ED assessment of biocides – experiences so far

Biocides Day

29 October 2019

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Why assess EDs?

- Chemical substances can alter functioning of endocrine (hormonal) system
- Consequently, can negatively affect health of humans and animals in different ways
- May be of synthetic or natural origin

Biocides regulation: active substances can only be used if demonstrated that the specific use does not pose a risk to humans and the environment

Journey to ED criteria

- **2012** Biocidal Products Regulation introduces new hazard based criteria (PPP: 2009)
  - Active substances will not be approved if considered an endocrine disruptor
  - Pending adoption of scientific criteria - interim criteria

- **2017** Commission Delegated Regulation sets out scientific criteria (PPP: 2018)
  - Based on WHO definition
  - Applied from 7 June 2018 under BPR (PPP: November 2018)

Difference compared to other toxicological endpoints

- Not only look at the toxic effect, but also the underlying mechanism

What is an endocrine disruptor?

A substance is considered as having endocrine disrupting properties if it meets **all** of the following criteria:

a) it shows an adverse effect in an intact organism or its progeny (offspring)

b) it has an endocrine mode of action, that is, it alters the function(s) of the endocrine system

c) the adverse effect is a consequence of the endocrine mode of action

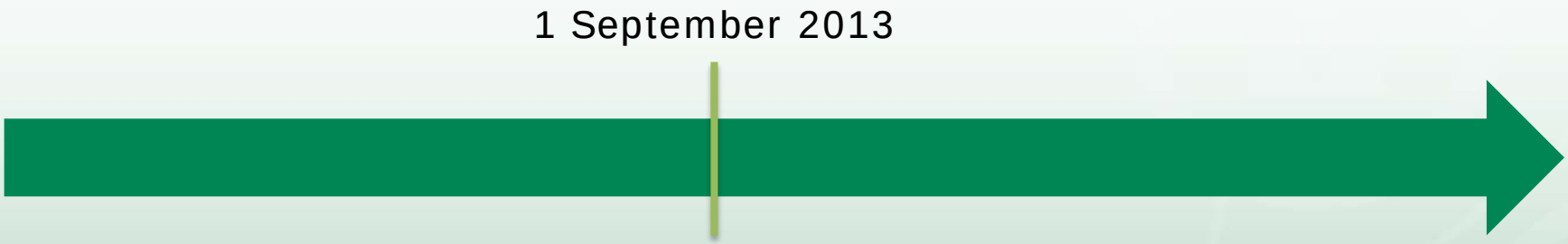
Assessment already ongoing

Assessment submitted **before** 1 September 2013

- Existing data only

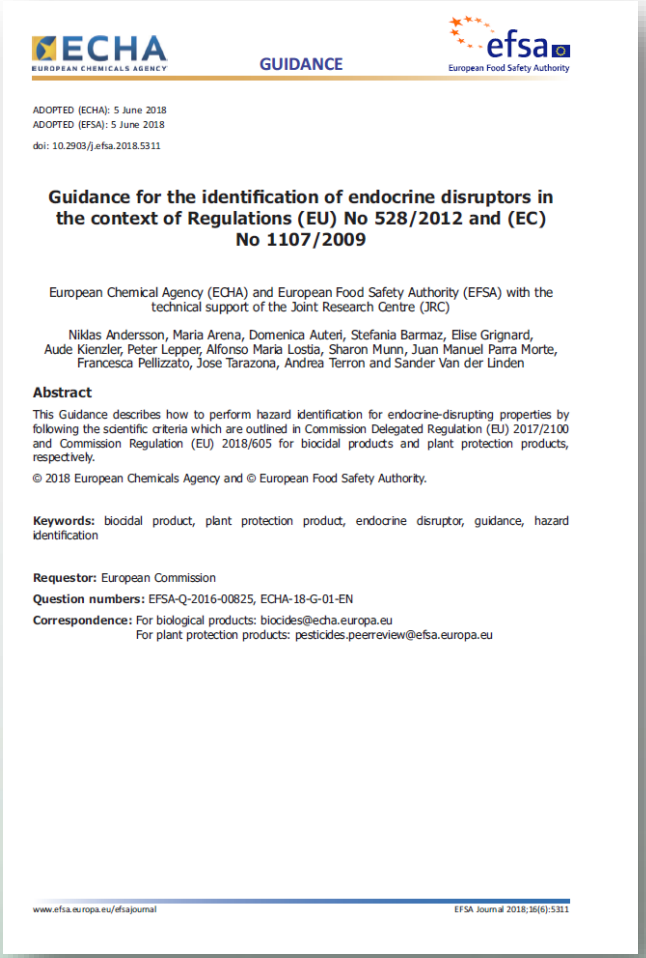
Assessment submitted **after** 1 September 2013

- Systematic literature review
- Sufficient information to conclude
- National authority can require additional information



ED guidance

- Published in June 2018
  - ECHA and EFSA
- Technical guidance for the implementation of the ED criteria
- Aimed at:
  - Applicants
  - Assessors of competent regulatory authorities



ECHA EUROPEAN CHEMICALS AGENCY GUIDANCE efsa European Food Safety Authority

ADOPTED (ECHA): 5 June 2018
ADOPTED (EFSA): 5 June 2018
doi: 10.2903/j.efsa.2018.5311

Guidance for the identification of endocrine disruptors in the context of Regulations (EU) No 528/2012 and (EC) No 1107/2009

European Chemical Agency (ECHA) and European Food Safety Authority (EFSA) with the technical support of the Joint Research Centre (JRC)

Niklas Andersson, Maria Arena, Domenica Auteri, Stefania Barmaz, Elise Grignard, Aude Kienzler, Peter Lepper, Alfonso Maria Lostia, Sharon Munn, Juan Manuel Parra Morte, Francesca Pellizzato, Jose Tarazona, Andrea Terron and Sander Van der Linden

Abstract

This Guidance describes how to perform hazard identification for endocrine-disrupting properties by following the scientific criteria which are outlined in Commission Delegated Regulation (EU) 2017/2100 and Commission Regulation (EU) 2018/605 for biocidal products and plant protection products, respectively.

Keywords: biocidal product, plant protection product, endocrine disruptor, guidance, hazard identification

Requestor: European Commission

Question numbers: EFSA-Q-2016-00825, ECHA-18-G-01-EN

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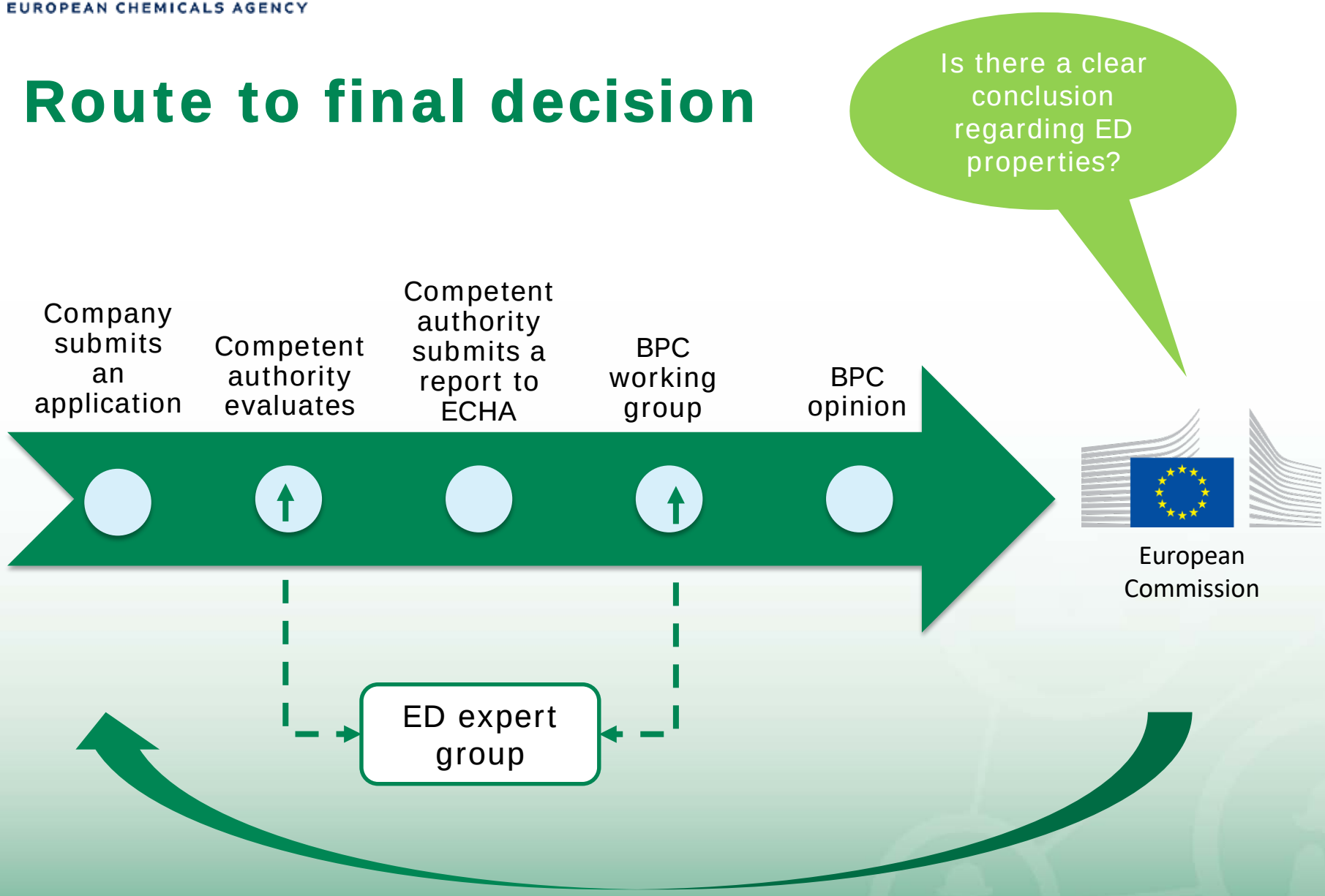
For plant protection products: pesticides.peerreview@efsa.europa.eu

Assessment strategy

- Regulatory data + other scientific information
  - Systematic literature review
- Focus on specific informative endpoints
  - Not (always) included in standard data set
- Consider whole data package
  - Positive and negative data together
  - Human health and environment

Route to final decision

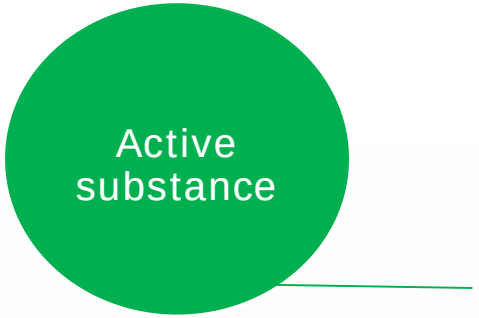


ED expert group

- ED expert group provides informal, non-binding scientific advice on assessment of ED properties of chemicals
- Several meetings per year (@ECHA)

Authorities: Member States and EEA	AT, BE, CZ, DE, DK, EL, FI, ES, FR, IE, IT, LT, NL, NO, PL, RO, SE, SK, SI, UK
Industry stakeholders	CEFIC, ECETOC
Public interest stakeholders	EEB, HEAL, CHEM Trust, HSI, ETUC
European Commission	DGs GROW, ENV, JRC, SANTE
Others	CH, OECD, EFSA

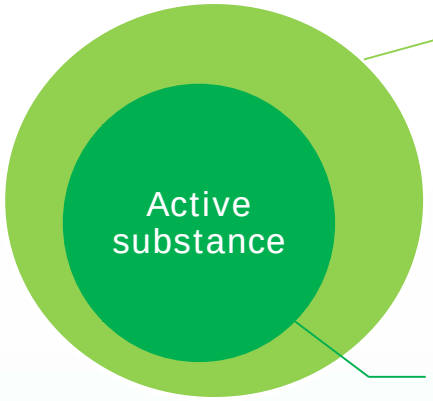
ED assessment of active substances



Assessed in a competent authority report (CAR)

- ✓ Accordance check (ECHA): **verify** ED assessment is provided
- ✓ Conclusion (yes OR no) is **required** for human health and non-target organisms
- ✓ If the active substance already meets other exclusion criteria (CMR), ED conclusion is still required!

ED assessment of biocidal products



Non-active substance – ED assessment in PAR

Active substance – ED assessment in CAR

- ✓ Assessment of **non-active substances only**
  - Active substance assessed in CAR
  - Report conclusion for active substance
- ✓ No cut-offs (at the moment)[1]
- ✓ ED indications of non-active substances might trigger further testing (e.g. under REACH)

Regulatory consequences of ED identification: active substance

Human health

- Fulfils exclusion criteria and shall **not** be approved (BPR art. 5(1))
- Can be approved if one of the derogation conditions is met (BPR art. 5(2))
  - **Risk** from exposure is **negligible**
  - **Essential** to prevent or control a serious danger to human/animal health or the environment
  - Non-approval would have a **disproportionate negative impact** on society when compared with the risk

Environment

- Meets the substitution criteria but can be approved (BPR art. 10)
- For substances with intended **biocidal mode of action** consisting of **controlling target organisms** via their **endocrine system(s):**
  - ED assessment should not consider same taxonomic phylum to assess effects on non-target organisms
  - Can only be approved if their use does not lead to unacceptable effects on non-target organisms

Regulatory consequences of ED identification: biocidal products

Product

- If the product contains a substance that is an ED, the product is regarded as an ED
- Products that are considered ED
  - Will not be authorized for use by the **general public**
  - A **comparative assessment** needs to be carried out (Art 23)

Product family

- If the **active substance** is ED, the product family is regarded as ED
- For individual products of a family containing **non-active substances** with ED properties, the decision not to authorise use for general public is limited to these products only

ED assessments received so far

- **16** biocidal active substances (and 12 separate discussions) discussed at the ED expert group

- **8** substances discussed at working groups
  - 2 substances meet ED criteria (effects on thyroid)
  - 4 substances require more data
  - 1 assessment backlog (but no indication of ED)
  - 1 assessment potentially waived

- **7** products discussed at working groups
  - Some non-active substances with ED indications (e.g. CoRAP for ED reasons)

What is going well

- ☺ Most assessments follow ED guidance
  - Extensive, additional annexes
- ☺ Assessments take all data into consideration
- ☺ Assessments are transparent
  - Missing data, grouping of effects
- ☺ Most assessments allow to follow from underlying data to final conclusion

What should be improved

- 😐 Clear differences between assessment on human health and non-target organisms
  - Literature, level 2 data, holistic evaluation
- 😐 Assessments struggle with the assessment of *in vitro* data (endocrine activity)
  - Literature data, ToxCast
- 😐 Uncertainties not sufficiently addressed
  - Dismissing positive effects, statistical significance
- 😐 Still data gaps exist that prevent from concluding on ED properties - need to conclude!

Recommendations

- Read through the guidance and start working based on the advice
- Critically evaluate the data available and make sure it is sufficient to come to a conclusion
- Plan resources and expertise to prepare and defend your applications – ask for support if needed
- Start working now! Additional data might be needed and that will take time

Thank you

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