Helsinki, 25 August 2020

Addressees
Registrants of OxoAlum., C16-C18 alkyl esters listed in the last Appendix of this decision

Date of submission for the jointly submitted dossier subject of this decision
28/03/2019

Registered substance subject to this decision, hereafter 'the Substance'
Substance name: Oxoaluminium, C16-C18-alkyl esters
EC number: 701-182-0
CAS number: NS

Decision number: [Please refer to the REACH-IT message which delivered this communication (in format CCH-D-XXXXXXXXXX-XX-XX/F)]

DECISION ON A COMPLIANCE CHECK

Based on Article 41 of Regulation (EC) No 1907/2006 (REACH), ECHA requests that you submit the information listed below by the deadline of ***30 November 2023***.

A. Requirements applicable to all the Registrants subject to Annex VII of REACH

1. In vitro gene mutation study in bacteria (Annex VII, Section 8.4.1.; test method EU B.13/14. / OECD TG 471) with the Substance;

2. Growth inhibition study aquatic plants (Annex VII, Section 9.1.2.; test method EU C.3./OECD TG 201) with the Substance;

3. The long-term toxicity testing on aquatic invertebrates also requested at C.3. below (triggered by Annex VII, Section 9.1.1., column 2) with the Substance;

B. Requirements applicable to all the Registrants subject to Annex VIII of REACH

1. In vitro cytogenicity study in mammalian cells (Annex VIII, Section 8.4.2., test method OECD TG 473) or in vitro micronucleus study (Annex VIII, Section 8.4.2., test method OECD TG 487) with the Substance;

2. Only if a negative result in Annex VII, Section 8.4.1. and Annex VIII, Section 8.4.2. is obtained, in vitro gene mutation study in mammalian cells (Annex VIII, Section 8.4.3.; test method OECD TG 476 or TG 490) with the Substance;

3. Justification for an adaptation of the Short-term repeated dose toxicity (28 day), (Annex VIII, Section 8.6.1.)

4. Screening for reproductive/developmental toxicity (Annex VIII, Section 8.7.1.; test method OECD 421/422) in rats, oral route with the Substance;

5. The long-term toxicity testing on fish also requested at C.4. below (triggered by Annex VIII, Section 9.1.3., column 2) with the Substance;

C. Requirements applicable to all the Registrants subject to Annex IX of REACH

1. Sub-chronic toxicity study (90-day), oral route (Annex IX, Section 8.6.2.; test method OECD TG 408) in rats with the Substance;

2. Pre-natal developmental toxicity study (Annex IX, Section 8.7.2.; test method OECD TG 414) in a first species (rat or rabbit), oral route with the Substance;

3. Long-term toxicity testing on aquatic invertebrates (Annex IX, Section 9.1.5.; test method EU C.20./OECD TG 211) with the Substance;

4. Long-term toxicity testing on fish (Annex IX, Section 9.1.6.1.; test method OECD TG 210) with the Substance;

Conditions to comply with the requests

Each addressee of this decision is bound by the requests for information corresponding to the REACH Annexes applicable to their own registered tonnage of the Substance at the time of evaluation of the jointly submitted dossier.

To identify your legal obligations, please refer to the following:

- you have to comply with the requirements of Annexes VII and VIII of REACH, if you have registered a substance at 10-100 tpa;
- you have to comply with the requirements of Annexes VII, VIII and IX of REACH, if you have registered a substance at 100-1000 tpa;

Registrants are only required to share the costs of information that they must submit to fulfil the information requirements for their registration.

The Appendix on general considerations addresses issues relevant for several requests while the other Appendices state the reasons for the requests for information to fulfil the requirements set out in the respective Annexes of REACH.

The Appendix entitled Observations and technical guidance addresses the generic approach for the selection and reporting of the test material used to perform the required studies and provides generic recommendations and references to ECHA guidance and other reference documents.

You must submit the information requested in this decision by the deadline indicated above in an updated registration dossier and also update the chemical safety report, where relevant, including any changes to classification and labelling, based on the newly generated information. The timeline has been set to allow for sequential testing where relevant.

Appeal

This decision can be appealed to the Board of Appeal of ECHA within three months of its notification. An appeal, together with the grounds thereof, has to be submitted to ECHA in writing. An appeal has suspensive effect and is subject to a fee. Further details are described under: http://echa.europa.eu/regulations/appeals.

Failure to comply

If you do not comply with the information required by this decision by the deadline indicated above, ECHA will notify the enforcement authorities of your Member State.

Authorised[1] under the authority of Christel Schilliger-Musset, Director of Hazard Assessment

[1] As this is an electronic document, it is not physically signed. This communication has been approved according to ECHA's internal decision-approval process.

EUROPEAN CHEMICALS AGENCY

Appendix on general considerations

(i) Assessment of the Grouping of substances and read-across approach, in light of the requirements of Annex XI, Section 1.5.

You seek to adapt the following standard information requirements by applying (a) read-across approach(es) in accordance with Annex XI, Section 1.5:

- In vitro gene mutation study in bacteria (Annex VII, Section 8.4.1.)
- In vitro cytogenicity study in mammalian cells or in vitro micronucleus study (Annex VIII, Section 8.4.2.)
- In vitro gene mutation study in mammalian cells (Annex VIII, Section 8.4.3.)
- Sub-chronic toxicity study (90-day), (Annex IX, Section 8.6.2.)
- Screening for reproductive/developmental toxicity (Annex VIII, Section 8.7.1.)
- Pre-natal developmental toxicity study (Annex IX, Section 8.7.2.)
- Growth inhibition study aquatic plants (Annex VII, Section 9.1.2.)
- Short-term toxicity testing on aquatic invertebrates (Annex VII, Section 9.1.1.)
- Short-term toxicity testing on fish (Annex VIII, Section 9.1.3.)
- Long-term toxicity testing on aquatic invertebrates (Annex IX, Section 9.1.5.)
- Long-term toxicity testing on fish (Annex IX, Section 9.1.6.1.)

ECHA has considered the scientific and regulatory validity of your read-across approach(es) in general before assessing the specific standard information requirements in the following appendices.

Grouping of substances and read-across approach

Annex XI, Section 1.5. specifies two conditions which must be fulfilled whenever a read-across approach is used. Firstly, there needs to be structural similarity between substances which results in a likelihood that the substances have similar physicochemical, toxicological and ecotoxicological properties so that the substances may be considered as a group or category. Secondly, it is required that the relevant properties of a substance within the group may be predicted from data for reference substance within the group (addressed under 'Assessment of prediction(s)').

Additional information on what is necessary when justifying a read-across approach can be found in the ECHA Guidance[2] and related documents[3, 4].

A. Assessment of prediction(s) for toxicological properties

You have provided read-across justification documents in IUCLID Section 13 and in appendix of CSR.

You read-across between the structurally similar substances, aluminium, benzoate C16-18-fatty acids complexes, EC No. 303-385-6 (CAS No. 94166-87-7) as source substance and the

[2] Guidance on information requirements and chemical safety assessment Chapter R.6: QSARs and grouping of Chemicals. 2008 (May) ECHA, Helsinki. 134. pp. Available online: https://echa.europa.eu/documents/10162/13632/information_requirements_r6_en.pdf/77f49f81-b76d-40ab-8513-4f3a533b6ac9

[3] Read-Across Assessment Framework (RAAF). 2017 (March) ECHA, Helsinki. 60 pp. Available online: Read-Across Assessment Framework (https://echa.europa.eu/support/registration/how-to-avoid-unnecessary-testing-on-animals/grouping-of-substances-and-read-across)

[4] Read-across assessment framework (RAAF) - considerations on multi-constituent substances and UVCBs. 2017 (March) ECHA, Helsinki. 40 pp. Available online: https://doi.org/10.2823/794394

Substance as target substance.

You have provided the following reasoning for the prediction of toxicological properties: *"Benzoic acid and benzoates have been well characterized (eco)toxicologically, but in this case generating experimental data on the aluminium salt containing benzoate would be expected to demonstrate a 'worst case' hazard profile when compared to the target substance. Since no intrinsic toxicity could be demonstrated from any of the Annex VII or VIII endpoints with the benzoate-containing aluminium salt, then these results can be read across to the target substance without restriction."*

You also state that

"[...] *both substances have common functional groups and, as the fatty acid moieties are considered not to be hazardous, the toxicity of the substances will be driven by the presence of the aluminium species (and additionally the benzoate for the source substance)."*

"The substances have common breakdown products and the substances will dissociate and degrade into inorganic aluminium species and fatty acids (plus benzoic acid for the source substance) then carbon dioxide and water."

"[...] *both substances would not leach when in situ in base oil during use as grease thickeners and are not expected to be bioavailable."*

ECHA understands that you predict the properties of the Substance using a read-across hypothesis which assumes that different compounds have the same type of effects. The properties of your Substance are predicted based on a worst-case approach.

ECHA notes the following shortcomings with regard to predictions of toxicological properties.

1. *Characterisation of the source substance(s)*

Annex XI, Section 1.5 of the REACH Regulation provides that *"substances whose physicochemical, toxicological and ecotoxicological properties are likely to be similar or follow a regular pattern as a result of chemical similarity may be considered as group."*

According to the ECHA Guidance, *"the purity and impurity profiles of the substance and the structural analogue need to be assessed"*, and *"the extent to which differences in the purity and impurities are likely to influence the overall toxicity needs to be addressed, and where technically possible, excluded"*. The purity profile and composition can influence the overall toxicity/properties of the Substance and of the source substance.[5] Therefore, qualitative and quantitative information on the compositions of the Substance and of the source substance should be provided to allow assessment whether the attempted predictions are compromised by the composition and/or impurities.

Furthermore, whenever the Substance and/or the source substance are UVCB (Unknown or Variable composition, Complex reaction products or of Biological materials) substances qualitative compositional information of the individual constituents of the category members needs to be provided; as well as quantitative characterisation in the form of information on the concentration of the individual constituents of these substances; to the extent that this is measurable.[6]

[5] Guidance on information requirements and chemical safety assessment Chapter R.6: QSARs and grouping of Chemicals, Section R.6.2.3.1
[6] Guidance on information requirements and chemical safety assessment Chapter R.6: QSARs and grouping of Chemicals, Section R.6.2.5.5

Your read-across documentation contains compositional information for the Substance (UVCB) but does not contain compositional information for the source substance, with regard to fatty acid moieties. The source substance composition is assumed to follow the fatty acid concentration ranges of the Substance because it is often being used as a pre-cursor for the source substance (reacted with benzoic acid). Additionally, bridging and cyclic forms of the Substance are present in the composition according to your read-across documentation.

In your comments to the draft decision, you included additional information on the composition information with regard to the fatty acid moieties for the source substance Aluminium, benzoate C16-18-fatty acids complexes. However, whilst ECHA finds it acceptable, as not in the current assessed dossier, ECHA will assess it in the latest dossier update after the deadline of this decision has passed.

Compositional differences between the Substance and the source substance have been described only with regard to fatty-acid moieties without further consideration of chemical-chemical interactions of the benzoate moiety. This is relevant because the benzoate contained in the source substance might be masking oxoaluminium reactivity. This difference in the source substance composition which is introduced by benzoate might lead to subsequent formation of different chemical structures (e.g. decrease bridging and cyclic forms) and different toxicity profiles as compared to the Substance. Assessment of such chemical-chemical interactions affecting the claimed "*common physiological active moieties of the substances*" is required. ECHA concludes that without all this information it is not possible to assess whether the attempted read-across predictions are compromised by the composition of the source substance.

2. *Relevance of the supporting information*

According to the ECHA Guidance[7] "*it is important to provide supporting information to strengthen the rationale for the read-across approach. Thus, in addition to the property/endpoint being read-across, it is also useful to show that additional properties, relevant to the endpoint, are also (qualitatively or quantitatively) similar between the source and target chemicals*".

Besides the worst-case prediction, you also state in your documentation that "*comparison of the data for the two substances indicates that they are expected to have similar properties*", and that "*the available mammalian toxicity data show that neither the target nor read-across substance would be classified as irritating to skin or eyes and would not be classified for acute oral toxicity.*"

In order to support your claim that your Substance and source substance have similar properties for the endpoints under consideration in the read-across approach, you refer to their acute toxicity, skin irritation and eye irritation properties.

Whilst this data set suggests that the substances may have similar properties for acute toxicity, skin and eye irritation, these studies do not inform on the mutagenicity, repeated dose toxicity, developmental and reproductive toxicity properties of the target and source substances. Accordingly, these information are not considered as relevant to support prediction of the adapted endpoints listed above.

In addition, you state in the read-across supporting documentation that the target and source substances are not expected to be bioavailable based on the available data, and indicate your

intention to generate more supporting toxicokinetic data on the target and source substances.

In your comments to the draft decision you explain further that "*the substance is considered to be not bioavailable given that it is not bioaccessible.*" More specifically, you claim the Substance does not leach out from the synthesis media (i.e. base oil) at sufficient concentrations to be present in water or biological fluids and in order to cross biological membranes. Your statement is based on an *in vitro* leaching and bioaccessibility study of aluminium base greases ([redacted] 2019). Brief summary of the study was provided attached to the comments and you indicated your intention to provide the full robust study summary by the deadline of this decision. However, you did not provide information that demonstrates that the substance does not leach out under the different metabolic conditions present *in vivo* in an organism.

Furthermore, bioavailability has not specifically been investigated in any of the available studies, or in the leaching and bioaccessibility investigations indicated in your comments to the draft decision.

The currently provided information does not support your read-across hypothesis.

3. Missing supporting information

Annex XI, Section 1.5 of the REACH Regulation states that "*physicochemical properties, human health effects and environmental effects or environmental fate may be predicted from data for reference substance(s)*". For this purpose "*it is important to provide supporting information to strengthen the rationale for the read-across*"[8]. The set of supporting information should allow to verify the crucial aspects of the read-across hypothesis and establish that the properties of the Substance can be predicted from the data on the source substance(s).

Supporting information must include bridging studies to compare properties of the Substance and source substances, or information to confirm your claimed worst-case prediction.

QSAR prediction

In your comments to the draft decision, you provide an output table from QSAR toolbox indicating absent genotoxicity alerts for certain structures. You explain, "*the QSAR Toolbox was used to model the source substance plus the monomer, bridging and cyclic forms of the target substance.*"

Annex XI, Section 1.3. states that results obtained from valid QSAR models may be used instead of testing when the following cumulative conditions are met, in particular:

1. results are derived from a QSAR model whose scientific validity has been established;
2. the substance falls within the applicability domain of the QSAR model;
3. adequate and reliable documentation of the applied method is provided; and
4. the results are adequate for classification and labelling and/or risk assessment.

According to ECHA's Practical guide "How to use and report (Q)SARs", section 3.4, a QSAR Model Reporting Format (QMRF) and a QSAR Prediction Reporting Format (QPRF) are required to establish the scientific validity of the model, to verify that the Substance falls within the applicability domain of the model, and to assess the adequacy of the prediction for the purposes of classification and labelling.

[8] Guidance on information requirements and chemical safety assessment Chapter R.6: QSARs and grouping of Chemicals, Section R.6.2.2.1.f

In your comments on the draft decision, you have provided a QSAR prediction table for the monomer, bridging and cyclic forms of the target substance and the source substance, "*indicating that the substances would have similar genetic toxicity properties*", and that the structures do not show any genotoxicity alerts.

We have assessed this information and identified the following issue(s):

You have not provided any documentation for the QSAR prediction. In particular, you did not include a QMRF and/or a QPRF in your documentation. In addition, the tabulated chemical structures are not clearly identified but indicated as "*source substance and cyclic, bridging and monomer structures of target substance.*" The relevance and reliability of the information cannot be confirmed without an independent evaluation of the source studies, which form the basis of the predictions, and the exact structures which the predictions concern. Other toxicological endpoints were not compared between the target and source substances in this context.

Therefore, ECHA cannot establish whether the model is scientifically valid, whether the Substance falls within the applicability domain of the model, and whether the results are adequate for classification and labelling and/or risk assessment. The information provided is therefore not considered as bridging studies demonstrating similar properties of the target and source substances.

Worst-case prediction

As indicated above, your read-across hypothesis is based on the assumption that the source substance constitutes a worst-case for the prediction of the property under consideration of the Substance. In this context, relevant, reliable and adequate information allowing to compare the properties of the Substance and of the source substance(s) is necessary to confirm a conservative prediction of the properties of the Substance from the data on the source substance(s). Such information can be obtained, for example, from bridging studies of comparable design and duration for the Substance and of the source substance(s).

You make an unspecified reference to studies conducted for requirements under Annex VII or VIII with the benzoate-containing aluminium salt and absence of effects seen in these studies.

The data set reported in the technical dossier does not include relevant, reliable and adequate information for the Substance and for the source substance to support your read-across hypothesis for the adapted endpoints listed above. In the absence of supporting information relevant for the specific endpoint, you have not established that the source substance constitutes a worst-case for the prediction of the properties of the Substance. Therefore, you have not demonstrated the rationale for the read-across for the adapted endpoints listed above.

(Bio)transformation of the Substance and of the source substance(s) to a common compound(s)

As indicated above, your read-across hypothesis is also claiming (bio)transformation of the Substance and of the source substance to a common compound(s). In this context, information characterising the rate and extent of the hydrolysis of the Substance and of the source substance is necessary to confirm the formation of the proposed common hydrolysis product and to assess the impact of the exposure to the parent compounds.

You assume but have not provided any experimental data, neither about the hydrolysis of your Substance nor about the hydrolysis of the source substance.

In the absence of this information, you have not provided supporting evidence establishing

that the proposed common hydrolysis product is formed as assumed in your read-across hypothesis. Therefore, you have not provided sufficient supporting information to strengthen the rationale for the read-across.

4. *Adequacy and reliability of source study*

According to Annex XI, Section 1.5., if the grouping concept is applied then in all cases the results to be read across should have adequate and reliable coverage of the key parameters addressed in the corresponding test method referred to in Article 13(3). According to OECD TG 422 the highest dose level should be chosen with the aim of inducing toxic effects but not death nor obvious suffering, or reaching the limit-dose.

The source study that you have used in your read-across approach is a Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test performed according to the OECD TG 422 with the highest dose level tested 225 mg/kg bw/day without inducing any toxicity (duration 43 days for males and approximately 54 days for females). You state that 225 mg/kg bw/day was the highest dose that could be obtained using the supplied test article ("*dosed as supplied, containing 15% active ingredient*"). You also state isolating the synthesized Substance from the carrier oil is "*impractical to obtain enough material for animal testing.*"

In your comments to the draft decision you state that "*the selection of 1500 mg/kg bw containing 15% thickener in medicinal white oil was the highest concentration of thickener in medicinal white oil at which dosing was practically feasible.*" More specifically, the highest dose used in the OECD TG 422 study with the source substance was limited because the suspension of the substance in the carrier oil in concentrations above 15% was too viscous for use in a gavage tube. You also clarify further the impracticality related to the required transfer of the Substance from the synthesis (*in situ*) carrier oil to another vehicle with an interim isolation stage.

However, ECHA observes that higher doses and concentrations of the "active ingredient" were used in other toxicological testing of the main constituent (octadecanoato-O)oxoaluminium (EC 236-521-7) of the Substance. More specifically, oral gavage dosing of 2000 mg/kg bw "*solvent free*" dose was applied in acute oral toxicity study using poly alpha olefin as vehicle ([redacted] 2001). In addition, oral gavage dosing of 2000 mg/kg bw dose of the source substance was applied in acute oral toxicity study using arachis oil as vehicle ([redacted] 2013). Testing of the Substance using oral (gavage) route seems therefore possible. ECHA notes that according to OECD TG 422, "*the highest dose level should be chosen with the aim of inducing toxic effects but not death nor obvious suffering.*" Furthermore, you did not explore or clarify further the possibility of administering the test chemical via the diet instead of oral gavage. The selected dosing of the OECD TG 422 study with the source substance is therefore not justified in the absence of any toxic effects observed in the study.

The study is inconclusive with regard to toxic properties of the source substance because the highest dose level in the study did not induce any toxicity and you have not shown that the aim was to induce toxicity. Because the dose level selection was too low, and the study does not fulfil the criterion set in EU B.63/OECD TG 421 or EU B.64/OECD TG 422, its results cannot be used for purposes of read-across.

B. Assessment of prediction(s) for ecotoxicological properties

For endpoint "Growth inhibition study aquatic plants", you read-across between both Aluminium, benzoate C16-18-fatty acids complexes, EC No. 303-385-6 (CAS No. 94166-87-

7) and Aluminium nitrate nonahydrate (CAS No. 7784-27-2) as source substances and the Substance as target substance.

For endpoints "Short-term toxicity testing on aquatic invertebrates" and "Short-term toxicity testing on fish", you read-across between Aluminium, benzoate C16-18-fatty acids complexes, EC No. 303-385-6 (CAS No. 94166-87-7) as source substance and the Substance as target substance.

For endpoint "Long-term toxicity testing on aquatic invertebrates", you read-across between Aluminium nitrate nonahydrate (CAS No. 7784-27-2) as source substance and the Substance as target substance.

For endpoint "Long-term toxicity testing on fish", you read-across between Aluminium chloride hexahydrate (CAS No. 7784-13-6) as source substance and the Substance as target substance.

i. Source substance: Aluminium, benzoate C16-18-fatty acids complexes, EC No. 303-385-6 (CAS No. 94166-87-7)

For source substance Aluminium, benzoate C16-18-fatty acids complexes, you have provided read-across justification documents in IUCLID Section 13 and in an appendix to the CSR.

Your justification for applying this read-across approach for ecotoxicological endpoints is similar to the one you have used for toxicological properties (see section A above).

ECHA has identified issues with your read-across approach for ecotoxicological endpoints which are similar to those already addressed under section A above:

- The source substance is not properly characterised. Due to the presence of the benzoate moiety, the source substance is expected to contain less bridging and cycling forms compared to the Substance (see section A above).
- You have not demonstrated that the source substance constitutes a worst-case for the prediction of the ecotoxicity of the Substance in its isolated form (i.e. if released from the grease). There are no ecotoxicity results available for the Substance. Therefore, it is not possible to conclude how the source substance and the Substance compare in terms of their ecotoxicity. The benzoate moiety contained in the source substance might be masking the oxoaluminium reactivity.

ii. Source substance: inorganic Aluminium salts

Under Annex XI, Section 1.5 of the REACH Regulation, "*it is important to provide supporting information to strengthen the rationale for the read-across*". This supporting information should be sufficient to verify the crucial aspects of the read-across hypothesis and establish that the properties of the Substance can be predicted from the data on the source substance(s).

In particular, supporting information must include bridging studies to compare properties of the Substance and source substances, or information to confirm your claimed worst-case prediction.

For long-term aquatic toxicity studies on aquatic invertebrates or on fish, as well as for the toxicity study on algae, you have used two inorganic aluminium salts as source substances: Aluminium nitrate nonahydrate (CAS No. 7784-27-2) for the studies on algae and aquatic invertebrates and Aluminium chloride hexahydrate (CAS No. 7784-13-6) for the study on fish.

Your justification for this read-across relies on the assumption that the Substance in its isolated form would dissociate and degrade into inorganic aluminium species and fatty acids. You have then claimed that the toxicity would be driven by the inorganic aluminium species only and that ecotoxicity data for inorganic aluminium salts would constitute a worst-case for the prediction of the ecotoxicity of the Substance.

The Substance consists in an organic moiety (different fatty acids) bound to an aluminium atom.

In a monograph[9], OECD has proposed a scheme for assessing the environmental risk of organometallic substances. This scheme relies on a preliminary assessment of the stability and of the environmental fate of the organometallic substance in order to identify the moieties of concern, i.e. either the organometallic substance itself, its inorganic moiety, its organic moiety, or simultaneously the organometallic substance and its inorganic moiety.

According to the OECD approach, the ecotoxicity of an organometallic substance can be assessed from the ecotoxicity of its inorganic moiety if at least one of the following conditions is met[10]:

- the organometallic substance dissolves rapidly and the inorganic moiety dissociates rapidly, or
- the organometallic substance degrades instantaneously or very rapidly, or
- the ecotoxicity of the inorganic moiety is proven to be higher than the ecotoxicity of the organometallic substance.

However, the information reported in your dossier is insufficient to conclude whether any of these conditions is met:

- Even if isolated from the grease, the Substance is not expected to dissolve rapidly (water solubility was determined to be below 1.5E-4 g/L at 20°C, i.e. below the limit of quantification for the test item). No information is available about the dissociation of the Substance under environmentally relevant conditions.
- Information is insufficient to conclude on the (bio)degradation rate of the Substance. You have provided a ready biodegradability study with source substance Aluminium, benzoate C16-18-fatty acids complexes, EC No. 303-385-6 (CAS No. 94166-87-7). However, a ready biodegradability study does not provide information on the actual degradation rate of a substance, but only qualitative information.
- There are no ecotoxicity results available for the Substance. Therefore, it is not possible to compare the ecotoxicity of inorganic aluminium salts with the ecotoxicity of the Substance.

C. Conclusions on the read-across approach

As explained above, you have not established that relevant properties of the Substance can be predicted from data on the analogue substances. Therefore, your adaptation does not comply with the general rules of adaptation as set out in Annex XI, Section 1.5. and your grouping and read-across approach is rejected.

(ii) Testing material and strategy

[9] Guidance on selecting a strategy for assessing the ecological risk of organometallic and organic metal salt substances based on their environmental fate. Series on Testing & Assessment No. 212. ENV/JM/MONO(2015)2. 09 February 2015.
[10] The OECD scheme also recommends that the ecotoxicity of the organic moieties and of the potential degradation products should be assessed as well, if relevant.

In your comments to the draft decision, you also distinguish the testing strategy related to (eco)toxicological hazard assessment and risk assessment. Referring also to the past informal interactions with ECHA, you state that the "*proposed strategy is for endpoints related only to hazard assessment (i.e. qualitative endpoints showing either positive or negative results), testing should be conducted on the substance in isolated form*", whereas "*for endpoints related to risk assessment (i.e. quantitative endpoints, such as those used for PNEC and DNEL derivation), testing should be conducted on the substance in the form in which it is manufactured and used (i.e. in carrier such as base oil).*" ECHA notes that hazard assessment is required in all cases before any risk assessment is possible. It is in your responsibility that the testing is conducted in accordance with the relevant test guideline(s), as indicated in the request(s) mentioned in Appendices A to C.

Appendix A: Reasons for the requests to comply with Annex VII of REACH

Under Articles 10(a) and 12(1) of REACH, a technical dossier registered at 1 to 10 tonnes or more per year must contain, as a minimum, the information specified in Annex VII to REACH.

1. In vitro gene mutation study in bacteria (Annex VII, Section 8.4.1.)

An *In vitro* gene mutation study in bacteria is a standard information requirement in Annex VII to REACH.

You have provided a key study in your dossier:

i. OECD TG 471 (2013) with the following strains, TA 98, TA 100, TA 1535, TA 1537, and E. coli WP2 uvr A, which all gave negative results, with analogue substance aluminum, benzoate C16-18-fatty acids complexes (EC 303-385-6).

We have assessed this information and identified the following issue(s):

You have adapted this information requirement by using a Grouping of substances and read-across approach under Annex XI, Section 1.5.

As explained in the Appendix on general considerations your adaptation is rejected.

Therefore, the information requirement is not fulfilled.

In your comments to the draft decision, you indicated your agreement to conduct the requested study with the Substance in its isolated form, extracted from base oil.

To fulfil the information requirement for the Substance, the in vitro gene mutation study in bacteria (OECD TG 471) is considered suitable.

2. Growth inhibition study aquatic plants (Annex VII, Section 9.1.2.)

Growth inhibition study on aquatic plants is a standard information requirement of Annex VII of REACH.

You have provided two key studies in your dossier:

i. OECD TG 201 (2013) with *Pseudokirchneriella subcapitata* with analogue substance Aluminium, benzoate C16-18-fatty acids complexes, EC No. 303-385-6 (CAS No. 94166-87-7)
ii. OECD TG 201 (2017) with *Pseudokirchneriella subcapitata* with analogue substance Aluminium nitrate nonahydrate (CAS No. 7784-27-2)

You have adapted this information requirement by using two distinct read-across approaches under Annex XI, Section 1.5. However, as explained in the Appendix on general considerations, this adaptation is rejected.

Besides these two studies, you have also provided a discussion to claim that the Substance will not be bioaccessible during its actual service life.

Under Annex XI, Section 3, it is possible to omit testing if it can be demonstrated that exposure is absent or not significant for any of the uses of the Substance, including its manufacture.

The Substance is used as a grease thickener within base oil, and will not be used in isolated form. You have referred both to results from leaching studies performed with lithium or calcium soap greases and to the water solubility study performed with the Substance in 50% white oil to claim that the Substance will not leach out from the grease and therefore will not be bioaccessible:

- In the leaching studies, the amount of total lithium and total calcium leached from the grease was measured after a saturation period of 72 hours. None could be detected.
- In the water solubility study provided for the Substance, the Substance was tested in pharmaceutical white oil at 50% (w/w). No quantifiable concentration of aluminium was detected in water at a loading rate of 20 g/L and a saturation period of 72 hours. The amount of total aluminium dissolved in water was below the limit of quantification of the analytical method, i.e. below 12.5 µg/L at 20°C, corresponding to a concentration of 0.15 mg/L of the Substance. This indicates that less than 0.15 mg/L of the Substance would leach out from the grease into water after 72 hours.

You have further indicated that most grease-lubricated parts being sealed, actual environmental exposure could be expected to be limited.

ECHA has assessed this information and concluded that environmental exposure to the Substance or to its degradation products cannot be ruled out:

- You have claimed that most grease-lubricated parts are sealed. However, your CSR reports that the Substance can be used in grease in open systems. Therefore, environmental exposure to greases containing the Substance cannot be ruled out.
- The leaching studies or the water solubility study you are referring to have a limited duration of 72 hours. No leaching from the grease was observed (up to the limit of quantification for the Substance), but this conclusion only applies for a duration of 72 hours. The Substance or its degradation products may leach out of the grease after a longer time, or if the oil in the grease starts degrading.
- If the degradation rate of the Substance is slower than its leaching rate from the grease, then accumulation in the environment of the Substance as such is possible. No quantitative information is available on the leaching rate of the Substance from the grease, and on the degradation rate of the Substance (in the grease and for its isolated form). Therefore, release in the environment of the Substance as such cannot be ruled out.
- Ultimately, the substance will degrade and be mineralised, irrespective of the leaching rate or of the degradation rate. All the aluminium it contains will be released as inorganic aluminium: ultimately, one mole of inorganic aluminium will be released for each mole of the Substance. Therefore, when assessing the concentration of aluminium released from the Substance, the totality of aluminium contained in the Substance should be taken into account, not just the amount potentially released after 72 hours.

Therefore, your adaptation is rejected. You must perform a growth inhibition study on algae (OECD TG 201) with the Substance.

In your comments to the draft decision, you indicated your agreement to conduct the requested study.

The substance is difficult to test due to its low water solubility. OECD TG 201 specifies that for difficult to test substances, the OECD Guidance 23 is to be followed. To get reliable results, the substance properties need to be considered when performing the test, in particular with regard to the test design; including exposure system, test solution preparation, and sampling.

OECD GD 23 (Table 1) describes testing difficulties related to a specific property of the substance. You may use the approaches described in OECD GD 23 or other approaches if more appropriate for your substance. The approach selected must be justified and documented. Due to the substance properties it may be difficult to achieve and maintain the exposure concentrations. Therefore, you have to demonstrate that the measured concentrations remain within 80-120% of the nominal concentration. If this is not possible, then you must express the effect concentration based on measured values as described in the applicable test guideline. In case a dose-response relationship cannot be established (no observed effects), you must demonstrate that the test solution preparation method applied was sufficient to maximise the concentration of the Substance in the test solution.

The Substance is a UVCB comprising constituents with different properties. If you use the Water Accommodated Fraction (WAF) approach described in OECD GD 23 in your aquatic toxicity testing, you must in addition to the above:

- Provide full description of the method used to prepare the WAF (including among others loading, use of solvent, stirring speed and duration, any centrifugation or filtration step);
- Prepare WAFs in a consistent manner (including e.g. the same co-solvents and the stirring methods in all test solutions preparations);
- Choose/develop appropriate analytical methods for your substance, and conduct chemical analysis of the test medium including the changes in constituents ratios.

In your comments to the draft decision, you indicated that all identified analytical methods for measuring the substance required its dissociation. Therefore, it is acceptable that the measurements of the concentrations are based on separate analyses for the metal and the fatty acid components.

3. The long-term toxicity testing on aquatic invertebrates also requested at C.3. below (triggered by Annex VII, Section 9.1.1., column 2)

Short-term toxicity testing on aquatic invertebrates is a standard information requirement of Annex VII of REACH. However, according to Annex VII, section 9.1.1, column 2, for poorly water soluble substances (e.g. water solubility below 1 mg/L) long-term toxicity study on aquatic invertebrates (Annex IX, Section 9.1.5) must be considered instead of a short-term test. Hydrophobic and poorly water soluble substances require longer time to reach steady-state conditions and the short-term tests may not give a true measure of toxicity for this type of substances.

The Substance is poorly water soluble (water solubility was determined to be below 1.5E-4 g/L at 20°C, i.e. below the limit of quantification for the test item).

Therefore, long-term toxicity testing is needed to accurately define the hazard of the Substance.

The examination of the information provided in the Lead dossier for this endpoint, as well as the selection of the requested test and the test design are addressed in Appendix C, section 3.

Appendix B: Reasons for the requests to comply with Annex VIII of REACH

Under Articles 10(a) and 12(1) of REACH, a technical dossier registered at 10 to 100 tonnes or more per year must contain, as a minimum, the information specified in Annexes VII and VIII to REACH.

1. In vitro cytogenicity study in mammalian cells or in vitro micronucleus study (Annex VIII, Section 8.4.2.)

An *In vitro* cytogenicity study in mammalian cells or an *In vitro* micronucleus study is a standard information requirement in Annex VIII to REACH.

You have provided a key study in your dossier:

i. OECD TG 487 (2013) with analogue substance aluminum, benzoate C16-18-fatty acids complexes (EC 303-385-6).

We have assessed this information and identified the following issue(s):

You have adapted this information requirement by using a Grouping of substances and read-across approach under Annex XI, Section 1.5.

As explained in the Appendix on general considerations your adaptation is rejected.

Therefore, the information requirement is not fulfilled.

In your comments to the draft decision, you indicated your agreement to conduct the requested study with the Substance in its isolated form, extracted from base oil.

To fulfil the information requirement for the Substance, both the *in vitro* cytogenicity study in mammalian cells (Annex VIII, Section 8.4.2., test method OECD TG 473) and the *in vitro* micronucleus study (Annex VIII, Section 8.4.2., test method OECD TG 487) are considered suitable.

2. In vitro gene mutation study in mammalian cells (Annex VIII, Section 8.4.3.)

An *in vitro* gene mutation study in mammalian cells is a standard information requirement in Annex VIII to REACH in case of a negative result in the *in vitro* gene mutation test in bacteria and the *in vitro* cytogenicity test.

Your dossier contains an adaptation for an *in vitro* gene mutation study in bacteria, and an adaptation for an in vitro cytogenicity study in mammalian cells or *in vitro* micronucleus study by using a Grouping of substances and read-across approach under Annex XI, Section 1.5.

The information for the *in vitro* gene mutation study in bacteria and for the *in vitro* micronucleus study provided in the dossier are rejected for the reasons provided in the Appendix on general considerations.

The result of the requests for information in sections 1 of this Appendix and section 1 of Appendix A will determine whether the present requirement for an *in vitro* mammalian cell gene mutation study in accordance with Annex VIII, Section 8.4.3 is triggered.

You have provided a key study for this endpoint in your dossier:

i. OECD TG 476 (2013) with analogue substance aluminum, benzoate C16-18-fatty acids complexes (EC 303-385-6).

We have assessed this information and identified the following issue(s):

You have adapted this information requirement by using a Grouping of substances and read-across approach under Annex XI, Section 1.5.

As explained in the Appendix on general considerations your adaptation is rejected.

Therefore, the information requirement is not fulfilled.

Consequently, you are required to provide information for this endpoint, if the *in vitro* gene mutation study in bacteria, and the *in vitro* cytogenicity study in mammalian cells or an *in vitro* micronucleus study provide a negative result.

In your comments to the draft decision, you indicated your agreement to conduct the requested study with the Substance in its isolated form, extracted from base oil.

To fulfil the information requirement for the Substance, both the *in vitro* mammalian cell gene mutation tests using the hprt and xprt genes (OECD TG 476) and the thymidine kinase gene (OECD TG 490) are considered suitable.

3. Justification for an adaptation of the Short-term repeated dose toxicity (28 day), (Annex VIII, Section 8.6.1.)

A Short-term repeated dose toxicity study (28 days) is a standard information requirement in Annex VIII to REACH. This information may take the form of a study record or a valid adaptation in accordance with either a specific adaptation rule under Column 2 of Annex VIII or a general adaptation rule under Annex XI.

You have provided an adaptation according to Annex XI, Section 1.5. in your dossier.

As explained in the Appendix on general considerations your adaptation is rejected.

Therefore, the information requirement is not fulfilled.

Based on the above, the information you provided do not fulfil the information requirement.

Column 2 of Annex VIII, Section 8.6.1. provides that an experimental study for this endpoint is not needed if a reliable sub-chronic (90 days) or chronic toxicity study is available.

The present decision requests the registrants concerned to generate and submit a reliable sub-chronic toxicity study (90 days) (see Section 1 of Appendix C). According to Column 2 of Annex VIII, Section 8.6.1., and to prevent unnecessary animal testing, a short term toxicity study (28 days) does not therefore need to be conducted.

Because you still must comply with the information requirement in Annex VIII, Section 8.6.1., you are requested to submit a justification for the adaptation provided in Column 2 of that provision.

In your comments to the draft decision, you indicate your intention to conduct an OECD TG 422 study with the Substance fulfilling the information requirement. A justification for the adaptation in Column 2 of Annex VIII, Section 8.6.1. would not be needed in that case.

4. Screening for reproductive/developmental toxicity (Annex VIII, Section 8.7.1.)

A Screening for reproductive/developmental toxicity study (test method: EU B.63/OECD TG 421 or EU B.64/OECD TG 422) is a standard information requirement under Annex VIII to REACH, if there is no evidence from analogue substances, QSAR or *in vitro* methods that the Substance may be a developmental toxicant. There is no information available in your dossier indicating that your Substance may be a developmental toxicant.

You have provided a key study in your dossier:

i. OECD TG 422 (2013) with analogue substance aluminium, benzoate C16-18-fatty acids complexes (EC 303-385-6).

We have assessed this information and identified the following issue(s):

You have adapted this information requirement by using a Grouping of substances and read-across approach under Annex XI, Section 1.5.

As explained in the Appendix on general considerations your adaptation is rejected.

Therefore, the information requirement is not fulfilled.

In your comments to the draft decision, you indicate your agreement and intention to conduct an OECD TG 422 study with the Substance.

However, you anticipate that testing of the Substance via oral (gavage) route is likely to face technical limitations due to viscosity, and that you have reservations on the feasibility of testing higher doses, such as the limit dose. You state in your comments that "*the physical feasibility of testing the substance in this form needs to be confirmed and this will be included as part of the preliminary investigations in the range finding study.*" You suggest "*significant amounts of preliminary work to confirm the dosing regime in order to maximise the doses achieved while maintaining a suspension which is physically feasible to administer in a gavage tube.*" Therefore, you propose interim discussion with ECHA following the dosing investigations and the range finding study, and wish to confirm the dosing plan with ECHA before conducting the study.

ECHA considers such interim discussion is not needed and that testing is technically possible up to limit dose based on the information provided in your registration dossier, as also discussed in more detail in the Appendix on general considerations, section A. *Assessment of prediction(s) for toxicological properties*. Furthermore, ECHA has extended the deadline of this decision by 6 months, as explained further in Appendix D of this decision.

A study according to the test method EU B.63/OECD TG 421 or EU B.64/OECD TG 422 must be performed in rats with oral[11] administration of the Substance.

5. The long term toxicity testing on fish also requested at C.4. below (triggered by Annex VIII, Section 9.1.3., column 2)

Short-term toxicity testing on fish is a standard information requirement of Annex VIII of REACH. However, according to Annex VIII, section 9.1.3, column 2, for poorly water soluble substances (e.g. water solubility below 1 mg/L) long-term toxicity study on fish (Annex IX, Section 9.1.6) must be considered instead of an acute test. Hydrophobic and poorly water

[11] ECHA Guidance R.7a, Section R.7.6.2.3.2.

soluble substances require longer time to reach steady-state conditions and the short-term tests may not give a true measure of toxicity for this type of substances.

The Substance is poorly water soluble (water solubility was determined to be below 1.5E-4 g/L at 20°C, i.e. below the limit of quantification for the test item).

Therefore, long-term toxicity testing is needed to accurately define the hazard of the Substance.

The examination of the information provided in the Lead dossier for this endpoint, as well as the selection of the requested test and the test design are addressed in Appendix C, section 4.

Appendix C: Reasons for the requests to comply with Annex IX of REACH

Under Articles 10(a) and 12(1) of REACH, a technical dossier registered at 100 to 1000 tonnes or more per year must contain, as a minimum, the information specified in Annexes VII to IX to REACH.

1. Sub-chronic toxicity study (90-day), oral route (Annex IX, Section 8.6.2.)

A Sub-chronic toxicity study (90 day) is a standard information requirement in Annex IX to REACH.

You have provided an adaptation according to Column 2 of Annex IX, Section 8.6.2. in your dossier. You have also provided a separate data waiver justification without specifically claiming an adaptation but referring to Annex XI.

You have provided an OECD TG 422 (2013) with analogue substance aluminum, benzoate C16-18-fatty acids complexes (EC 303-385-6) to support your adaptation.

We have assessed this information and identified the following issue(s):

As provided in Annex IX, Section 8.6.2, Column 2, you may adapt the information requirement, provided you fulfil the following criterion:

- the Substance is unreactive, and
- there is no evidence of absorption and no evidence of toxicity in a 28-day 'limit test',
- particularly if it is coupled with limited human exposure.

You stated that "*since no toxicity was observed in the OECD 422 study and the maximum dose was well below the limit dose of 1000 mg/kg/day (actual maximum dose achieved was 225 mg/kg bw/day), then the likelihood of identifying any further toxic response from a 90-day study at the same concentrations is extremely low. Thus the Annex IX requirement for a subchronic toxicity study is waived in accordance with Annex XI.*"

You also state that "*entrainment of grease thickeners during the manufacturing process as part of the grease matrix severely limits exposure and will have a significant impact on the outcome of any risk assessments.*"

In your comments to the draft decision you indicate your intention to conduct an OECD TG 422 study with the Substance and "*use the results from this study to determine whether to conduct a 90 day repeat dose toxicity study.*" ECHA notes that an OECD TG 422 study alone cannot fulfil the Annex IX, Section 8.6.2., Column 2 criteria.

You have not currently demonstrated that there is no evidence of absorption and that there is no evidence of toxicity in a 28-day 'limit test' because such testing has not been provided in your documentation. Furthermore, the reported industrial and widespread professional uses (including PROC 7 and 11), and consumer uses of the substance are not indicative of limited human exposure.

In your comments to the draft decision, you suggest to "*include some simple elimination investigations (dependent upon analytical methods) into the repeat-dose range-finding study in rats to demonstrate the true extent of absorption potential.*" ECHA notes that a repeat-dose study may give indications of no absorption but not definitive proof, for which a validated test method is necessary, e.g. a toxicokinetic study.

In your comments to the draft decision you also refer to the waiver justification on repeated dose toxicity via inhalation claiming that the use of the Substance "*will not result in aerosols, particles or droplets of inhalable size, so exposure to humans via the inhalatory route will be unlikely to occur.*" While exposure assessment has not been conducted for the Substance, ECHA has based the evaluation of the likely human exposure on the above reported uses provided in the dossier at the time of issuing the draft decision. You indicate in your comments that "*a review of the uses for the substance is being undertaken and the feedback received from most of the downstream users confirmed that the substance is used only as an intermediate in the production of other aluminium salts (mainly aluminium benzoate C16-18 fatty acids complexes).*" ECHA will assess it in the latest dossier update after the deadline of this decision has passed.

Therefore, your adaptation is rejected.

While not specifically claiming an adaptation, you submitted waiving justification that could be interpreted as an adaptation using a Grouping of substances and read-across approach under Annex XI, Section 1.5.

As explained in the Appendix on general considerations your adaptation is rejected.

Therefore, the information requirement is not fulfilled.

Based on the above, the information you provided do not fulfil the information requirement.

Your comments to the draft decision, addressing the technical feasibility of the requested testing have been discussed under section 4 of Appendix B.

Referring to the criteria provided in Annex IX, Section 8.6.2, Column 2, the oral route is the most appropriate route of administration to investigate repeated dose toxicity, because although the information indicates that human exposure to the Substance by the inhalation route is likely, there is no concern for severe local effects following inhalation exposure.

Therefore the sub-chronic toxicity study must be performed according to the OECD TG 408, in rats and with oral administration of the Substance.

2. Pre-natal developmental toxicity study (Annex IX, Section 8.7.2.) in a first species

A Pre-natal developmental toxicity (PNDT) study (OECD TG 414) in one species is a standard information requirement under Annex IX to REACH.

You have provided an adaptation according to Column 2 of Annex IX, Section 8.7. in your dossier. You have also provided a separate data waiver justification without specifically claiming an adaptation but referring to Annex XI, section 1.2. Weight of Evidence.

You have provided an OECD TG 422 (2013) with the analogue substance aluminum, benzoate C16-18-fatty acids complexes (EC 303-385-6) to support your adaptation.

We have assessed this information and identified the following issues:

Annex IX the Column 2 adaptation not met

According to Annex IX, Section 8.7., Column 2, third indent, the study does not need to be conducted if the substance is of low toxicological activity. This needs to be demonstrated

with three concomitant criteria, namely:

- that there is no evidence of toxicity seen in any of the tests available; and
- that it can be proven from toxicokinetic data that no systemic absorption occurs via relevant routes of exposure; and
- that there is no or no significant human exposure.

You state that "*a GLP Regulatory study (OECD 422) was conducted in rats by daily oral gavage administration to screen for potential effects of aluminum, benzoate C16 -18 fatty acid complexes on reproduction and offspring development and the results are read across to the registered substance. There were no effects on any of the reproductive or developmental parameters measured. The limitations of this screening test preclude the conduct of further testing on the F1 developmental parameters.*"

You submit further data waiving arguments indicating your intention to "*provide weight of evidence to show a lack of bioaccessibility for the registered substance and the structural analogue aluminium benzoate C16-18 fatty acids complexes.*"

In your comments to the draft decision, you indicate your intention to conduct an OECD TG 422 study with the Substance, and that based on the study, "*a decision would be made on the appropriateness and necessity of conducting a pre-natal developmental toxicity study.*" More specifically, you state that "*depending on the available data, the pre-natal developmental toxicity study would be conducted, with the choice of species confirmed at the time, or it would be waived.*" ECHA notes that an OECD TG 422 study is not investigating absorption or toxicokinetics and does therefore not provide suitable information for the purposes of an adaptation according to Annex IX, Section 8.7., Column 2, third indent. Furthermore, an OECD TG 422 does not investigate visceral and skeletal malformations and has lower statistical power due to lower animal numbers as required in an OECD TG 414. Therefore, it is not suitable to fulfil the information requirement for a pre-natal developmental toxicity.

ECHA notes also that no studies investigating absorption or bioavailability have been provided in your documentation. Furthermore, the reported industrial and widespread professional uses (including PROC 7 and 11), and consumer uses of the substance are not indicative of limited human exposure. As explained under Appendix on general considerations, the reported read-across approach does not fulfil the criteria in Annex XI, Section 1.5. Therefore, it cannot be used as part of column 2 adaptation according to Annex IX, Section 8.7.

Therefore, your adaptation according to Column 2 of Annex IX, Section 8.7. is rejected.

Annex XI Weight of evidence adaptation not met

While not specifically claiming an adaptation, you submitted waiving justification that could be interpreted as an adaptation using Weight of evidence under REACH Annex XI. 1.2. Therefore, ECHA has also evaluated the provided information according to Annex XI, Section 1.2 of REACH (weight of evidence).

Annex XI, Section 1.2 states that there may be sufficient weight of evidence "*from several independent sources of information*".

You have only provided one source of information.

Therefore your adaptation is rejected and the information requirement is not fulfilled.

A PNDT study according to the test method OECD TG 414 must be performed in rat or rabbit as preferred species with oral[12] administration of the Substance.

3. Long-term toxicity testing on aquatic invertebrates (Annex IX, Section 9.1.5.)

Long-term toxicity testing on aquatic invertebrates is a standard information requirement of Annex IX of REACH.

You have provided two key studies in your dossier:

i. US EPA 821-R-02-013 (2017) with *Ceriodaphnia dubia* with analogue substance Aluminium nitrate nonahydrate (CAS No. 7784-27-2)

ii. OECD TG 211 (2017) with *Daphnia magna* with analogue substance Aluminium nitrate nonahydrate (CAS No. 7784-27-2)

You have adapted this information requirement by using a read-across approach under Annex XI, Section 1.5. However, as explained in the Appendix on general considerations, this adaptation is rejected.

Besides these two studies, you have also provided a discussion to claim that the Substance will not be bioaccessible during its actual service life.

However, as explained above in Appendix A, section 2, ECHA considers that environmental exposure to the Substance or to its degradation products cannot be ruled out.

Therefore, your adaptation is rejected. You must perform long-term toxicity testing on aquatic invertebrates (OECD TG 211) with the Substance.

In your comments to the draft decision, you indicated your agreement to conduct the requested study.

The substance is difficult to test due to its low water solubility, and is a UVCB. OECD TG 211 specifies that for difficult to test substances, OECD GD 23 is to be followed, as described above in Appendix A, section 2. If you decide to use Water Accommodated fraction (WAF) approach, you must follow the conditions described above in Appendix A, section 2.

4. Long-term toxicity testing on fish (Annex IX, Section 9.1.6.1.)

Long-term toxicity testing on fish is a standard information requirement of Annex IX of REACH.

You have provided a key study in your dossier:

i. ASTM E 729-96 (2017) with *Pimephales promelas* with analogue substance Aluminium chloride hexahydrate (CAS No. 7784-13-6)

You have adapted this information requirement by using a read-across approach under Annex XI, Section 1.5. However, as explained in the Appendix on general considerations, this adaptation is rejected.

[12] ECHA Guidance R.7a, Section R.7.6.2.3.2.

Besides these two studies, you have also provided a discussion to claim that the Substance will not be bioaccessible during its actual service life.

However, as explained above in Appendix A, section 2, ECHA considers that environmental exposure to the Substance or to its degradation products cannot be ruled out.

Therefore, your adaptation is rejected.

In your comments to the draft decision, you proposed to assess the ecotoxicity to fish from the aluminium content of the Substance if you can prove that the ecotoxicity of the Substance is lower than the ecotoxicity of inorganic aluminium. For this purpose, you proposed to wait for the results of the algal growth inhibition study (requested in Section A.2 of the present decision) and of the long-term toxicity study to aquatic invertebrates (requested in Section A.3 or C.3) before conducting the test on fish:

- If the NOECs obtained from the tests on algae and aquatic invertebrates are above the theoretical NOECs based on its aluminium content or are higher than the limit of solubility of the substance, then you will consider that reading across data on inorganic aluminium represents a worst case also for fish. You indicated that you would then propose to use the studies on algae and aquatic invertebrates as bridging studies to support the read-across for fish.

- If, on the contrary, the results for algae and aquatic invertebrates show that the toxicity of the substance is increased compared to the toxicity of inorganic aluminium, then this will indicate that the read-across cannot be supported. You agreed that in the latter case long-term testing on fish would need to be conducted with the registered substance.

ECHA acknowledges your comment and your testing strategy but notes that, according to the OECD guidance for organometallic substances[13], the ecotoxicity of an organometallic substance could be assessed from the ecotoxicity of its inorganic moiety if the latter is proven to be *much* greater (e.g. more than 2 orders of magnitude higher than for the organometallic substance). This may not be possible to establish for the registered substance because of its limited water solubility.

Besides, there is no scientific justification to extrapolate the findings for algae or aquatic invertebrates to fish. These organisms are from three different taxonomic groups. They have very different types of physiology, metabolism and toxicokinetics, so they may have different sensitivities to the Substance.

Therefore, you must perform long-term toxicity testing on fish (OECD TG 210) with the Substance.

The substance is difficult to test due to its low water solubility, and is a UVCB. OECD TG 210 specifies that for difficult to test substances, OECD GD 23 is to be followed, as described above in Appendix A, section 2. If you decide to use Water Accommodated fraction (WAF) approach, you must follow the conditions described above in Appendix A, section 2.

[13] Guidance on selecting a strategy for assessing the ecological risk of organometallic and organic metal salt substances based on their environmental fate. Series on Testing & Assessment No. 212. ENV/JM/MONO(2015)2. 09 February 2015.

Appendix D: Procedural history

For the purpose of the decision-making, this decision does not take into account any updates of registration dossiers after the date on which you were notified the draft decision according to Article 50(1) of REACH.

The compliance check was initiated on 11 March 2019.

ECHA notified you of the draft decision and invited you to provide comments of the notification.

ECHA took into account your comments and amended the deadline.

Deadline to submit the requested information in this decision

The timeline indicated in the draft decision to provide the information requested was 30 months from the date of adoption of the decision.

In your comments on the draft decision, you requested an extension of the timeline to 36 months based on a number of grounds: the substance is intrinsically difficult to isolate and to test; additional time will be needed for updating the dossier and preparing the samples or to accommodate any delays in the testing programme. Based on the grounds, that the substance is intrinsically difficult to isolate and to test, only, ECHA finds your request justified and agrees with your proposed extension of the deadline. Therefore, ECHA has extended the deadline of the decision to 36 months.

ECHA notified the draft decision to the competent authorities of the Member States for proposals for amendment.

As no amendments were proposed, ECHA adopted the decision under Article 51(3) of REACH.

Appendix E: Observations and technical guidance

1. This compliance check decision does not prevent ECHA from initiating further compliance checks at a later stage on the registrations present.

2. Failure to comply with the requests in this decision, or to otherwise fulfil the information requirements with a valid and documented adaptation, will result in a notification to the enforcement authorities of the Member States.

3. Test guidelines, GLP requirements and reporting

   Under Article 13(3) of REACH, all new data generated as a result of this decision needs to be conducted according to the test methods laid down in a European Commission Regulation or according to international test methods recognised by the Commission or ECHA as being appropriate.

   Under Article 13(4) of REACH, ecotoxicological and toxicological tests and analyses shall be carried out according to the GLP principles (Directive 2004/10/EC) or other international standards recognised by the Commission or ECHA.

   Under Article 10 (a) (vi) and (vii) of REACH, all new data generated as a result of this decision must be reported as study summaries, or as robust study summaries, if required under Annex I of REACH. See ECHA Practical Guide: 'How to report robust study summaries'[14].

4. Test material

   Selection of the test material(s) for UVCB substances
   The registrants of the Substance are responsible for agreeing on the composition of the test material to be selected for carrying out the tests required by the present decision. The test material selected must be relevant for all the registrants of the Substance, i.e. it takes into account the variation in compositions reported by all members of the joint submission. The composition of the test material(s) must fall within the boundary composition(s) of the Substance.

   While selecting the test material you must take into account the impact of each constituent/impurity on the test results for the endpoint to be assessed. For example, if a constituent/impurity of the Substance is known to have an impact on (eco)toxicity, the selected test material must contain that constituent/impurity. Any constituents that have harmonised classification and labelling according to the CLP Regulation (Regulation (EC) No 1272/2008) must be identified and quantified using the appropriate analytical methods.

   The OECD Series on Principles of Good Laboratory Practice and Compliance Monitoring, Number 11 [ENV/MC/CHEM(98)16] requires a careful identification of the test material and description of its characteristics. In addition, the Test Methods Regulation (EU) 440/2008, as amended by Regulation (EU) 2016/266, requires that "*if the test method is used for the testing of a* [...] *UVCB* [...] *sufficient information on its composition should be made available, as far as possible, e.g. by the chemical identity of its constituents, their quantitative occurrence, and relevant properties of the constituents*".

   In order to meet this requirement, all the constituents of the test material used for each test must be identified as far as possible. For each constituent the concentration value

[14] https://echa.europa.eu/practical-guides

in the test material must be reported in the Test material section of the endpoint study record.

Technical Reporting of the test material for UVCB substances

The composition of the selected test material must be reported in the respective endpoint study record, under the Test material section. The composition must include all constituents of the test material and their concentration values and other parameters relevant for the property to be tested. In this case you should report the accurate concentrations for the constituents (octadecanoato-O)oxoaluminium (octadecanoato-kappaO)(oxo)aluminium and (hexadecanoato-O)oxoaluminium (hexadecanoato-kappaO)(oxo)aluminium as well identity and quantity of other oxoaluminium salts of other fatty acids to the extent possible. You may use analytical information of the fatty acid starting material if direct measurement of the substance is not possible. In addition the quantification of aluminium should also be included as part of the reported information for the test material. Without such detailed reporting, ECHA may not be able to confirm that the test material is relevant for the Substance and to all the registrants of the Substance.

Technical instructions are available in the manual "How to prepare registration and PPORD dossiers" on the ECHA website[15].

5. List of references of the ECHA Guidance and other guidance/ reference documents[16]

Evaluation of available information
Guidance on information requirements and chemical safety assessment, Chapter R.4 (version 1.1., December 2011), referred to as ECHA Guidance R.4 in this decision.

QSARs, read-across and grouping
Guidance on information requirements and chemical safety assessment, Chapter R.6 (version 1.0, May 2008), referred to as ECHA Guidance R.6 in this decision.

ECHA Read-across assessment framework (RAAF, March 2017)[17]

Physical-chemical properties
Guidance on information requirements and chemical safety assessment, Chapter R.7a (version 6.0, July 2017), referred to as ECHA Guidance R.7a in this decision.

Toxicology
Guidance on information requirements and chemical safety assessment, Chapter R.7a (version 6.0, July 2017), referred to as ECHA Guidance R.7a in this decision.

Guidance on information requirements and chemical safety assessment, Chapter R.7c (version 3.0, June 2017), referred to as ECHA Guidance R.7c in this decision.

Environmental toxicology and fate
Guidance on information requirements and chemical safety assessment, Chapter R.7a (version 6.0, July 2017), referred to as ECHA Guidance R.7a in this decision.

[15] https://echa.europa.eu/manuals
[16] https://echa.europa.eu/guidance-documents/guidance-on-information-requirements-and-chemical-safety-assessment
[17] https://echa.europa.eu/support/registration/how-to-avoid-unnecessary-testing-on-animals/grouping-of-substances-and-read-across

Guidance on information requirements and chemical safety assessment, Chapter R.7b (version 4.0, June 2017), referred to as ECHA Guidance R.7b in this decision.

Guidance on information requirements and chemical safety assessment, Chapter R.7c (version 3.0, June 2017), referred to as ECHA Guidance R.7c in this decision.

PBT assessment
Guidance on information requirements and chemical safety assessment, Chapter R.11 (version 3.0, June 2017), referred to as ECHA Guidance R.11 in this decision.

Guidance on information requirements and chemical safety assessment, Chapter R.16 (version 3.0, February 2016), referred to as ECHA Guidance R.16 in this decision.

OECD Guidance documents[18]
Guidance Document on aqueous-phase aquatic toxicity testing of difficult test chemicals – No 23, referred to as OECD GD23.
Guidance Document on Mammalian Reproductive Toxicity Testing and Assessment – No 43, referred to as OECD GD43.

[18] http://www.oecd.org/chemicalsafety/testing/series-testing-assessment-publications-number.htm

Appendix F: List of the registrants to which the decision is addressed and the corresponding information requirements applicable to them

Registrant Name	Registration number	(Highest) Data requirements to be fulfilled
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Note: where applicable, the name of a third party representative (TPR) may be displayed in the list of recipients whereas the decision is sent to the actual registrant.