tebuconazole. This industry has the primary focus on controlling wood rotting fungi. Mould fungi and blue stain is secondary. The coating industry uses the following 5 biocides: Propiconazole, tebuconazole, IPBC, penflufen and to a smaller extent DCOIT. Usually, Biocidal Products based on these a.s. contain a mixture of IPBC and propiconazole. The other a.s. listed under ECHA for PT8 use have different issues. Copper is green (discoloration of the coating), boron (boron-complexes) are water soluble and fast leaching, and therefore do not give long term durability. Coatings for wood in Use Class 3 are always anionic. Therefore, it is not possible to use the cationic a.s. since the paint will get lumpy. The CLP classification of DCOIT prevents it's use for private users. Since the coating industry is using their PT8 products for both Industry, professionals, and private users, DCOIT is to a large extent not an option. Therefore, with propiconazole included there are only 4 options left for PT8, Use Class 3 for controlling wood rotting fungi and blue stain. Tebuconazole is also a candidate for substitution. This has been known for the last 10 years and therefore the coating industry has limited the use of tebuconazole. Penflufen is a new a.s. There is only limited knowledge of using penflufen. No field test studies for evaluation of long-term durability have been performed. Implementing a new unknown a.s. poses a huge risk. The experiences which the Danish Technological Institute have from laboratory testing (EN 113 – wood rotting fungi and EN 152 – blue stain) is that penflufen has good efficacy against wood rotting fungi and in addition there is a good synergy between IPBC and penflufen concerning wood rotting fungi, but not concerning blue stain. In addition, we have no experiences concerning long-term durability. The Danish Technological Institute have field testing areas in Malaysia and Denmark which include more than 3,000 test samples and is one of the most experienced test institute in EU concerning field testing. Concerning blue stain, the Danish Technological Institute see increasing difficulties concerning controlling blue stain. Blue stain is an important factor especially for the window manufacturing industry due to transparent coatings being widely used. Blue stain discoloration fungi will degrade the coating as well. IPBC is a fragile molecule. It degrades when exposed to UV, heat above 40ºC and metal ions. It has good efficacy against wood rotting fungi and blue stain. Since it is easily degradable it needs a co-biocide. Propiconazole is an important co-biocide for IPBC especially concerning blue-

	stain. Using IPBC as the only a.s. to control blue stain is difficult. It is needed in large quantities which rises concern to human health and it will color the coating yellow as well. The coating industry is using PT8 Biocide Products as a primer. A topcoat will always be applied (usually between two and three layers) after applying the PT8 biocide product which decrease the leaching of the a.s. to the environment (risk mitigation). The coating Industry and their customers (Industry, professionals and private users) will be highly challenged if propoconazole is taken of the market. There are no suitable alternatives to propiconazole. Development of a new biocide product: It usually takes a minimum of 5 years to develop and test a PT8 product which have efficacy against wood rotting fungi and blue stain. In many cases it takes even more time due to that field testing is necessary. For the copper impregnation industry the +5 years developing time is to insure the long-term durability. The coating industry also needs to ensure long-term durability of the wood, but in addition the durability of the coating is equally important to protect the wood. The interaction between the PT8 Biocide Product and the coating needs to be investigated as well with durability field testing in the climate zone in which it will be used. For the coating industry, a PT8 primer can influence the service life of the coating if there is a conflict between the PT8 primer and the coating or if blue stain is able to grow on the surface of the wood. The most common reason for decreased durability of a coating (flacking and cracking) is that mould/blue stain is growing underneath the coating (on the wood). Therefore, field testing is important before placing a new PT8 product on the market. Field testing takes 5+ years up to 15 years. Resistance: By decreasing the number of a.s. available to the industry the possibility of occurrence of tolerant or even resistant microbiology is increasing. Cupper (and cupper variants) tolerant wood rotting fungi is an increasing challenge.
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	

Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	The coating Industry and their customers (Industry, professionals and private users) will be highly challenged if propoconazole is taken of the market. There are no suitable alternatives to propiconazole. For the impregnation industry using cupper (or copper variants) there are suitable alternatives. But they are highly dependent on the co-biocides since they are facing increasing challenges with cupper tolerant wood rotting fungi. By decreasing the number of a.s. the possibility of occurrence of tolerant or even resistant microbiology is increasing.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	

Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 63	**2021/09/06 13:52**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	United Kingdom
Name of organization/institution	British Coatings Federation
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	
Product Type	8
Alternative Identity and Properties	
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	
Information above is	

confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	
Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	BCF Submission to the Public Consultation on the potential substitution of propiconazole.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 64	**2021/09/06 13:54**
FirstName	[redacted]

FamilyName	[redacted]
Email	[redacted]
Country	Sweden
Name of organization/institution	The Swedish Paint and Adhesive Association, SVEFF
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The members of the Swedish Paint and Adhesive Association, SVEFF, manufactures and puts different wood preservatives on the European market. Products that are affected by this proposal are different surface treatment products against rotting, fungi, and blue staining fungi, such as wood oils, impregnating oils and primers etc. The products are supplied for consumer, professional and industrial use and are applied to façade paneling, carpentry, windows, doors, fences etc.
Product Type	8
Alternative Identity and Properties	For the producers of wood preservative products that are applied as surface treatment there are no suitable alternative active substances to Propiconazole. According to BPR there are more than 40 approved substances in PT 8. However, several substances are only approved for effects on different insects and are not possible to use for wood preservation. There are several Boron compounds and Creosote in the list of approved substances, but they are no better than propiconazole due to their classification as CMR substances. Copper compounds are on the approved list as well but cannot be used due to their toxicity to the environment as well as their likelihood to discolor the wooden surface. Some substances are only effective on blue stain fungi and not regarding wood decay and some substances are simply not compatible with waterborne paint systems, for instance quaternary ammonium compounds. For the paint manufacturing industry this leaves 5 different active substances that can be used in wood preservatives for surface treatment. Those substances are Propiconazole, Tebuconazole, IPBC, DCOIT and Penflufen. Tebuconazole is under evaluation and DCOIT has very limited use in wood preservation. IPBC is frequently used in combination with Propiconazole but is not an alternative for single use. It is

	not stable and can cause yellowing of surfaces if used in the higher concentrations that would be needed if used alone. Penflufen is a new substance of which we have very little experience, and there are currently no useful BPR-approved biocidal products that contain penflufen. There is a need for a holistic view of the possible ways to achieve wood preservation, where all active substances are included in the review. There is also a need to give sufficient time for industry to find alternatives in the future.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	For the manufacturers of wood preservation products, Propiconazole is the most effective alternative for use as a PT 8 active substance. Propiconazole is effective against fungal decay as well as blue stain, even from low concentrations. One advantage of propiconazole is that it can be used in water-based paint systems and that it can easily be combined with other ingredients. It does not alter the color and is not corrosive towards screws and nails. Paint systems incorporating Propiconazole still has good painting properties when applying the coating.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	The estimated cost for developing a biocide product for wood preservation, PT8, is a minimum of 800 000 €. It takes several years to go through the necessary steps in product formulation and authorization. The legally demanded efficacy tests, leaching tests and stability tests takes several years, why it is not possible to rush through the process. There is also an economic aspect regarding the service life of wooden products such as windows, fences etc. If there are no wood preservatives the service life is significantly shortened and there will be a need for more frequent replacements of wood products. This will add to the cost of these products. It is more resource efficient to make the wood products last as long as possible. Less efficient wood preservation products will also mean higher frequency for repainting of wooden surfaces which is not positive in an economic aspect. We believe in future use of wood as a sustainable building material for houses and other wooden applications, but that is provided that suitable

	wood protection with propiconazole is available.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	There are no suitable alternatives on the market that pose a lower risk to human health or the environment while still maintaining the same efficacy.
Information above is confidential	
Justification for confidentiality	
Availability	There are no suitable alternatives available on the market.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	There are no suitable alternatives available on the market.
Information above is confidential	
Justification for confidentiality	
Other comments	-
Information above is confidential	
Justification for confidentiality	
References	Dansk Industri, Danmarks Farve- og Limindustri, Vindues industrien etc. (2021) "The use of Propiconazole in wood preservatives (PT 8)"
Attachments (non-confidential information)	DFL_Propiconazole in wood preservatives_rapport_WEB.pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 65	**2021/09/06 13:59**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Denmark
Name of organization/institution	Teknos Group Oy
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Teknos is a global coatings company serving a wide variety of industries, including the industrial wood sector. This sector is one of our best-established markets, transformed from the introduction of a single water-borne wood paint in 1960 to the global wood coatings portfolio offered today. Overall, across all sectors, Teknos 2020 net sales reached €384M. As a trusted supplier of coatings for wood protection, Teknos customers rely on us to develop paints that increase the longevity of their broad range of products. At the heart of this longevity is our TEKNOL AQUA range of wood preservatives that protect against wood destroying and discolouring fungi such as blue stain. The active ingredient is a highly effective and optimised amount of propiconazole which is critical to the range's success against wood fungi. The Teknos wood preservatives portfolio has been on the market for more than 20 years. During that time those products have protected millions of square meters of wooden products all over the world, expanding their lifecycles, reducing their presence in landfill and encouraging the use of wood as a sustainable construction material. These undeniable environmental and societal advantages are possible due to the effectiveness of propiconazole in wood preservatives. While we fully support the reduction of harmful ingredients and our R&D teams have been working on alternatives to propiconazole for a number of years, we recommend prolongation of at least 10 years while viable alternatives are being developed.
Product Type	8

Alternative Identity and Properties	[redacted]

	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Technical Feasibility	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]

Economic Feasibility	[redacted]
Information above is confidential	on
Justification for confidentiality	[redacted]
Hazards and Risks of the Alternative	Not relevant – there is no alternative
Information above is	

confidential	
Justification for confidentiality	
Availability	Not relevant – there is no alternative
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Not relevant – there is no alternative
Information above is confidential	
Justification for confidentiality	
Other comments	Wood is a widely used material and it comes in many different qualities. Most often wood need protection to extend the durability of the wood as it is prone to degradation by microorganisms and insects, and exposure to harsh weather makes protection even more important (governed by performance standards and mandatory country building regulations). Wood treated by alternative technologies to PT8 has been developed (e.g. Accoya) but this wood has other properties and is not always suitable for a certain purposes. Much effort is put into minimising leaching of active substance from PT8 treated wood as well as securing maximum stability and efficiency of the substances. We ask for a holistic approach in this evaluation of substitution and consideration put to materials lifecycle, wood availability and global sustainability.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	DFL_Propiconazole in wood preservatives_rapport_WEB.pdf
Attachments (confidential information)	[redacted]
Justification for confidential	

attachment	

Comment 66	**2021/09/06 14:16**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Finland
Name of organization/institution	Finnish Wood Preserving Association
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	This statement is produced in response to ECHAs public consultation request on potential candidates for substitution – Product type PT08 / Propiconazole, used in the EU an outside EU for the protection of wood. Propiconazole is an active substance that meets the criteria for substitution under Article 10(1) of the Biocidal Products Regulation (BPR).
Product Type	8
Alternative Identity and Properties	There is only a very limited number of alternative fungicides listed in PT 8 (wood preservatives) available for Propiconazole. Compared to most other fungicides listed in PT8, Propiconazole has a preferred efficacy spectrum since it is active against wood destroying and wood discolouring fungi at relatively low concentrations. Propiconazole is a preferred combinatorial fungicide to create formulations with a broad efficacy range. In some cases, mixtures of fungicides containing propiconazole show synergistic effects, resulting in an overall lower content of biocides needed. The feasibility of the different substances is well described in preservative manufacturers statements (MBCC Group and Lonza Wood Pretection)
Information above is confidential	
Justification for confidentiality	

Technical Feasibility	The potential of propiconazole substitutes is being explored extensively by substance manufactures. The Finnish Wood Preserving Industry welcomes all new, effective and safe preservatives that are better for health and the environment than their predecessors. We also want to emphasize, that in order to guarantee end-user safety and confidence in the product, the performance, the usability and the quality of new substances and combinations must be demonstrated in a versatile manner (field tests) before being placed on the market. The EU approval process for new substances is slow and there is no certainty of success. Availability of approved substitute substances must be fully guaranteed before propiconazole is banned. The competitiveness of climate-friendly wood in long-life and absolute safety structures might be affected if propiconazole would be discontinued before proven good replacement products were available. We estimate this would damage the credibility of wood products and the competitiveness of the wood industry.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	We expect that developing new wood preservatives with actives other than propiconazole will result in higher prices of the preservatives. The end-users will have to pay higher prices for the protected wood. This will probably affect the demand and the competitiveness of climate-friedly wood products in demading outdoor conditions.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	The Finnish Wood Preserving Association estimates there is no alternative active substance available for the replacement of Propiconazole under PT8-conditions. In the majority of applications propiconazole based products are very hard to replace due to the broad efficacy spectrum of Propiconazole from relevant wood destroying to wood disfiguring fungi at relatively low doses and acceptable costs. Propiconazole meets the criteria for substitution, but we want also to remind that the risks of propiconazole are well known. However, due to a lack of long-term experience and reference history it is impossible to assess the alternatives with their unknown risks.

Information above is confidential	
Justification for confidentiality	
Availability	
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	The Finnish Wood Preserving Association estimates more time is needed in order to allow preservative manufacturing industry to develop and test potential substitutes with better efficacy and toxicological profiles. More time is needed also to get BPR-approvals for new products.
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 67	**2021/09/06 16:09**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]

Country	Netherlands
Name of organization/institution	Verduurzaamd Hout Nederland
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	A construction material, provided and renewable by Nature, with predictable performance, taking carbon from the atmosphere and locking it away for decades, with low energy demand and a feel good aesthetic, appreciated by almost everyone – that's treated wood. Wood is part of the bioeconomy, can be sourced responsibly, is a flexible and adaptable material that can be used efficiently and aligns with the concept of a circular economy. At the end of its life wood can be reused in a cascading process of uses, recycling or recovery of energy. Wood is consequently the only truly renewable construction material. Apart from a few, mainly tropical species, untreated wood products can be vulnerable to insect and fungal attack and resulting bioterioration. This compromises timber's technical performance and can mean economic loss. It also impacts its sustainability and circular economic credentials. It can lead to early product failure, premature disposal and consequent release of carbon. However, modern wood science can accurately predict the likely performance of wood species in their various uses based on their structural characteristics, assuming best practice in design, construction and maintenance. Taking into account the environment the wood is used in and performance demanded enables correct specification of protection required. Wood durability can be increased by applying and impregnating substances that provide added longevity and limit or prevent biodeterioration. This helps underpin both market confidence in timber's performance and sustainability. In Europe, these substances are governed and authorized for use under the Biocidal Products Regulation or equivalent national legislation. These address their potential health, safety and environmental impacts. Preservative products that improve wood's biological durability and moisture resistance generally require use of chemicals. They are applied under very strict controls in closed systems in conformance with European and national regulation. Pressure-treated timber for construction, agriculture, landscaping, garden products, marine, railway and many other applications enjoys an extended service

	life. Life cycle assessment has also shown that it offers superior environmental characteristics over alternative non-wood materials.
Product Type	8
Alternative Identity and Properties	All wood products intended for Use Class 3 as defined in EN 335 (i.e., situations in which the wood-based product is exposed to the weather) like windows and doors, fencing, decking and cladding must be treated against fungal attacks. Active substances are needed against wood discoloring fungi ("blue stains"), wood rotting and wood destroying fungi, insects (in some countries). Treatment products are currently based on Propiconazole, with or without a combination of Tebuconazole (whose authorization period expires in September 2022) or IPBC. At the moment, no suitable alternatives to the use of Propiconazole or Tebuconazole are readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives). In particular, research conducted in 9 different European countries (Austria, Belgium, Denmark, Finland, France, Norway, Sweden, the Netherlands) failed to identify alternatives to propiconazole-based products to treat timber for industrial use that are also free of Tebuconazole. Research is thus needed to develop and authorize alternative wood preservatives, although results cannot be expected in the short term, but only in 5 to 10 years as a best-case scenario. Some alternative wood species and materials are naturally durable towards wood-destroying fungi, (e.g. the heartwood of White Oaks), but their availability on the market is very scarce due to quantity and price limitations. As such, hardwoods cannot represent for the moment a viable market alternative to softwoods (such as pine or spruce), which on the other hand, require impregnation with active substances.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	To ensure the durability of wooden applications in the European humid climate, protection against fungal attack is needed. Therefore, manufacturers of wooden applications, such as windows and doors, fencing, decking and cladding are currently using the approved Active Substance (AS) Propiconazole in combination with one or two other Active Substances (Tebuconazole and/or IPBC) when impregnating timber. The combination is essential to keep the total

	amount of Active Substances at a minimum, limit the concentration of impregnation product and at the same time ensure a long service life for the windows and doors. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the woodworking industry would be left without any option of impregnation as of January 2023. In efforts to find alternatives, long-term tests over years need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical application. The process of product development, testing and production at commercial level would take at least 5 to 10 years.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, there is no alternative active substance. Without adequate alternatives (active substances and wood preservatives), the service life of the most important wood species and their wood products (e.g. windows, fences, doors) is shortened significantly. This leads to a more frequent replacement of such products with the ensuing high cost for end users. The positive carbon footprint effect of wood would be reduced. More expensive wood species of limited availability or alternative – less suitable – building materials would have to be used instead [4]. Non-availability of wood preservatives with propiconazole disrupts the entire existing value chain from native softwoods to processed wood products. Propiconazole is of outstanding importance as a preservative for lumber against wood-discolouring fungi (blue stain, sapstain and mould). Blue-stained wood cannot be marketed and causes immense economic losses. It is to be noted that already now, in the aftermath of the Covid-19 pandemic restrictions, the industry is facing bottlenecks and logistic problems that make it increasingly difficult to source raw materials for industrial use, which, combined with a surge of the demand, is causing a rally of sawnwood prices to unprecedented levels.
Information above is confidential	

Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (fungicidal active substances), no risk and hazard assessment can be carried out.
Information above is confidential	
Justification for confidentiality	
Availability	Other fungicides covering the broad range of applications of propiconazole are not available. There is no naturally durable heartwood in sufficient quantities. Beside the aspect of availability, tropical wood is also critical from an ecological viewpoint. Chemically and thermally modified wood is not available in large quantities. The technical equipment of existing impregnation plants cannot be converted to the production of modified wood, since completely different chemicals and technologies are required for this.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Considering the unprecedented consequences of the ban of Propiconazole for the use of weather exposed timber applications like timber windows and doors, fencing, decking and cladding, the absence of alternative biocidal products and the limited risk of leaching in the environment, we call for a renewal of the approval of Propiconazole until an equivalent substitute is available, tested and assessed for use, for the following reasons: • There are currently no suitable alternatives for use in manufacturing of windows and doors, fencing, decking and cladding: Out of 4 studies conducted in 9 countries, no impregnation product free from Propiconazole and Tebuconazole was deemed suitable for industrial needs. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the industry would be left without any option of impregnation as of January 2023. • The approval process of the Biocidal Product Regulation requires 5-10 years before a new Active Substance can be used in wood impregnation products. • New alternative solutions and processes have to be thoroughly tested for their health and environmental properties: Any wood preservation/protection solution placed on the market

	requires the durability of windows and doors to be tested for at least 5-10 years. Hence, the European wood preservation industry requires a certain transition period to implement new alternative solutions
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 68	**2021/09/06 16:19**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Netherlands
Name of organization/institution	het Centrum Hout
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	A construction material, provided and renewable by Nature, with predictable performance, taking carbon from the atmosphere and locking it away for decades, with low

	energy demand and a feel good aesthetic, appreciated by almost everyone – that's treated wood. Wood is part of the bioeconomy, can be sourced responsibly, is a flexible and adaptable material that can be used efficiently and aligns with the concept of a circular economy. At the end of its life wood can be reused in a cascading process of uses, recycling or recovery of energy. Wood is consequently the only truly renewable construction material. Apart from a few, mainly tropical species, untreated wood products can be vulnerable to insect and fungal attack and resulting bioterioration. This compromises timber's technical performance and can mean economic loss. It also impacts its sustainability and circular economic credentials. It can lead to early product failure, premature disposal and consequent release of carbon. However, modern wood science can accurately predict the likely performance of wood species in their various uses based on their structural characteristics, assuming best practice in design, construction and maintenance. Taking into account the environment the wood is used in and performance demanded enables correct specification of protection required. Wood durability can be increased by applying and impregnating substances that provide added longevity and limit or prevent biodeterioration. This helps underpin both market confidence in timber's performance and sustainability. In Europe, these substances are governed and authorized for use under the Biocidal Products Regulation or equivalent national legislation. These address their potential health, safety and environmental impacts. Preservative products that improve wood's biological durability and moisture resistance generally require use of chemicals. They are applied under very strict controls in closed systems in conformance with European and national regulation. Pressure-treated timber for construction, agriculture, landscaping, garden products, marine, railway and many other applications enjoys an extended service life. Life cycle assessment has also shown that it offers superior environmental characteristics over alternative non-wood materials.
Product Type	8
Alternative Identity and Properties	All wood products intended for Use Class 3 as defined in EN 335 (i.e., situations in which the wood-based product is exposed to the weather) like windows and doors, fencing, decking and cladding must be treated against fungal attacks. Active substances are needed against wood discoloring fungi ("blue stains"), wood rotting and wood destroying fungi, insects (in some countries). Treatment

	products are currently based on Propiconazole, with or without a combination of Tebuconazole (whose authorization period expires in September 2022) or IPBC. At the moment, no suitable alternatives to the use of Propiconazole or Tebuconazole are readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives). In particular, research conducted in 9 different European countries (Austria, Belgium, Denmark, Finland, France, Norway, Sweden, the Netherlands) failed to identify alternatives to propiconazole-based products to treat timber for industrial use that are also free of Tebuconazole. Research is thus needed to develop and authorize alternative wood preservatives, although results cannot be expected in the short term, but only in 5 to 10 years as a best-case scenario. Some alternative wood species and materials are naturally durable towards wood-destroying fungi, (e.g. the heartwood of White Oaks), but their availability on the market is very scarce due to quantity and price limitations. As such, hardwoods cannot represent for the moment a viable market alternative to softwoods (such as pine or spruce), which on the other hand, require impregnation with active substances.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	To ensure the durability of wooden applications in the European humid climate, protection against fungal attack is needed. Therefore, manufacturers of wooden applications, such as windows and doors, fencing, decking and cladding are currently using the approved Active Substance (AS) Propiconazole in combination with one or two other Active Substances (Tebuconazole and/or IPBC) when impregnating timber. The combination is essential to keep the total amount of Active Substances at a minimum, limit the concentration of impregnation product and at the same time ensure a long service life for the windows and doors. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the woodworking industry would be left without any option of impregnation as of January 2023. In efforts to find alternatives, long-term tests over years need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical

	application. The process of product development, testing and production at commercial level would take at least 5 to 10 years.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, there is no alternative active substance. Without adequate alternatives (active substances and wood preservatives), the service life of the most important wood species and their wood products (e.g. windows, fences, doors) is shortened significantly. This leads to a more frequent replacement of such products with the ensuing high cost for end users. The positive carbon footprint effect of wood would be reduced. More expensive wood species of limited availability or alternative – less suitable – building materials would have to be used instead [4]. Non-availability of wood preservatives with propiconazole disrupts the entire existing value chain from native softwoods to processed wood products. Propiconazole is of outstanding importance as a preservative for lumber against wood-discolouring fungi (blue stain, sapstain and mould). Blue-stained wood cannot be marketed and causes immense economic losses. It is to be noted that already now, in the aftermath of the Covid-19 pandemic restrictions, the industry is facing bottlenecks and logistic problems that make it increasingly difficult to source raw materials for industrial use, which, combined with a surge of the demand, is causing a rally of sawnwood prices to unprecedented levels.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (fungicidal active substances), no risk and hazard assessment can be carried out.
Information above is confidential	
Justification for confidentiality	
Availability	Other fungicides covering the broad range of applications of propiconazole are not available. There is no naturally durable heartwood in sufficient quantities. Beside the aspect

	of availability, tropical wood is also critical from an ecological viewpoint. Chemically and thermally modified wood is not available in large quantities. The technical equipment of existing impregnation plants cannot be converted to the production of modified wood, since completely different chemicals and technologies are required for this.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Considering the unprecedented consequences of the ban of Propiconazole for the use of weather exposed timber applications like timber windows and doors, fencing, decking and cladding, the absence of alternative biocidal products and the limited risk of leaching in the environment, we call for a renewal of the approval of Propiconazole until an equivalent substitute is available, tested and assessed for use, for the following reasons: • There are currently no suitable alternatives for use in manufacturing of windows and doors, fencing, decking and cladding: Out of 4 studies conducted in 9 countries, no impregnation product free from Propiconazole and Tebuconazole was deemed suitable for industrial needs. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the industry would be left without any option of impregnation as of January 2023. • The approval process of the Biocidal Product Regulation requires 5-10 years before a new Active Substance can be used in wood impregnation products. • New alternative solutions and processes have to be thoroughly tested for their health and environmental properties: Any wood preservation/protection solution placed on the market requires the durability of windows and doors to be tested for at least 5-10 years. Hence, the European wood preservation industry requires a certain transition period to implement new alternative solutions
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	

Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 69	**2021/09/06 17:19**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	Kurt Obermeier GmbH & Co. KG
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Propiconazole is an active ingredient used for wood preservation with a long history. Main use of Propiconazole is for protection of domestic natural wood against wood destroying brown and white rot fungi for decades. Wood protection using chemicals is necessary in case of non-durable softwood (pine, spruce, larch, douglas fir and other) most of all – that's are the most important wood species in Europe. Most common final treated wooden products are building constructions like roof trusses, fences, carports or windows. Following EN 335 products containing Propiconazole are important in area for protection of wood to be used in use classes 2 and 3. Probably in all cases there are combinations with insecticides available. Especially dipping and spraying processes are the typical way of application and there is a need for Propiconazole containing wood preservatives.

Product Type	8
Alternative Identity and Properties	Use of other biocides: In sum, there are only a few of fungicides approved under BPR available. Some of these actives have disadvantages, for example less efficacy, non-colourless, not easy to formulate, no long-term experience concerning efficacy, in focus of BPR, corrosive properties, or other… In case of use class 4, there are copper containing wood preservatives available and it can be found different combinations using quaternary ammonium compound or Cu(HDO)2. Natural wood with high durability: In Europe there is no high durable wood specie available in quantities needed for building construction and with the same properties compared to softwood like spruce – main important wood specie in north and middle Europe´s forests. Modified wood: Due to modification, physical properties of wood is changed. This leads to lower adsorption of water during use and therefore reduced danger of fungal attack. On the other side, the production of modified wood leads to a non-uniform quality due to different dimension of wood, anisotropic properties of wood (sapwood ./. hardwood) and the processes used.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole containing wood preservatives have been introduced and have been tried and tested for decades. They can be formulated as water based products. To substitute that old known systems need time also from technical point of view – technical application, stability questions, processes, handling, corrosiveness, foam properties, drying properties of treated wood, use of additional paints and colours….
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At the moment, there is no alternative active substance for wood preservatives in area of use classes 2 and 3. Penflufen could be an alternative only in future
Information above is confidential	
Justification for confidentiality	

Hazards and Risks of the Alternative	No comments
Information above is confidential	
Justification for confidentiality	
Availability	Tropical natural durable wood is not sufficient available and it is also critical from ecological aspects. Chemically and thermally modified wood can not be produced in large quantities, due to the fact, existing impregnation plants cannot be converted caused by different chemicals and technologies.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	From our point of view there is no adequate alternative for protection of wood in use classes 2 and 3.
Information above is confidential	
Justification for confidentiality	
Other comments	Development of "alternative" active substances for wood protection takes a very long time and the outcome of research is uncertain. To get a marketable product needs years due to investigations regarding BPR/ tests regarding technical aspects and furthermore additional time for official evaluation of active and the final product.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential	

attachment	

Comment 70	**2021/09/06 18:11**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Austria
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	Wood is a sustainable material widely used in the European construction sector: load-bearing structures, carpentry work, cladding, indoor finishing, windows, doors etc… For timber windows and doors, Softwood species are used because of their material's strength compared to their weight, their good insulating properties, their ease to process, and their renewable and sustainable condition as a resource that stores CO2. The wood used for sashes and frames of windows and doors mostly comes from responsible forestry sourced as PEFC or FSC certified. The certified forests guarantee social, economic and environmental sustainability, hence an important mean to ensure the European forests' role as carbon sinks. The availability of timber provided by European forestry industry has turned wood into a popular primary material for many industrial sectors, among which the timber Window and Door industry plays a key role and follows strict processes to meet the properties demanded by construction standards.
Product Type	8
Alternative Identity and Properties	Currently, there are no alternatives that can be used directly by manufacturers of wooden products for Use Class 3, without a considerable time and development effort.
Information above is confidential	

Justification for confidentiality	
Technical Feasibility	The manufacturers are currently in the process of identifying alternative wood protection strategies and integrating them into production. However, no matter which solution is identified by the industry, the upscaling and commercialization process (including industry specific testing for windows and doors) would normally take at least 5-10 additional years from promising laboratory results to a well-functioning full scale, commercial process.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	There are no alternatives right now.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	All Sapwood, whether they come from Hardwood or Softwood, should be treated against fungal attacks. Due to resource limitations, Hardwood cannot be used as standard wood for the mass window and door market. For Softwood species available in Europe, Heartwood is available in limited shares. The use of modified timbers on a large scale would significantly increase the price index of timber windows and would have severe consequences on the environmental impact of the manufacturing due to an energy intensive process. Transportation would also harm the overall environmental impact.
Information above is confidential	
Justification for confidentiality	
Availability	There are no alternatives available right now.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	There are no economically feasible alternatives available right now.

Information above is confidential	
Justification for confidentiality	
Other comments	- Research into alternatives must be accelerated - Only for industrial use under safe conditions - Extension of approval to max. 5 years - Environmentally sound disposal must be ensured
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	[redacted]
Justification for confidential attachment	

Comment 71	**2021/09/06 18:13**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Belgium
Name of organization/institution	WEI - European institute of wood preservation
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	WEI is the European industry trade association representing the pressure treated wood industry. It gathers treatment companies and the suppliers to the sector. WEI promotes the benefits of treated timber whilst representing wood preservation industries within the European Union. A

	construction material, provided and renewable by Nature, with predictable performance, taking carbon from the atmosphere and locking it away for decades, with low energy demand and a feel good aesthetic, appreciated by almost everyone – that's treated wood. Wood is part of the bioeconomy, can be sourced responsibly, is a flexible and adaptable material that can be used efficiently and aligns with the concept of a circular economy. At the end of its life wood can be reused in a cascading process of uses, recycling or recovery of energy. Wood is consequently the only truly renewable construction material. Apart from a few, mainly tropical species, untreated wood products can be vulnerable to insect and fungal attack and resulting in biodeterioration. This compromises timber's technical performance and can mean economic loss. It also impacts its sustainability and circular economic credentials. It can lead to early product failure, premature disposal and consequent release of carbon. However, modern wood science can accurately predict the likely performance of wood species in their various uses based on their structural characteristics, assuming best practice in design, construction and maintenance. Taking into account the environment the wood is used in and performance demanded enables correct specification of protection required. Wood durability can be increased by applying and impregnating substances that provide added longevity and limit or prevent biodeterioration. This helps underpin both market confidence in timber's performance and sustainability. In Europe, these substances are governed and authorized for use under the Biocidal Products Regulation or equivalent national legislation. These address their potential health, safety and environmental impacts. Preservative products that improve wood's biological durability and moisture resistance generally require use of chemicals. They are applied under very strict controls in closed systems in conformance with European and national regulation. Pressure-treated timber for construction, agriculture, landscaping, garden products, marine, railway and many other applications enjoys an extended service life. Life cycle assessment has also shown that it offers superior environmental characteristics over alternative non-wood materials.
Product Type	8
Alternative Identity and Properties	All wood products intended for Use Class 3 as defined in EN 335 (i.e., situations in which the wood-based product is exposed to the weather) like windows and doors, fencing, decking and cladding must be treated against fungal

	attacks. Active substances are needed against wood discoloring fungi (“blue stains”), wood rotting and wood destroying fungi, insects (in some countries). Treatment products are currently based on Propiconazole, with or without a combination of Tebuconazole (whose authorization period expires in September 2022) or IPBC. At the moment, no suitable alternatives to the use of Propiconazole or Tebuconazole are readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives). In particular, research conducted in 9 different European countries (Austria, Belgium, Denmark, Finland, France, Norway, Sweden, the Netherlands) failed to identify alternatives to propiconazole-based products to treat timber for industrial use that are also free of Tebuconazole. Research is thus needed to develop and authorize alternative wood preservatives, although results cannot be expected in the short term, but only in 5 to 10 years as a best-case scenario. Some alternative wood species and materials are naturally durable towards wood-destroying fungi, (e.g. the heartwood of White Oaks), but their availability on the market is very scarce due to quantity and price limitations. As such, hardwoods cannot represent for the moment a viable market alternative to softwoods (such as pine or spruce), which on the other hand, require impregnation with active substances.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	To ensure the durability of wooden applications in the European humid climate, protection against fungal attack is needed. Therefore, manufacturers of wooden applications, such as windows and doors, fencing, decking and cladding are currently using the approved Active Substance (AS) Propiconazole in combination with one or two other Active Substances (Tebuconazole and/or IPBC) when impregnating timber. The combination is essential to keep the total amount of Active Substances at a minimum, limit the concentration of impregnation product and at the same time ensure a long service life for the treated timber. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the woodworking industry would be left without any option of impregnation as of January 2023. In efforts to find alternatives, long-term tests over years need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing

	wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical application. The process of product development, testing and production at commercial level would take at least 5 to 10 years.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, there is no alternative active substance. Without adequate alternatives (active substances and wood preservatives), the service life of the most important wood species and their wood products (e.g. windows, fences, doors) is shortened significantly. This leads to a more frequent replacement of such products with the ensuing high cost for end users. The positive carbon footprint effect of wood would be reduced. More expensive wood species of limited availability or alternative – less suitable – building materials would have to be used instead [4]. Non-availability of wood preservatives with propiconazole disrupts the entire existing value chain from native softwoods to processed wood products. Propiconazole is of outstanding importance as a preservative for lumber against wood-discolouring fungi (blue stain, sapstain and mould). Blue-stained wood cannot be marketed and causes immense economic losses. It is to be noted that already now, in the aftermath of the Covid-19 pandemic restrictions, the industry is facing bottlenecks and logistic problems that make it increasingly difficult to source raw materials for industrial use, which, combined with a surge of the demand, is causing a rally of sawnwood prices to unprecedented levels.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (fungicidal active substances), no risk and hazard assessment can be carried out.
Information above is confidential	
Justification for confidentiality	
Availability	Other fungicides covering the broad range of applications of

	propiconazole are not available. There is no naturally durable heartwood in sufficient quantities. Beside the aspect of availability, tropical wood is also critical from an ecological viewpoint. Chemically and thermally modified wood is not available in large quantities. The technical equipment of existing impregnation plants cannot be converted to the production of modified wood, since completely different chemicals and technologies are required for this.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Considering the unprecedented consequences of the ban of Propiconazole for the use of weather exposed timber applications like timber windows and doors, fencing, decking and cladding, the absence of alternative biocidal products and the limited risk of leaching in the environment, we call for a renewal of the approval of Propiconazole until an equivalent substitute is available, tested and assessed for use, for the following reasons: • There are currently no suitable alternatives for use in manufacturing of windows and doors, fencing, decking and cladding: Out of 4 studies conducted in 9 countries, no impregnation product free from Propiconazole and Tebuconazole was deemed suitable for industrial needs. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the industry would be left without any option of impregnation as of January 2023. • The approval process of the Biocidal Product Regulation requires 5-10 years before a new Active Substance can be used in wood impregnation products. • New alternative solutions and processes have to be thoroughly tested for their health and environmental properties: Any wood preservation/protection solution placed on the market requires the durability of windows and doors to be tested for at least 5-10 years. Hence, the European wood preservation industry requires a certain transition period to implement new alternative solutions.
Information above is confidential	
Justification for confidentiality	
Other comments	

Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 72	**2021/09/06 18:45**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Germany
Name of organization/institution	Deutsche Säge- und Holzindustrie Bundesverband e. V. (DeSH)
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	The German Sawmill and Timber Industry Association (DeSH represents the interests of the German sawmill and timber industry at national, European and international level. The association supports its 370 member companies from all over Germany in economic and industry policy matters and supports the continuous improvement of the economic and political framework conditions for the use of wood as a raw material. The association engages in dialogue with representatives from the media, business, politics and research. In implementing its goals, the German sawmill and timber industry stands for an environmentally compatible and value-adding use of wood as a material and bioenergy source. The German Woodworking Industry has a key role in the development of sustainable construction

	for a climate-neutral European economy and advocates for the use of timber construction as an immediate way to achieve long term carbon storage in products, as also recognised in the 2020 Circular Economy Action Plan. It is estimated that timber construction could store between 10 million to 700 million tons per year, while also reducing emissions due to the production of alternative materials such as steel and concrete, according to a recent Nature study. The importance of turning the construction sector from a carbon source to a carbon sink has also been recognised by President Von der Leyen in her State of the Union address to the European Parliament in September 2020, in the Renovation Wave Strategy, and more recently in the new EU Forest Strategy. The European wood sector is thus a key contributor to the objectives of the EU Green Deal and offers a positive example of circular bioeconomy in action: European timber processing and wood products manufacturing generates low to zero waste, as resulting by-products and residues can be used as raw material for other wood-based products and renewable energy source. Timber products are not only long-lasting, but can be easily repaired, re-purposed or recycled, thus prolonging the carbon storage effect.
Product Type	8
Alternative Identity and Properties	All wood products intended for Use Class 3 as defined in EN 335 (i.e., situations in which the wood-based product is exposed to the weather) like windows and doors, fencing, decking and cladding must be treated against fungal attacks. Active substances are needed against wood discoloring fungi ("blue stains"), wood rotting and wood destroying fungi, insects (in some countries). Treatment products are currently based on Propiconazole, with or without a combination of Tebuconazole (whose authorization period expires in September 2022) or IPBC. At the moment, no suitable alternatives to the use of Propiconazole or Tebuconazole are readily available for manufacturers of wooden products for Use class 3 in Product Type 8 (wood preservatives). In particular, research conducted in 9 different European countries (Austria, Belgium, Denmark, Finland, France, Norway, Sweden, the Netherlands) failed to identify alternatives to propiconazole-based products to treat timber windows and doors suitable for industrial use that are also free of Tebuconazole. Research is thus needed to develop and authorize alternative wood preservatives, although results cannot be expected in the short term, but only in 5 to 10 years as a best-case scenario. Some alternative wood species and materials are naturally durable

	towards wood-destroying fungi, (e.g. the heartwood of White Oaks), but their availability on the market is very scarce due to quantity and price limitations. For windows and doors they represent overall less than 5% of timber used in industry in Europe and the same limited amount will be the case for fencing, decking and cladding. As such, hardwoods cannot represent for the moment a viable market alternative to softwoods (such as pine or spruce), which on the other hand, require impregnation with active substances.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	To ensure the durability of wooden applications in the European humid climate, protection against fungal attack is needed. Therefore, manufacturers of wooden applications, such as windows and doors, fencing, decking and cladding are currently using the approved Active Substance (AS) Propiconazole in combination with one or two other Active Substances (Tebuconazole and/or IPBC) when impregnating timber. The combination is essential to keep the total amount of Active Substances at a minimum, limit the concentration of impregnation product and at the same time ensure a long service life for the windows and doors. Over the past decades, the timber industry has been optimizing their impregnation processes to prevent any leach to the environment, limit the use of chemicals and reduce the concentration of timber impregnation (e.g. switch from solvent to water-based treatment). The impregnation process of timber products is handled with care manufacturers and is carried out on finished components, preventing any risk of spreading biocidal products via wood chippings. Besides, processes are also mostly carried out in closed process equipment with water-based impregnation and reuse of excess liquid in a closed system. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the wood industry would be left without any option of impregnation as of January 2023. In fact, research is needed to develop solutions suitable for biocidal treatment products that can be used at industrial level and that is compatible with other materials (to prevent corrosion of screws, stains on top coat or paint). The process of product development, testing and production at commercial level would take at least 5 to 10 years.

Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In case of non-renewal of Propiconazole, manufacturers would be left without authorised Active Substances that can be used for biocidal treatment. The only alternative to the production of less durable products or the closing down of operations would be a switch to alternative wood species that are naturally more resistant to fungal attack. This option, however, is costly and hardly feasible for a number or reasons. The durability of hardwood species (and in particular of hartwood, the core layers of the log) is in general very good. However, European hardwood species like Oak are used to a limited extend for windows and doors, fencing, decking and cladding. This is related to factors like availability of resources and material costs. For example, hardwood represents less than 5% of timber used in the window and door industry in Europe, and to an equivalent extend for fencing, decking and cladding . Imports of tropical hardwoods represent a significant share in some markets (e.g. in the Netherlands) but cannot sustain alone the demand of the European mass market. Besides, imports from tropical countries imply higher transportation costs. It is to be noted that already now, in the aftermath of the Covid-19 pandemic restrictions, the industry is facing bottlenecks and logistic problems that make it increasingly difficult to source raw materials for industrial use, which, combined with a surge of the demand, is causing a rally of sawnwood prices to unprecedented levels.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	As reported by several national studies done in 9 European countries, biocidal products that are propiconazole-free either contain Tebuconazole (whose authorization expires before Propiconazole) are have a lower efficacy. The timber window and door industry currently uses a combination of Propiconazole and 1 or 2 other Active Substances, allowing manufacturers to significantly reduce the concentration and the quantity of Active Substance use for wood impregnation. Without this option, the industry would need to use other substances at higher concentration levels, which would pose a greater risk of exposure.

Information above is confidential	
Justification for confidentiality	
Availability	As explained above, no immediate alternatives are available in the next 5 to 10 years. In particular, substances free of Propiconazole contain Tebuconazole (see annex II to the position paper attached), which also falls under exclusion criteria of the Biocidal Product Regulation, Art. 5(1). One possible alternative is Penuflen, but the approved products that are based on this substance do not meet the industry requirements, as today it is not suitable for products in Use Class 3 in any EU country for industrial preservative treatments of wood.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Considering the unprecedented consequences of the ban of Propiconazole for the use of weather exposed timber applications like timber windows and doors, fencing, decking and cladding , the absence of alternative biocidal products and the limited risk of leaching in the environment, CEI-Bois calls for a renewal of the approval of Propiconazole until an equivalent substitute is available, tested and assessed for use in timber windows and doors, for the following reasons: • Availability of several approved Active Substances important: E.g. the timber window and door industry currently uses a combination of Propiconazole and 1 or 2 other Active Substances, allowing manufacturers to significantly reduce the concentration and the quantity of Active Substance use for wood impregnation. • There are currently no suitable alternatives for use in manufacturing of windows and doors, fencing, decking and cladding: Out of 4 studies conducted in 9 countries, no impregnation product free from Propiconazole and Tebuconazole was deemed suitable for industrial needs. In case a non-renewal of Propiconazole, and with the upcoming expiry date on Tebuconazole approval in September 2022, the industry would be left without any option of impregnation as of January 2023. • The approval process of the Biocidal Product Regulation requires 5-10 years before a new Active Substance can be used in wood impregnation products. • New alternative solutions and processes have to be thoroughly tested for their health and environmental properties: Any wood preservation/protection solution

	placed on the market requires the durability of windows and doors to be tested for at least 5-10 years. Hence, European manufacturers timber windows and doors, fencing, decking and cladding, require a certain transition period to implement new alternative solutions
Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	•HFA: Holzforschung Austria – Study on authorized wood preservatives for industrial use as primers to manufacture wooden windows (HFA-A.Nr.: 2635/2020/1-HO) •FCBA: Institut Technologique FCBA – Survey of products registered to date for the preservation of wood intended for the manufacture of exterior joinery (n°401/20/162ZBis) •DHI: DHI Group – PT 8 products approved in Denmark, Norway, Sweden and Finland (11817983)
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 73	**2021/09/06 20:15**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Spain
Name of organization/institution	[redacted]

I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	Maintaining and expanding the use of the sustainable native material wood in the construction sector is an important contribution for the EU to achieve climate neutrality by 2050. Particularly in light of the New European Bauhaus ambition as part of the European Green Deal to use more natural and organic construction materials, wood remains an essential material for buildings and renovation projects.
Product Type	8
Alternative Identity and Properties	Potential alternatives to Propiconazole should be seen from 2 different perspectives: - Alternative wood preservatives - Alternative wood species ALTERNATIVE WOOD PRESERVATIVES Most biocidal products used for wood preservation do currently contain a combination of at least 2 Active Substances. The combination of substances is required to meet efficacy against all target organisms (one substance alone cannot meet efficacy against wood discolouring fungi, wood rotting/destroying fungi and insects) but also to limit the concentration of biocide in the final product (the combination of substances allows to target specific organisms with low concentration of biocide thanks to complementarity of efficacies). There are currently 3 Actives Substances used for wood preservation fulfilling the needed efficacy and suitable for window and door application (which requires a preventive treatment of wood Use Class 3). These substances can however only be seen as complementary and not as alternatives for the aforementioned reasons: - Propiconazole, falling under the BPR Exclusion criteria Article 5 (1) in December 2022 - Tebuconazole, also up for renewal at an earlier date (September 2022). Given the similar properties of Tebuconazole, it is likely to also fall under the BPR Exclusion criteria Article 5 (1) - IPBC, which only has efficacy against wood discolouring fungi ("blue stains") In addition, one potential alternative might develop in the coming year with biocidal products based on the active substance Penflufen. However, there are no biocidal products based on Penflufen currently approved in EU Member States that meets Use Class 3 (needed for windows due to their exposure to outdoor conditions). Out of 4 studies conducted by national institutes for wood technologies, covering a total of 9 countries (Austria, Belgium, Denmark, Finland, France, Germany, Norway, Sweden and The Netherlands), almost

	no suitable alternative biocidal product was found. Only exceptions are based on Tebuconazole (only 1 suitable product family was found in some countries), which does not constitute an alternative since the substance will be out for substitution earlier than Propiconazole (September 2022). Other alternative biocidal products are usually solely based on the active substance IPBC and cannot meet any efficacy against wood destroying fungi (only efficient against discolouring fungi “blue stains”). The complete overview of findings from the above-mentioned studies can be found in the attached CEI-Bois – EuroWindoor – SBS joint position on use of Propiconazole in wood preservatives. ALTERNATIVE WOOD SPECIES One alternative to achieve durability criteria for timber windows and doors would be to use durable wood species which do not require the same level of preservation as commonly used species. This approach however does not constitute a scalable solution due to the limited resources of durable wood species in Europe. Most timber windows and doors use softwood as the main material for frame (e.g. pine, spruce) because of its availability and its processing easiness. Besides, even by using durable hardwood species, timber window and door manufacturers in most situations still have to use surface treatment with Propiconazole to maintain the surface aesthetics of the wood. The locally available resources of European timber would not allow a conversion of the entire window and door industry, even less so for the entire woodworking industry. Modified wood might also constitute an alternative solution to wood impregnation or to the use of durable wood species. However, there are limitations to the use of these modified woods: firstly, due the recent development of this technology, the worldwide available resources are extremely limited and cannot cover a significant share of the timber consumption in the window and door industry. Secondly, most of the suppliers of modified wood currently export from regions or countries outside EU, adding an environmental burden due to transportation.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	The efficacy of Propiconazole essentially aims at wood-destroying fungi (“white-rot” and “brown-rot”). Its usability for efficient industrial processes such as flow coating makes it the most relevant core active substance for wood preservatives. The main difficulties for using alternatives in

	the window industry relates to the compatibility of the biocidal product with other elements of a window/door: corrosion of metal elements and discolouring are the main challenge to face when replacing a substance (or a product) with an alternative. Besides, testing over long periods of time are required to ensure a long lifespan of windows and doors (typically: 3-5 years of testing), so are aging evaluation and material compatibility testing.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	As described in "Alternative Identity and Properties", there is today a lack of suitable alternative to the use of Propiconazole in wood preservatives. In case manufacturers would be forced to use "durable" wood species from outside EU, this would have a significant impact of the cost of raw materials as well as inducing a strong stress on material availability (high risk of shortage due to limited resource). Besides, when using EU-source and responsible wood, manufacturers are opting for a costeffective and sustainable choice of raw material. However, most of these EU-sourced species require wood preservatives and the use of a less efficient solution will lead to a shortening of the lifespan of windows and door. Windows and doors and typically installed for 30 years and more: if less protected against biological attacks, their lifespan would be reduced to a few years only, leading to a more frequent replacement and higher environmental impact. According to the Propiconazole Impact Assessment (2018), the impact on downstream users and end-users (over 5 years) amounts to more than 153M EUR
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	As highlighted before, the only alternative biocidal products which are not containing Propiconazole are based on Tebuconazole (which has shorter end of approval period). Other solutions are of much lower efficiency and cannot meet all required efficacy criteria for the preservation of timber windows and doors. Should the industry be forced to use less efficient solutions, this would inevitably compromise the structural integrity of windows and doors due to the absence of protection against wood-destroying

	fungi. Besides, the use of less suitable alternatives would require a significant increasing of active substance concentration in all biocidal products, therefore increasing the potential risk of exposure.
Information above is confidential	
Justification for confidentiality	
Availability	There are currently 2 potential alternatives to Propiconazole: • Penflufen, which has recently been approved as Active Substance for PT8 – Wood Preservatives, but there is currently no biocidal product approved in any EU Member State that meet the requirements for the window & door industry (efficacy against discolouring fungi, wood-destroying fungi and approved for Use Class 3) • Tebuconazole, which is currently used in some biocidal products within PT8, but which will reach its end of approval period before Propiconazole (September 31st, 2022). It is expected to also fall under the Exclusion Criteria of BPR Art. 5 (1), therefore facing the risk of not being re-approved. As a conclusion, none of the 2 solutions can be considered as "available" in the current context of the BPR. Research institutes (DK-SE-NO) are currently investigating further alternatives like modified wood to enable the direct use of home-grown wood species without the use of preservation. However, these research projects are currently at their preliminary stages and cannot be considered as alternatives for the time being.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	As a conclusion, one can identify the below alternatives to the use of Propiconazole in Biocidal Products: • Tebuconazole: although fewer biocidal products based on this substance are available in EU Member States, they usually present acceptable efficacy against biological attacks of wood. The substance approval will however expire in September 2022, therefore not constituting a suitable alternative, even on the short term. • Penflufen: although this substance could in theory become an acceptable alternative for some of the target organisms of Propiconazole, there are currently no biocidal products available in any EU Member States that meet the required

	criteria for the timber window and door industry (efficacy and Use Class 3) • Alternative wood species: although some wood species can be considered as more durable than softwood species, these are either not source from the EU or are available in limited quantities. The mismatch between the resource and the demand would lead first to a significant increase in raw material prices, then to a potential material shortage on the European market. Besides, these solutions are source from slow-growing species, making the sustainable management of European forestry more challenging. • Modified wood: although some specific modified wood products might be suitable on a small scale, the available resources as well as the economic burden associated to these solutions prevent them from being used on a large scale by the entire timber window and door industry Any other solution to Propiconazole-based biocidal products present a much lower efficacy, de-facto preventing from being used in the timber window and door industry.
Information above is confidential	
Justification for confidentiality	
Other comments	In addition to the above-mentioned arguments, we would like to highlight that the quality and durability requirements that apply to the window and door industry require timeconsuming testing to ensure a long lifespan for our products. Even with the assumption of new wood preservation solutions (assuming they are fully approved in EU Member States), the industry requires 5 to 10 years to run the necessary tests and approvals (e.g. aging, compatibility with coatings and paints, corrosion risks etc…). This statement was highlighted by the Georg-August-Universität Göttingen (Wood Biology and Wood Products division), in a recent analysis sent to EuroWindoor (see attached Statement).
Information above is confidential	
Justification for confidentiality	
References	• CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives (attached) • Study HFA for Austria and Germany (attached) • Study FCBA for France (attached) • Study DHI Group for Denmark, Finland, Norway and Sweden (attached) • Study SHR for Belgium

	and The Netherlands (attached) • Statement on time-scheduling for the substitution of wood preservatives from Prof. Dr. Holger Militz and Prof. Dr. Christian Brischke, University of Goettingen (attached) • Propiconazole Impact Assessment, Final Report, Risk & Policy Analysis, 2018-09-27
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 74	**2021/09/06 20:19**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Sweden
Name of organization/institution	The Swedish Forest Industries Federation/Swedish Wood
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Wood plays an important role in transforming our society towards biobased and sustainable use of material for use in the building sector including infra structure such as transportation and utilities. The wood that is available in Europe and especially the northern half on Europe is soft wood that is subject to fungi attack and rot. This negative natural process can be delayed or stopped by the proper use of wood preservative. Treated wood has been an important material for building wealth in Europe during a century. The importance of durable wood will be even more important now that we struggle to achieve EU objectives to be climate neutral by 2050 engaging in for example Green Deal. Durable wood is one of the most important building materials in this effort and reliable durability is its core

	property. Without a predicable long service life durable wood will lose its importance. Longer service life is also the most important property to make treated wood one of the most sustainable building materials according to Life Cycle Analysis. Members of the the Swedish Forest Industries Federation/Swedish Wood is producing treated timber according to the NTR-standard. NTR, the wood Durability Quality system requires the use of certified wood preservatives and specific production quality control procedures including third party control among other things. The NTR-certification and control system is ensuring high quality and long service life and is widely respected. The Swedish Forest Industries Federation/Swedish Wood has 70 members and about 40 members are certified to the NTR-system. In total 110 companies in Europe are certified according to the NTR-system. NTR System is a Certification and control system that prioritize predicable long service life of treated wood. The NTR System is open to all available wood treatment and modification technologies if a predictable and long service life is reached by an industrial wood production process.
Product Type	8
Alternative Identity and Properties	Producers of wood preservatives uses several actives to achieve efficacy against as many target wood decaying organisms as possible and at the same time limit quantity and concentration of the chemicals used. Wood preservatives is certified according to the NTR-system based upon the efficacy. The process of acquire an NTR-certification is time consuming and require specific laboratory testing as well as field tests. The preservative and the treated wood need to have a predicable and long service life in all use case to be usable as a building material. The central property of durable wood is long service life and that means more than 25 years and longer. It requires specific testing methodology and time-consuming field tests to establish a scientific prediction of the required service life. If Propiconazole is unavailable there would in the short run be no or few NTR-certified wood preservative. For the Swedish Forest Industries Federation/Swedish Wood and its members it is of importance that the market for wood preservatives have more than a few suppliers and several products to choose from. We believe that competition will foster development and be beneficial to the industry, European society and in the long run most durable. Fewer active substances and at the same time in higher concentration could be an unwanted consequence. To our members pine and spruce

	(softwood) is available form local sustainable forestry. Only Pine and other permeable wood species are treatable to class 1 according to EN350. No commercial alternative to pine is available in Sweden. There are no durable wood species available to replace the treated pine volumes.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole is efficient protection against wood destroying fungi and wood preservatives including or based on Propiconazole are highly compatible with industrial processes. The core challenge is to find suitable active substances in window industry is linked to compatibility with other materials (corrosion with screws, stains on top coat or paint). Development of new wood preservatives require 3-5 years to decide if a substance is deemed compatible and stable over time.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In absence of suitable alternative Active Substance / Biocidal Product, manufacturers would be forced to switch to difference wood species, which are: - Available in smaller quantities - Are less easy to process - Are imported from outside EU - Are more expensive - Would induce a high risk of material shortage It would also increase the risk of sourcing wood from less responsible forests. With no alternative wood preservation solution and very limited alternative from other wood species, the risk would be to strongly reduce the lifespan of windows and doors and induce more frequent replacement of products (high financial impact for end-users) This development will make wood products less competitive and open for alternative material use such as PVC, plastic, and aluminium windows that is not a sustainable or environmental preferable choice.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Biocidal Products without Propiconazole do not yet meet efficacy requirement and there are none or few alternative actives that is commercially available to the wood industry

	today. The use and trust in durable wood is based upon the NTR system and that it certifies long, and predicable service life and wood fit for purpose. Shorter service life including risk of failures due to rot. A less efficient alternative would require a very strong increase in Active Substance concentration (higher risk of exposer).
Information above is confidential	
Justification for confidentiality	
Availability	There is currently no biocidal product approved in any EU member states which meets the requirements on efficacy against wood destroying fungi and discolouring fungi. Using alternative wood species is not a relevant alternative.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	There is currently no alternative biocidal product free of propiconazole available in the current context of the BPR for use in window and doors. Using alternative wood species is not an option since it is only available in limited quantities in Europe and would require import from countries outside EU. These are slow growing species and therefore not suitable for large-scale industry. Demand is likely to exceed supply, leading to significant increase in raw material prices, followed by a potential shortage of raw materials throughout Europe. There is also a risk of sourcing from less responsible and non-sustainable forestry.
Information above is confidential	
Justification for confidentiality	
Other comments	In the absence of an alternative to propiconazole, a ban would leave the wood industry without any acceptable solution, with the risk that wood cannot be used in construction products. The consequence would be a major risk to the competitiveness of Swedish and European wood industry. Also, the use of PVC and aluminium would most likely increase at the expense of wood which overall increases the ecological load and increases GHG emissions. If propiconazole is no longer available as one of many actives in wood preservatives it would result in a dramatic and irreversible change of the market of wood preservatives

	and the future of durable wood products. There are some prospect technology/actives under development, but it requires more time to improve and prof and NTR-certify before the industry can manage without propiconazole without devastating consequences to the industry and use of wood as a building material.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 75	**2021/09/06 21:55**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Sweden
Name of organization/institution	Swedish Wood Preserving Association
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	Wood plays an important role in transforming our society towards bio based and sustainable use of material for use in the building sector including infrastructure such as transportation and utilities. The wood that is available in Europe and especially the northern half on Europe is soft wood that is subject to fungi attack and rot. This negative natural process can be delayed or stopped by the proper

	use of wood preservative. Treated wood has been an important material for building wealth in Europe during a century. The importance of durable wood will be even more important now that we struggle to achieve EU objectives to be climate neutral by 2050 engaging in for example Green Deal. Durable wood is one of the most important building materials in this effort and reliable durability is its core property. Without a predicable long service life durable wood will lose its importance. Longer service life is also the most important property to make treated wood one of the most sustainable building materials according to Life Cycle Analysis. Members of the Swedish Wood Preserving Association is producing treated timber according to the NTR-standard. NTR, the wood Durability Quality system requires the use of certified wood preservatives and specific production quality control procedures including third party control among other things. The NTR-certification and control system is ensuring high quality and long service life and is widely respected. All 49 producing members in Swedish Wood Preserving Association is certified to the NTR-system and in total 110 companies in Europe are certified according to the NTR-system. NTR System is a Certification and control system that prioritize predicable long service life of treated wood. The NTR System is open to all available wood treatment and modification technologies if a predictable and long service life is reached by an industrial wood production process.
Product Type	8
Alternative Identity and Properties	Producers of wood preservatives uses several actives to achieve efficacy against as many target wood decaying organisms as possible and at the same time limit quantity and concentration of the chemicals used. Wood preservatives is certified according to the NTR-system based upon the efficacy. The process of acquire an NTR-certification is time consuming and require specific laboratory testing as well as field tests. The preservative and the treated wood need to have a predicable and long service life in all use case to be usable as a building material. The central property of durable wood is long service life and that means more than 25 years and longer. It requires specific testing methodology and time-consuming field tests to establish a scientific prediction of the required service life. If Propiconazole is unavailable there would in the short run be no or few NTR-certified wood preservative. For the Swedish Wood Preserving Association and its members it is of importance that the market for wood preservatives have more than a few

	suppliers and several products to choose from. We believe that competition will foster development and be beneficial to the industry, European society and in the long run most durable. Fewer active substances and at the same time in higher concentration could be an undesirable consequence. To our members pine and spruce (softwood) is available form local sustainable forestry. Only Pine and other permeable wood species are treatable to class 1 according to EN350. No commercial alternative to pine is available in Sweden. There are no durable wood species available to replace the treated pine volumes.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Propiconazole is efficient protection against wood destroying fungi and wood preservatives including or based on Propiconazole are highly compatible with industrial processes. The core challenge is to find suitable active substances in window industry is linked to compatibility with other materials (corrosion with screws, stains on top coat or paint). Development of new wood preservatives require 3-5 years to decide if a substance is deemed compatible and stable over time.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In absence of suitable alternative Active Substance / Biocidal Product, manufacturers would be forced to switch to difference wood species, which are: - Available in smaller quantities - Are less easy to process - Are imported from outside EU - Are more expensive - Would induce a high risk of material shortage It would also increase the risk of sourcing wood from less responsible forests. With no alternative wood preservation solution and very limited alternative from other wood species, the risk would be to strongly reduce the lifespan of windows and doors and induce more frequent replacement of products (high financial impact for end-users) This development will make wood products less competitive and open for alternative material use such as PVC, plastic, and aluminium windows that is not a sustainable or environmental preferable choice.
Information above is	

confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Biocidal Products without Propiconazole do not yet meet efficacy requirement and there are none or few alternative actives that is commercially available to the wood industry today. The use and trust in durable wood is based upon the NTR system and that it certifies long, and predicable service life and wood fit for purpose. Shorter service life including risk of failures due to rot. A less efficient alternative would require a very strong increase in Active Substance concentration (higher risk of exposer).
Information above is confidential	
Justification for confidentiality	
Availability	There is currently no biocidal product approved in any EU member states which meets the requirements on efficacy against wood destroying fungi and discolouring fungi for use in windows and carpentry and no active substance to replace Propiconazole in the short term. Using alternative wood species is not a relevant alternative.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	There is currently no alternative biocidal product free of propiconazole available in the current context of the BPR for use in window and doors. Using alternative wood species is not an option since it is only available in limited quantities in Europe and would require import from countries outside EU. These are slow growing species and therefore not suitable for large-scale industry. Demand is likely to exceed supply, leading to significant increase in raw material prices, followed by a potential shortage of raw materials throughout Europe. There is also a risk of sourcing from less responsible and non-sustainable forestry.
Information above is confidential	
Justification for confidentiality	
Other comments	In the absence of an alternative to propiconazole, a ban would leave the wood industry without any acceptable

	solution, with the risk that wood cannot be used in construction products. The consequence would be a major risk to the competitiveness of Swedish and European wood industry. Also, the use of PVC and aluminium would most likely increase at the expense of wood which overall increases the ecological load and increases GHG emissions. If propiconazole is no longer available as one of many actives in wood preservatives it would result in a dramatic and irreversible change of the market of wood preservatives and the future of durable wood products. There are some prospect technology/actives under development, but it requires more time to improve and prof and NTR-certify before the industry can manage without propiconazole without devastating consequences to the industry and use of wood as a building material.
Information above is confidential	
Justification for confidentiality	
References	NTR-certified products. "Approval list" https://www.nwpc.eu/index.php/nwpc-certified-wood-preservatives/ Members of SWPA: https://traskydd.com/branschen/medlemsforetag/ General and specific information about NWPC, Nordic Wood Preserving Council, The owner of NTR System: https://www.nwpc.eu/
Attachments (non-confidential information)	B2004E-LCA-Comparison-utility-poles-2011 (1).pdf; B2102E-LCA-Horse-fences-and-fence-posts-2013.pdf; Draft revised CEIBois-EuroWindoor-SBS joint position on use of Propiconazole in wood preservatives 2021-06 (2).pdf
Attachments (confidential information)	
Justification for confidential attachment	

Comment 76	**2021/09/06 22:07**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]

Country	Germany
Name of organization/institution	[redacted]
I do not wish the name of my organisation/institution to be published on the ECHA website.	1
General information	Propiconazole is of outstanding economic importance for a lacquers and varnishes producer for a number of essential wood protection products, i. e. to protect wooden components in outdoor areas against wood-destroying and wood-discolouring fungi. Wood preservatives extend the service life of domestic, non-durable softwood. Effective wood preservation contributes to resource conservation and has an important role in maintaining the value of products and materials made of wood. Material protection with wood preservatives is an important component in the entire value chain – from forests as an economic commodity, followed by the sawmill and wood processing industries to finished end products in the building sector and in gardening and landscaping. Therefore, it is necessary to treat non-durable wood with biocides to protect especially sapwood against fungal attacks.
Product Type	8
Alternative Identity and Properties	The alternative would be wood preservatives containing other fungicides. To our knowledge, there is no other fungicide with an approval under the Biocidal Products Regulation which could be used as a serious alternative to propiconazole, i. e., showing the same properties as propiconazole. E. g., other subastances are non-colourless and thus not suitable for paint systems.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Wood preservatives with propiconazole are highly effective against wood-decaying fungi and wood-discolouring fungi. They can be formulated as aqueous based products. Propiconazole is suitable for use in paint systems and has many appropriate technical properties, such as colourlessness and non-corrosivity towards impregnation equipment as well as metalic partsconnected with the treated wood. Propiconazole is neutral towards other

	ingredients of a paint (lacquer, varnish) formulations. The active substance behaves neutrally towards the wood surface and subsequently applied coatings. As a downstream user we are not able to find alternatives, conduct the necessary long-term tests over years, which need to be performed to decide whether or not a potential alternative has sufficient technical properties. Propiconazole-containing wood preservatives are well-established systems that have proven their worth, with decades of experience in their handling and technical application by our customers. Those customers are mainly craftsmen with experience in handling propiconazole containig products. They believe in the quality of the products we provide, because they know the excellent properties and give subsequent warranties to their customers.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	At present, we cannot see any alternative active substance.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Due to the lack of alternatives (i. e. fungicidal active substances), we assume that our suppliers of propiconazole containing basic productsno are not able to carry out any risk and hazard assessment.
Information above is confidential	
Justification for confidentiality	
Availability	To our knowlegde no other fungicides covering the broad range of applications combined with the technical properties of propiconazole are not available.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the	From the perspective of a formulator of wood preservatives there are no adequate alternatives to wood preservatives

alternative	containing propiconazole
Information above is confidential	
Justification for confidentiality	
Other comments	We know that the development of alternative active substances for wood protection takes a very long period of time with a very uncertain outcome. Many years are needed to prove the efficacy of an active substance up to the technical maturity of marketable products. Moreover, there is a lengthy approval procedure under the BPR – also with an uncertain outcome. In addition, even after having alternatives downstream users have to convince their traditional thinking craftsmen-customers about quality and warranties for their work.
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 77	**2021/09/06 23:49**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Finland
Name of organization/institution	Metsäliitto Cooperative, Metsä Wood
I do not wish the name of my organisation/institution to be	

published on the ECHA website.	
General information	Metsä Wood (www.metsawood.com) provides premium-quality wood products for construction, industrial and distribution customers. We use 100% traceable wood from northern forests, a sustainable raw material of the finest quality. Our facilities are surrounded by these forests, which ensures a never-ending reliable supply. Our primary products are Kerto® LVL (laminated veneer lumber), birch plywood and spruce plywood. We are strong in Europe, with ambitious global growth targets especially in Asia and North America. Our sales in 2020 were EUR 0.4 billion, and we employ about 1,600 people. Metsä Wood is part of Metsä Group, which covers the whole wood value chain from sapling to product.
Product Type	8
Alternative Identity and Properties	Metsä Wood manufactures plywood and LVL products which are surface treated against biological attack to decrease the risk of mould growth and blue stain. Our product approvals cover only treatment which contains propiconazole. Even though our R&D is continuously studying different alternative treatments and our treatment providers are working on developing alternative treatments, it is very difficult to find as effective active substance in small quantities as propiconazole in the near future. Due to the requirements under BPR for extensive advanced testing of new treatments prior to submission for approval and the two-year authorization period before approval and after that the time needed for wood product testing, it takes a long time to replace the current treatment. Research is needed to develop solutions suitable for biocidal treatment products that can be used at industrial level and that is compatible with other materials. It is estimated that the process of product development, testing and production at commercial level would take at least 5 to 10 years.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	Wood construction has been recognized by the EU as a way to decrease the carbon dioxide emissions of building. Wood as an organic and renewable material is promoted and it replaces other building materials with higher emissions. Furthermore wood stores carbon for the lifetime of the

	building product. Treatments against biological attack are necessary for using wood outdoors or in humid conditions. These treatment decreases the need for maintenance and prolongs the lifecycle of the products. To ensure the durability of wooden applications in the European humid climate, protection against biological attack is needed. In case a non-renewal of propiconazole, we would be left without any approved option of treatment against biological attack on wood product level.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	In case a non-renewal of propiconazole, we would be left without any approved option of treatment against biological attack on wood product level. See justifications under headings 1 and 2.
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	In case a non-renewal of propiconazole, we would be left without any approved option of treatment against biological attack on wood product level. See justifications under headings 1 and 2.
Information above is confidential	
Justification for confidentiality	
Availability	As explained under headings 1 and 2, there are no immediate alternatives available within the next 5 to 10 years.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	Currently, there is no alternative solution available for our business. It is crucial to wait until alternatives are commercially available. We strongly vote for the prolongation of the transition period before the proposed ban.

Information above is confidential	
Justification for confidentiality	
Other comments	
Information above is confidential	
Justification for confidentiality	
References	
Attachments (non-confidential information)	
Attachments (confidential information)	
Justification for confidential attachment	

Comment 78	**2021/09/06 14:31**
FirstName	[redacted]
FamilyName	[redacted]
Email	[redacted]
Country	Netherlands
Name of organization/institution	AkzoNobel
I do not wish the name of my organisation/institution to be published on the ECHA website.	
General information	
Product Type	8
Alternative Identity and Properties	For the producers of wood preservative products that are applied as surface treatment there are currently no suitable alternative active substances to Propiconazole. The available alternatives have so far not got a lot of real-life test data.

	Significant time is needed to evaluate efficacy of alternatives. For the paint manufacturing industry this leaves 5 different active substances that can be used in wood preservatives for surface treatment. Those substances are Propiconazole, Tebuconazole, IPBC, DCOIT and Penflufen. Tebuconazole is a candidate for substitution and DCOIT has very limited use in wood preservation. IPBC is frequently used in combination with Propiconazole, single use of this substance is under evaluation, but more time is needed to evaluate the efficacy. Penflufen is a new substance and uses in wood preservation is currently very limited. For most of the substances there are additional limitations for products for consumer use.
Information above is confidential	
Justification for confidentiality	
Technical Feasibility	For the manufacturers of wood preservation products, Propiconazole is the most effective alternative for use as a PT 8 active substance. Propiconazole is effective against fungal decay as well as blue stain, even in low concentrations.
Information above is confidential	
Justification for confidentiality	
Economic Feasibility	The estimated cost for developing a biocide product for wood preservation, PT8, is between 300 000€ and 800 000 €1 (excluding costs for registration of active substances). It takes several years to go through the necessary steps in product formulation and authorization. The legally demanded efficacy tests, leaching tests and stability tests takes several years why it is not possible to rush through the process. Because of the high demand for new dossiers and changes to existing dossiers the evaluations by the competence authorities has been delayed. 1 reference 'The Use of Propiconazole in Wood Preservatives' background paper, will be attached as upload
Information above is confidential	
Justification for confidentiality	
Hazards and Risks of the Alternative	Risk of using inferior products that will result in more frequent application of the products. The net effect is that

	more products are needed which is not good from a sustainability point of view.
Information above is confidential	
Justification for confidentiality	
Availability	There might be suitable alternatives available on the market but we need more time to evaluate them. As a downstream user we are unaware of supply chain availability of the alternative if all downstream users switch to the same alternative.
Information above is confidential	
Justification for confidentiality	
Conclusion on suitability and availability of the alternative	The availability of the alternatives is not known. There might be suitable alternatives available on the market, but we need more time to evaluate them.
Information above is confidential	
Justification for confidentiality	
Other comments	We need more time to develop and evaluate new biocidal products without CMR substances and at the same time have an 'acceptable HSE profile'
Information above is confidential	
Justification for confidentiality	
References	1 Dansk Industri, Danmarks Farve- og Limindustri, Vindues industrien etc. (2021), The use of Propiconazole in wood preservatives (PT 8)
Attachments (non-confidential information)	DFL_Propiconazole+in+wood+preservatives_rapport_WEB.pdf
Attachments (confidential information)	[redacted]
Justification for confidential attachment	