

SUMMARY REPORT OF THE 30th PBT EXPERT GROUP MEETING

The PBT Expert Group (PBT EG) meeting was hosted virtually by ECHA on 4-5 May 2022. PBT EG was consulted on several approach development topics including (1) relevant test conditions for the sediment simulation test (OECD TG 308), (2) screening of bioaccumulation potential of ionisable substances, (3) applicability of the new OECD TG under development, *Hyalella azteca* test, in regulatory B assessment, (4) concepts for food lipid content correction in the BMF calculations for dietary laboratory test and (5) growth dilution correction of the BCF values from the OECD TG 305. ECHA presented a status update on the activities supporting the planned ECHA guidance R.11 update process.

Advice was provided on the assessment of **4 substances** in closed sessions. All substances are REACH substances of which three are currently under substance evaluation (SEv). The discussion outcomes and **nine written procedures** for which the outcome was reported at the meeting are listed in the tables below.

36 participants representing 14 Member States, Norway, Switzerland, Commission and 4 accredited stakeholder organisations (CEFIC, Concawe, ECETOC and EEB) participated.

Main outcomes of the substance discussions

Closed session

- EC 233-593-1; 4,4'-methylene bis(dibutyldithiocarbamate) (CoRAP 2023, assessed by DE): PBT EG supported the overall conclusion of the substance as vPvB. PBT EG discussed OECD TG 308 and OECD TG 307 results for the P assessment and a dietary OECD TG 305 study for the B assessment. Weight of evidence for vB conclusion included benchmarking. There are remaining uncertainties on the T and EG proposed to further explore information on reprotoxicity.
- EC 700-755-2; Reaction mass of (3E)-1,1,1,2,2,3,4,5,6,6,7,7,7-tridecafluoro-5-methoxyhept-3-ene and (2E)-1,1,1,2,3,4,5,5,6,6,7,7,7-tridecafluoro-4-methoxyhept-2-ene and (3E)-1,1,1,2,2,4,5,5,6,6,7,7,7-tridecafluoro-3-methoxyhept-3-ene (non-CoRAP, assessed by NL): There was overall support for B conclusion and suggestions to further refine the P assessment. EG was of the opinion that T cannot be concluded with the available information. Relevance of further information on e.g. long-term toxicity to fish, data on developmental toxicity and information on analogue substances on reprotoxicity was proposed to be considered further.
 - EC 274-581-6; 1-[4-(1,1-dimethylethyl)phenyl]-3-(4-methoxyphenyl)propane-1,3-dione (CoRAP 2015, assessed by DE): Substance has earlier been considered as P (PBT EG 25) and B (MSC-51). New information on long term aquatic toxicity (OECD TG 211 and TG 210) requested under SEv was discussed. No effects were seen in the studies performed at concentrations below the threshold value for T under Annex XIII. PBT EG considered T as inconclusive. EG reconfirmed the B and not vB conclusion based on an already available fish dietary study (OECD TG 305) and gained knowledge on the interpretation of the fish dietary studies. Potential ED effects should be considered for weight of evidence.
 - EC 204-279-1; 2,2',6,6'-tetra-tert-butyl-4,4'-methylenediphenol (CoRAP 2014, assessed by AT): The substance has earlier been concluded as B/vB and T. PBT EG discussed the P assessment in light of a new OECD TG 307 study performed at

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12°C. The assessment included recalculated half-lives of the parent and the main metabolites and calculated mineralisation half-lives. Fast decline of the concentration of the substance prior to mineralisation was observed in the beginning of the study indicating abiotic degradation/dissipation. The EG agreed that further refinement of the interpretation of the study results is needed to allow deriving a conclusion on P.

General PBT assessment related guidance and approach development topics

ECHA presented the status of the ongoing preparatory work on the ECHA guidance R.11: PBT/vPvB assessment update. PEG consultation of the draft guidance is planned to be started in 2022.

Discussed approach development topics to be considered in the ECHA PBT Guidance R.11 update:

- **Correction for food lipid content in the BMF calculation for dietary lab test**

OECD TG 305 (dietary exposure) states that BMF should be normalised to lipid content of fish and diet. This conversion translates a wet weight based BMF into a lipid normalised metric BMFL based on the fugacity increase concept. A Japanese research group conducted a series of dietary fish studies with hexachlorobenzene and found that lipid corrected BMF varies depending on lipid content of food, and they suggest normalisation of BMF for fish lipid alone, using 5% as for the aqueous study. It was discussed that a fish dietary bioaccumulation study should be interpreted regarding BCF, as was the original intention of the protocol. Furthermore, it was noted that a lab derived BMF is different from a field derived BMF (additionally exposure via water phase).

- **Correction for growth dilution of the BCF values from the OECD TG 305**

OECD TG 305 includes a method to correct observed elimination rate constant for growth. There has been criticism about the method (loss of chemical mass from the fish is reduced whereas the intake of chemical mass is not). The expert group supported to keep the growth correction, and while it is best to avoid fast growing fish in bioaccumulation tests, growth corrected results should be used, rather than to dismiss studies with fast growing fish.

- **Ionisable substances – screening approach in bioaccumulation assessment**

Under REACH, a study may not be waived on the basis of low octanol-water partition coefficient alone, unless the potential for bioaccumulation of the substance is solely driven by lipophilicity. The expert group discussed which parameters can be taken into account to screen out ionisable substances with low bioaccumulation potential.

- ***Hyalella azteca* BCF test (HYBIT) in bioaccumulation assessment**

There was overall support to use the new *Hyalella* test in bioaccumulation assessment. The OECD test guideline should become available in spring 2023. REACH Annex XIII and standard information requirements refer to aquatic species, not fish species specifically. Hence, results from a *Hyalella* can be used to compare against B criteria, and *Hyalella* is a relevant species which should be taken into account. Furthermore, *Hyalella* is a non-vertebrate

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organism and equilibrium is reached faster than for fish, which can be an advantage for hydrophobic substances. If a *Hyalella* BCF is compared with fish BCFs, lipid normalisation to 5% (i.e. standard lipid content in fish) would be appropriate, taking into account that the metabolic capacity between fish and *Hyalella* are different.

- **Relevant conditions for the sediment simulation test (OECD TG 308)**

Ensuring adequate oxygen concentration in the water phase and especially sediment stratification during the sediment simulation test were considered key elements in performing the test representing relevant test conditions. Clarification of the acceptable test conditions will be considered in the context of the guidance update.

Project presentations by CEFIC supporting experts:

- The LRI-ECO52 'Bioavailability, complex substances and overall persistence (BCOP): three themes to deliver a step-change in persistence assessments': The project aims at expanding the conceptual principles and applicability domain of persistence screening and prioritisation frameworks, exploring challenging substance types like difficult substances, polymers and UVCBS and developing principles for improving the use of weight of evidence in persistence assessments. Publications are under preparation.
- The LRI-ECO53 'A chemical categorization approach for Long-Range Transport Potential (LRTP) assessment': The project included analysis of possible alternative criteria, beyond atmospheric half-life and vapour pressure, to predict LRTP. The project proposes an emission fractions approach to LRTP assessment with the aim to feed in the outcome to the OECD Working Party project updating the OECD LRTP tool.

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Substances discussed at the 30th PBT EG meeting:

MS	EC number	Substance Name	Outcome	Session	CoRAP year
DE	233-593-1	2,2',6,6'-tetra-tert-butyl-4,4'-methylenediphenol	vPvB	Closed	2023
NL	700-755-2	Reaction mass of (3E)-1,1,1,2,2,3,4,5,6,6,7,7,7-tridecafluoro-5-methoxyhept-3-ene and (2E)-1,1,1,2,3,4,5,6,6,7,7,7-tridecafluoro-4-methoxyhept-2-ene and (3E)-1,1,1,2,2,4,5,5,6,6,7,7,7-tridecafluoro-3-methoxyhept-3-ene	P: refine assessment B T: testing needed/more information needed	Closed	
DE	274-581-6	1-[4-(1,1-dimethylethyl)phenyl]-3-(4-methoxyphenyl)propane-1,3-dione	P (PBT EG 25) B T: inconclusive, investigate the ED concerns	Closed	2015
AT	204-279-1	2,2',6,6'-tetra-tert-butyl-4,4'-methylenediphenol	P: Refine assessment B/vB and T (Prior this meeting)	Closed	2014

Written procedures and ad-hoc meetings between 29th and 30th meeting

MS	EC number	Substance Name	Session	Notes
BE	216-475-4	1-hydroxy-4-[[4-((methylsulphonyl)oxy)phenyl]amino]anthraquinone	closed	WP
FR	701-385-4	Reaction products of diphenylamine with nonene, branched	closed	WP
ES	438-390-3	Alkane 6	closed	WP
SE	278-355-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	closed	WP
FI	202-046-9	Decahydronaphthalene	closed and open	WP
ECHA	405-490-3	2-(phenylmethoxy)naphthalene	closed	WP
IT	201-222-2	2,5-di-tert-pentylhydroquinone	closed	WP
NL	n/a	OECD TG 308 with phenanthrene	closed	WP
ECHA	n/a	Ad-hoc_open_R.11. Guidance update_18_02_2022	open	ad-hoc meeting 18.02.2022