~~Confidential~~

Helsinki, 19 January 2024

Addressees
Registrant(s) of EC_434-280-4 as listed in Appendix 3 of this decision

Date of submission of the dossier subject to this decision
25/10/2018

Registered substance subject to this decision ("the Substance")
Substance name: Reaction mass of Octadec-9-en-1-yl ammonium di-n-hexyl phosphorodithioate and Octadec-9-en-1-yl ammonium mono- and di-butylphosphate
EC number: 434-280-4

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

Under Article 41 of Regulation (EC) No 1907/2006 (REACH), you must submit the information listed below by ***26 April 2028***.

Requested information must be generated using the Substance unless otherwise specified.

Information required from all the Registrants subject to Annex VII of REACH

1. Short-term toxicity testing on aquatic invertebrates (Annex VII, Section 9.1.1.; test method: EU C.2./OECD TG 202);

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

Information required from all the Registrants subject to Annex VIII of REACH

3. In vitro gene mutation study in mammalian cells (Annex VIII, Section 8.4.3.; test method: OECD TG 476 or TG 490);

4. Short-term toxicity testing on fish (Annex VIII, Section 9.1.3.; test method: EU C.1./OECD TG 203);

5. Simulation testing on ultimate degradation in surface water (triggered by Annex VIII, Section 9.2.; test method: EU C.25./OECD TG 309) at a temperature of 12°C;

6. Soil simulation testing (triggered by Annex VIII, Section 9.2.; test method: EU C.23./OECD TG 307) at a temperature of 12°C. Non-extractable residues (NER) must be quantified and a scientific justification of the selected extraction procedures and solvents must be provided;

7. Sediment simulation testing (triggered by Annex VIII, Section 9.2.; test method: EU C.24./OECD TG 308) at a temperature of 12°C. Non-extractable residues (NER) must be quantified and a scientific justification of the selected extraction procedures and solvents must be provided;

8. Identification of degradation products (triggered by Annex VIII, Section 9.2; test method: using an appropriate test method; OECD TG 307, 308, or 309);

9. Bioaccumulation in aquatic species (triggered by Annex VIII, Section 9.3., Column 2; test method: EU C.13./OECD TG 305, aqueous exposure/dietary exposure).

The reasons for the decision(s) are explained in Appendix 1.

Information required depends on your tonnage band

You must provide the information listed above for all REACH Annexes applicable to you in their corresponding information requirements based on registered tonnage band are listed in Appendix 3.

You are only required to share the costs of information that you must submit to fulfil your information requirements.

How to comply with your information requirements

To comply with your information requirements, you must submit the information requested by this decision in an updated registration dossier by the deadline indicated above. You must also **update the chemical safety report**, where relevant, including any changes to classification and labelling, based on the newly generated information.

You must follow the general requirements for testing and reporting new tests under REACH, see Appendix 4. In addition, the studies relating to biodegradation and bioaccumulation are necessary for the PBT assessment. However, to determine the testing needed to reach the conclusion on the persistency and bioaccumulation of the Substance you should consider the sequence in which these tests are performed and other conditions described in this Appendix.

Appeal

This decision, when adopted under Article 51 of REACH, may be appealed to the Board of Appeal of ECHA within three months of its notification to you. Please refer to http://echa.europa.eu/regulations/appeals for further information.

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 Mike Rasenberg, Director of Hazard Assessment

Appendix 1: Reasons for the request(s)
Appendix 2: Procedure
Appendix 3: Addressees of the decision and their individual information requirements
Appendix 4: Conducting and reporting new tests under REACH

[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.

Appendix 1: Reasons for the request(s)

Contents

0. Reasons common to several requests

0.1. Assessment of weight of evidence adaptations

1 In your comments on the draft decision you have indicated your intentions to address the non-compliances identified by ECHA in the draft decision for the following information requirements by using Annex XI, Section 1.2. (weight of evidence):

- In vitro gene mutation study in mammalian cells (Annex VIII, Section 8.4.3.)
- Short-term toxicity testing on aquatic invertebrates (Annex VII, Section 9.1.1.)
- Growth inhibition study aquatic plants (Annex VII, Section 9.1.2.)
- Short-term toxicity testing on fish (Annex VIII, Section 9.1.3.)
- Simulation testing on ultimate degradation in surface water (Annex VIII, Section 9.2.)
- Soil simulation testing (Annex VIII, Section 9.2.)
- Sediment simulation testing (Annex VIII, Section 9.2.)
- Identification of degradation products (triggered by Annex VIII, Section 9.2; test method: using an appropriate test method; i.e. OECD TG 307, 308, 309.
- Bioaccumulation in aquatic species (triggered by Annex VIII, Section 9.3., Column 2; test method: EU C.13./OECD TG 305, aqueous exposure/dietary exposure))

2 Annex XI, Section 1.2. states that there may be sufficient weight of evidence from several independent sources of information enabling, through a reasoned justification, a conclusion on the information requirement, while the information from each single source alone is insufficient to fulfil the information requirement.

3 The justification must have regard to the information that would otherwise be obtained from the study that must normally be performed for this information requirement.

4 According to ECHA Guidance R.4, a weight of evidence adaptation involves an assessment of the relative values/weights of the different sources of information submitted. The weight given is based on the reliability of the data, consistency of results/data, nature and severity of effects, and relevance and coverage of the information for the given regulatory information requirement. Subsequently, relevance, reliability, coverage, consistency and results of these sources of information must be balanced in order to decide whether they together provide sufficient weight to conclude on the corresponding information requirement.

5 In your comments you indicate that "upon contact with water the Substance will dissociate back into the starting material". In order to support your claim of immediate dissociation you have provided results from an experimental study aimed at demonstrating the complete and rapid dissociation of the Substance. You conclude that this study establishes the dissociation of the Substance to the following starting materials in less than a minute: [redacted] You intend to address the potential toxicity and environmental fate of each of the dissociation products of the Substance. Where data are not available on the dissociation products themselves, you predict the properties of the dissociation product by using read-across from structurally similar analogues.

6 You address the properties of dibutyl hydrogen phosphate (EC 203-509-8) and butyl dihydrogen phosphate (EC 216-604-4) by using information on butyl acid phosphate (EC

235-826-2) which you present as a mixture of dibutyl hydrogen phosphate and butyl dihydrogen phosphate. You make cross-references to information included in the REACH Registration dossiers of EC 235-826-2 and EC 203-509-8. You also include conclusions from the OECD SIDS initial assessment report on dibutyl phosphate, from the NICNAS assessments of phosphoric acid dibutyl ester and of butyl dihydrogen phosphate and butyl acid phosphate. You also refer to data on the structural analogues tributyl phosphate (CAS 126-73-8) and bis(2-ethylhexyl) hydrogen phosphate (CAS 298-07-7) and provide QSAR predictions to support your assessment. You have attached the SIDS initial assessment report and the NICNAS reports to your comments on the draft decision.

7 Finally, in the absence of available information on O,O-dihexyl hydrogen dithiophosphate (EC 201-129-7) you propose to; (1) address the genotoxicity of this dissociation product by means of read-across from the analogue substance EC 258-508-5, (2) address the aquatic toxicity properties of this dissociation product using read-across from five analogue substances (as summarised in Table 9 of your comments in Attachment 13) and, (3) address the bioaccumulation and persistence properties using read across from analogue substances (CAS 53378-51-1, CAS 298-06-6) with supporting information from QSAR modelling.

8 You conclude based on this set of information that there is sufficient existing data and information to address each of the information requirements listed above.

0.1.1. Missing robust study summaries

9 Annex XI, Section 1.2. requires that whenever weight of evidence is used adequate and reliable documentation of the applied method must be provided. Such documentation must include a robust study summary for each source of information used in the adaptations.

10 A robust study summary must provide a detailed summary of the objectives, methods, results and conclusions of a full study report providing sufficient information to make an independent assessment of the study (Article 3(28)).

11 In addition, for weight of evidence adaptations, the robust study summary must clearly indicate which key parameters of the study normally required for the information requirement are investigated in the study.

12 You intend to address the potential toxicity and environmental fate of each of the dissociation products of the Substance.

13 Where data are not available on the dissociation products themselves, you predict the properties of the dissociation product by using read-across from structurally similar analogues.

14 The hypothesis of a rapid dissociation of the substance in contact with water and the formation of the dissociation products is supported by the information provided in your comments.

15 However, instead of providing the required robust study summaries for each of the source of information used in your adaptation, you have provided cross references to information included in international assessments of the dissociation products of the Substance (NICNAS assessments and the OECD SIDS assessment) or in other registration dossiers to inform on the properties of the dissociation products of the Substance. Such cross referencing does not constitute an adequate documentation of the corresponding lines of information. You have not provided detailed information on the methods, results and conclusions, allowing for an independent assessment of each source of information and contributing to the overall weight of evidence for the information requirement under consideration.

16 In the absence of robust study summaries, the coverage of the key parameters associated with the information requirements addressed by this adaptation by these sources and the reliability of their contribution to your weight of evidence adaptations cannot be evaluated.

17 ECHA concludes that you have failed to provide a robust study summary, as required by Annex XI, Section 1.2., for the studies on dissociation products of the Substance that you reference directly from individual REACH registration dossiers, from NICNAS assessments and from OECD SIDS assessments.

18 Consequently, the sources of information listed in your comments on the draft decision and described below under the relevant information requirements cannot be considered, as currently documented, as contributing to the overall weight of evidence for the information requirement under consideration.

19 Beside this critical deficiency common to all information requirements under consideration, your weight of evidence approach has additional deficiencies.

20 Additional deficiencies that are specific for each of the information requirements individually are addressed under request(s) 1 to 9.

0.2. Assessment of technical feasibility adaptations

21 In your comments on the draft decision you state that 'as a result of the immediate dissociation in water, conducting most of the requested studies are not feasible' which we understand as your intention to use adaptations under Annex XI Section 2 (technically not possible) to omit the testing requested by ECHA in the draft decision for the following information requirements:

- Short-term toxicity testing on aquatic invertebrates (Annex VII, Section 9.1.1.)
- Growth inhibition study aquatic plants (Annex VII, Section 9.1.2.)
- Short-term toxicity testing on fish (Annex VIII, Section 9.1.3.)
- Simulation testing on ultimate degradation in surface water (Annex VIII, Section 9.2.)
- Soil simulation testing (Annex VIII, Section 9.2.)
- Sediment simulation testing (Annex VIII, Section 9.2.)
- Identification of degradation products (triggered by Annex VIII, Section 9.2; test method: using an appropriate test method; i.e. OECD TG 307, 308, 309.
- Bioaccumulation in aquatic species (triggered by Annex VIII, Section 9.3., Column 2; test method: EU C.13./OECD TG 305, aqueous exposure/dietary exposure)

22 Under Annex XI Section 2 a study may be omitted if it is not technically possible to conduct the study as a consequence of the properties of the substance.

23 The OECD GD 23 and Guidance on IRs and CSA R.7.8, including Appendix R.7.8-1 and Table R.7.8-3, provide practical guidance on accomplishing aquatic toxicity testing with difficult to test substances including guidance on approaches that can be used for substances that are unstable in the testing system due to rapid hydrolysis / dissociation in water.

24 Guidance on IRs and CSA R.11.4 (PBT/vPvB assessment) and the OECD TGs 307, 308, 309 (simulation studies) and OECD TG 305 (bioaccumulation study) provide guidance on accomplishing testing with substances with difficult to test properties including taking into account abiotic (dissociation in water) and biotic degradation processes, the testing of multiple constituents/dissociation products, and the need to develop analytical methods with suitable sensitivity to detect relevant changes in concentration (including transformation/degradation products). To assess feasibility pre-test investigations are recommended in the test guidelines.

25 In order to demonstrate that testing is not technically feasible, you must provide evidence that it has been impossible, with allocation of reasonable efforts, to develop suitable analytical methods and other test procedures to accomplish the testing so that reliable results can be generated.

26 In your comments on the draft decision you state that "EC 434-280-4 is made by reacting an [redacted]. Upon contact with water, the salt will dissociate back into the starting materials... As a result of the immediate dissociation in water, conducting most of the requested studies from the ECHA draft decision are not feasible.. In summary, due to the complexity of analytical detection of four separate substances in these studies, they are either not feasible, impractical, and/or will not provide useful results that can be interpreted."

27 ECHA acknowledges that the Substance is difficult to test due to its potential to dissociate in water (based on the dissociation study provided in your comments), its low water solubility (1.2 mg/L), and adsorptive properties (based on Log Kow 4.7)), but there are guidance documents available on how to accomplish testing with substances that rapidly hydrolyse in water and have other difficult to test properties. Further, as noted in Guidance on IRs and CSA R.11.4 (PBT/vPvB assessment), it is acknowledged that the feasibility of testing depends on the possibility to develop with reasonable efforts appropriate analytical methods with suitable sensitivity to detect relevant changes in concentration (including transformation/degradation products).

28 However, you do not provide any evidence that you have attempted the approaches outlined in OECD GD 23 and Guidance on IRs and CSA R.7.8, including Appendix R.7.8-1 and Table R.7.8-3 for aquatic toxicity testing of difficult to test substances.

29 Furthermore, you do not provide any evidence that you have attempted the approaches outlined in Guidance on IRs and CSA R.11.4, for simulation and bioaccumulation testing of difficult to test substances and failed to achieve the result. You do not provide any evidence that you have conducted any pre-test investigations to assess technical feasibility as recommended by the Guidance on IRs and CSA R.11.4 and the test guidelines.

30 You do not provide any evidence that you have attempted to develop with reasonable efforts appropriate analytical methods with suitable sensitivity to detect relevant changes in concentration (including transformation/degradation products).

31 Therefore, in the absence of the above it is concluded that you did not provide any evidence that it has been impossible, with allocation of reasonable efforts, to develop suitable analytical methods and other test procedures to accomplish the testing.

32 Your adaptations under Annex XI Section 2 are therefore rejected.

Reasons related to the information under Annex VII of REACH

1. Short-term toxicity testing on aquatic invertebrates

33 Short-term toxicity testing on aquatic invertebrates is an information requirement under Annex VII to REACH (Section 9.1.1.).

1.0. Information provided in your technical dossier

34 You have provided:

(i) a Daphnia sp. Acute Immobilisation test (2002) with the Substance

1.1. Assessment of the information provided in your technical dossier

1.1.1. The provided study does not meet the specifications of the test guideline(s)

35 To fulfil the information requirement, a study must comply with OECD TG 202 and the requirements of OECD GD 23 if the substance is difficult to test (Article 13(3) of REACH). ECHA considers the Substance difficult to test due to its adsorptive properties (log K_{ow} >4.7) and surface activity (surface tension = 34.4 mN/m).

36 Therefore, the following specifications must be met:

37 Characterisation of exposure

a) analytical monitoring must be conducted. A reliable analytical method for the quantification of the test material in the test solutions with reported specificity, recovery efficiency, precision, limits of determination (i.e. detection and quantification) and working range must be available;
b) the effect values can only be based on nominal or measured initial concentration if the concentration of the test material has been satisfactorily maintained within 20 % of the nominal or measured initial concentration throughout the test (see also Guidance on IRs and CSA, Section R.7.8.4.1);

38 For study (i) described as short-term toxicity study on daphnids you submit in your dossier:

a) total organic carbon (TOC) was used for analytical monitoring of exposure concentrations;

b) you have expressed the effect values based on nominal concentrations with the following justification:

39 "Information provided by the Sponsor indicated that the test material was a mixture of components. Therefore, given that toxicity cannot be attributed to a single component or a mixture of components but to the test material as a whole, the results were based on nominal loading rates only."

40 There are critical methodological deficiencies resulting in the rejection of the study results. More specifically TOC is not a substance specific method for analytical monitoring of exposure concentrations and you have not provided any justification why chemical specific analysis is not feasible.

41 Since the Substance is multi constituent and based on its properties, difficulties in achieving and maintaining test concentrations can be expected. In the absence of chemical specific

analysis, you have not demonstrated that exposures were within ± 20 % of the nominal concentrations throughout the test.

42 Therefore, the reported effect values based on nominal concentrations are considered not reliable and can underestimate the hazard.

43 Based on the above, the specifications of OECD TG 202 are not met.

1.2. Information provided in your comments on the draft decision

44 In your comments on the draft decision, you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2. and you rely on the following information:

i. Aquatic toxicity data on the dissociation product EC 204-015-5 as summarised in RAC (2011)

ii. A summary of available aquatic toxicity data on the analogue substance EC 235-826-5 for dissociation products EC 203-509-8 and EC 216-604-4. No robust study summaries are provided.

iii. A summary of available aquatic toxicity data on five analogue substances (as listed in Table 9 in Attachment 13 of your comments) for the dissociation product EC 201-129-7. No robust study summaries are provided.

45 You conclude that this set of information and data is sufficient to address the short-term toxicity to aquatic invertebrates properties of each of the dissociation products of the Substance and, as a result, of the Substance as well.

46 Furthermore, in your comments on the draft decision, you state that the aquatic toxicity testing will not be feasible to conduct due to the rapid dissociation of the Substance in water. We understand this as your intention to omit this information requirement based on technical feasibility according to Annex XI, Section 2 (technically not feasible).

1.3. Assessment of the information provided in your comments

1.3.1. Assessment of the weight of evidence adaptation according to Annex XI, Section 1.2.

47 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

48 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VII, Section 9.1.1 includes similar information that is produced by the OECD TG 202. These test guidelines investigate the following key parameter: The concentration of the test material leading to the immobilisation of 50% of aquatic invertebrates (exposed for a minimum of 48 hours) is estimated.

49 The source of information (i) which is extracted from the RAC (2011) report provides information on the key parameter for the dissociation product (Z)-octadec-9-enylamine (EC 204-015-5).

50 For the reasons explained in section 0.1 the sources of information (i) and (ii) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant and reliable information.

51 Therefore, the sources of information do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

52 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for short-term toxicity to aquatic invertebrates.

53 Based on the above, your adaptation is rejected.

1.3.2. Assessment of the adaptation under Annex XI, Section 2

54 In regards to your comments on technical feasibility, as already explained in Section 0.2., your adaptation under Annex XI, Section 2 is rejected.

55 Therefore, the information requirement is not fulfilled.

1.4. Study design and test specifications

56 The Substance is difficult to test due to the surface tension (34.4 mN/m) and adsorptive properties (log K_{ow} > 4.7). OECD TG 202 specifies that, for difficult to test substances, you must consider the approach described in OECD GD 23 or other approaches, if more appropriate for your substance.

57 In all cases, the approach selected must be justified and documented. Due to the properties of Substance, it may be difficult to achieve and maintain the desired exposure concentrations. Therefore, you must monitor the test concentration(s) of the Substance throughout the exposure duration and report the results.

58 If it is not possible to demonstrate the stability of exposure concentrations (i.e. measured concentration(s) not within 80-120% of the nominal concentration(s)), you must express the effect concentration based on measured values as described in OECD TG 202.

59 In case a dose-response relationship cannot be established (no observed effects), you must demonstrate that the approach used to prepare test solutions was adequate to maximise the concentration of the Substance in the test solution.

2. Growth inhibition study aquatic plants

60 Growth inhibition study on aquatic plants is an information requirement under Annex VII to REACH (Section 9.1.2.).

2.0. Information provided

61 You have provided the following information in your technical dossier:

(i) a growth inhibition study on algae (2002) with the Substance

2.1. Assessment of the information provided

2.1.1. The provided study does not meet the specifications of the test guideline(s)

62 To fulfil the information requirement, a study must comply with OECD TG 201 and the requirements of OECD GD 23 if the substance is difficult to test (Article 13(3) of REACH). Therefore, the following specifications must be met:

63 Characterisation of exposure

a) analytical monitoring must be conducted. Alternatively, a justification why the analytical monitoring of exposure concentrations is not technically feasible must

be provided;

b) the results can be based on nominal concentration only if the concentration of the test material has been maintained within ±20 % of the nominal concentration throughout the test.

64 In study (i) described as growth inhibition study on aquatic plants/algae:

a) total organic carbon (TOC) was used for analytical monitoring of exposure concentrations;

b) you express effect values based on nominal concentrations with the following justification:

65 "The organisms were exposed to a Water Accommodated Fraction (WAF) of the test material, which is an approach endorsed by Regulatory Authorities in the EU and elsewhere when the test material is a complex mixture and poorly soluble in water and the auxiliary solvents and surfactants. Exposure is expressed in terms of the original concentration of test material in water at the start of the mixing period (loading rate) irrespective of the actual concentration of test material in the WAF."

66 Furthermore, you state:

67 "Total Organic Carbon (TOC) analysis of the control, 0.050 and 0.80 mg/l loading rate WAS test preparations were performed at 0 and 96 hours. Given the background level of carbon in the control vessels and also the low level of carbon in the test vessels, it was considered that all the results gave no evidence of the presence of the test material in the WAF."

68 Based on the above, there are critical methodological deficiencies resulting in the rejection of the study results. More specifically, TOC is not a substance specific method for analytical monitoring of exposure concentrations and you have not provided any justification why chemical specific analysis is not feasible.

69 Based on the Substance properties (surface tension (34.4 mN/m) and adsorptive properties (log K_{ow} > 4.7)) difficulties in achieving and maintaining test concentrations can be expected.

70 In the absence of chemical specific analysis, you have not demonstrated that exposures were maintained within ± 20 % of the nominal concentrations throughout the test. You have not justified nor demonstrated that the WAF preparation allowed achieving maximum dissolved concentrations.

71 Therefore, the reported effect values based on nominal concentrations are considered not reliable and can thus underestimate the hazard.

72 Therefore, the requirements of OECD TG 201 are not met.

2.2. Information provided in your comments on the draft decision

73 In your comments on the draft decision, you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2. and you rely on the following information:

i. Aquatic toxicity data on the dissociation product EC 204-015-5 as summarised in the ECHA RAC opinion for this substance (2011)

ii. A summary of available aquatic toxicity data on the analogue substance EC 235-826-5 for dissociation products EC 203-509-8 and EC 216-604-4. No robust study summaries are provided.

iii. A summary of available aquatic toxicity data on five analogue substances (as listed in Table 9 in Attachment 13 of your comments) for the dissociation product EC 201-129-7. No robust study summaries are provided.

74 You conclude that this set of information and data is sufficient to address the algal toxicity properties of each of the dissociation products of the Substance and, as a result, of the Substance as well.

75 Furthermore, in your comments on the draft decision, you state that the aquatic toxicity testing will not be feasible to conduct due to the rapid dissociation of the Substance in water. We understand this as your intention to omit this information requirement based on technical feasibility according to Annex XI, Section 2 (technically not feasible).

2.3. Assessment of the information provided in your comments

2.3.1. Assessment of the weight of evidence adaptation according to Annex XI, Section 1.2.

76 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

77 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VII, Section 9.1.2 includes similar information that is produced by the OECD TG 201. This test guideline investigates the following key parameter: The concentration of the test material resulting in 50% growth inhibition of aquatic plants (exposed for a minimum of 72h) is estimated.

78 The source of information (i) which is extracted from the RAC (2011) report provides information on the key parameter for the dissociation product (Z)-octadec-9-enylamine (EC 204-015-5), however, this information does not cover the properties of the other dissociation products or the Substance as a whole.

79 For the reasons explained in the section 0.1, the sources of information (ii) and (iii) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant and reliable information

80 Therefore, the sources of information provided do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

81 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for toxicity to algae.

82 Based on the above, your adaptation is rejected.

2.3.2. Assessment of the adaptation under Annex XI, Section 2

83 In regards to your comments on technical feasibility, as already explained in Section 0.2., your adaptation under Annex XI, Section 2 is rejected.

84 Therefore, the information requirement is not fulfilled.

2.4. Study design and test specifications

85 The OECD TG 201 specifies that, for difficult to test substances, the OECD GD 23 must be followed. As already explained in the reasons for request 1 above, the Substance is difficult to test.

86 Therefore, you must fulfil the requirements described in 'Study design and test specifications' under request 1.

Reasons related to the information under Annex VIII of REACH

3. In vitro gene mutation study in mammalian cells

87 An in vitro gene mutation study in mammalian cells is an information requirement under Annex VIII, Section 8.4.3., in case of a negative result in the in vitro gene mutation test in bacteria and the in vitro cytogenicity test.

88 Your dossier contains negative results for both an in vitro gene mutation study in bacteria and an adequate in vitro and in vivo cytogenicity studies.

89 Therefore, the information requirement is triggered.

3.0. Information provided

90 In your technical dossier, you have not provided any in vitro gene mutation study in mammalian cells.

91 In your comments on the draft decision, you have indicated your intentions to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2. and you rely on the following information:

i. Two *in vitro* gene mutation studies in mammalian cells on (Z)-octadec-9-enylamine (EC 204-015-5) referenced in the ECHA RAC opinion on EC 204-015-5 (2011), in the EU Risk Assessment Report for primary alkyl amines (2008) and in the NICNAS IMAP human health tier II assessment for primary aliphatic (C12-22) and fatty amines (2017);

ii. A gene mutation study in mammalian cells on dibutyl hydrogen phosphate (CAS 107-66-4) referred from the registration dossier of that substance and referenced in the NICNAS IMAP human health tier II assessment for phosphoric acid, dibutyl ester (2019);

iii. The conclusion of the NICNAS on absence of genotoxicity potential of butyl acid phosphate (CAS 12788-93-1) and butyl dihydrogen phosphate (CAS 1623-15-0) (2019);

iv. A gene mutation study in mammalian cells on the analogue substance reaction mass of diisobutyl hydrogen phosphate and isobutyl dihydrogen phosphate (EC 911-351-2) – referred from the registration dossier of that substance;

v. A gene mutation study in mammalian cells on the analogue substance reaction mass of methyl dihydrogen phosphate and orthophosphoric acid and dimethyl hydrogen phosphate (EC 908-996-7) referred from the registration dossier of that substance;

vi. A gene mutation study in mammalian cells on the analogue substance reaction mass of hexadecyl dihydrogen phosphate and dihexadecyl hydrogen phosphate (EC 911-302-5) referred from the registration dossier of that substance.

92 You conclude that this set of information is sufficient to address the gene mutation in mammalian cells properties of each of the dissociation products of the Substance, and as a result, of the Substance itself as well.

3.1. Assessment of the information provided

93 In addition to the deficiencies identified in Section 0.1., ECHA identified endpoint specific issue(s) addressed below.

94 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VIII, Section 8.4.3 includes similar information that is produced by the OECD TG 476/490 and the OECD TG 488. These test guidelines investigate the following key parameter: Detection and quantification of gene mutations (point mutations, frame-shift mutations, small deletions, etc.) including data on the frequency of mutant colonies in cultured mammalian cells (in vitro) or mutant frequency for each tissue in mammals (in vivo).

95 The source of information i., which is extracted from the EU RAR (2008) and RAC (2011) reports, provides information on the key parameter for the dissociation product (Z)-octadec-9-enylamine (EC 204-015-5). However this information does not cover the properties of the other dissociation products or of the Substance as a whole.

96 For the reasons explained in the section 0.1, the sources of information ii.-vi. that are lacking robust study summaries cannot be considered as contributing on this key parameter with any relevant and reliable information.

97 The sources of information do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

98 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for in vitro gene mutation in mammalian cells.

99 Based on the above, your adaptation is rejected and the information requirement is not fulfilled.

3.2. Specification of the study design

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

4. Short-term toxicity testing on fish

101 Short-term toxicity testing on fish is an information requirement under Annex VIII to REACH (Section 9.1.3.).

4.0. Information provided in your technical dossier

(i) a fish acute toxicity test (2002) with the Substance

102 To fulfil the information requirement, a study must comply with OECD TG 203 and the requirements of OECD GD 23 if the substance is difficult to test (Article 13(3) of REACH).

103 Therefore, the following specifications must be met:

Characterisation of exposure

a) analytical monitoring must be conducted. A reliable analytical method for the quantification of the test material in the test solutions with reported specificity, recovery efficiency, precision, limits of determination (i.e. detection and quantification) and working range must be available;

b) the results can be based on nominal concentration only if the concentration of the test material has been maintained within ±20 % of the nominal concentration throughout the test.

104 In study (i) described as a short-term toxicity study on fish:

105 Characterisation of exposure

a) total organic carbon (TOC) was used for analytical monitoring of exposure concentrations;
b) you have expressed the effect values based on nominal concentrations with the following justification:

106 "Information provided by the Sponsor indicated that the test material was a mixture of components. Therefore, given that toxicity cannot be attributed to a single component or a mixture of components but to the test material as a whole, the results were based on nominal loading rates only."

107 Based on the above, there are critical methodological deficiencies resulting in the rejection of the study results. More, specifically TOC is not a substance specific method for analytical monitoring of exposure concentrations and you have not provided any justification why chemical specific analysis is not feasible.

108 Based on the Substance properties (surface tension (34.4 mN/m) and adsorptive properties (log K_{ow} > 4.7)), difficulties in achieving and maintaining test concentrations can be expected. In the absence of chemical specific analysis, you have not demonstrated that exposures were within ± 20 % of the nominal concentrations throughout the test.

109 Therefore, the reported effect values based on nominal concentrations are considered not reliable and can underestimate the hazard.

110 Therefore, the requirements of OECD TG 203 are not met.

4.1. Information provided in your comments on the draft decision

111 In your comments on the draft decision, you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2. and you rely on the following information:

i. Aquatic toxicity data on the dissociation product EC 204-015-5 as summarised in the ECHA RAC opinion for this substance (2011);

ii. A summary of available aquatic toxicity data on the analogue substance EC 235-826-5 for dissociation products EC 203-509-8 and EC 216-604-4. No robust study summaries are provided;

iii. A summary of available aquatic toxicity data on five analogue substances (as listed in Table 9 in Attachment 13 of your comments) for the dissociation product EC 201-129-7. No robust study summaries are provided.

112 You conclude that this set of information and data is sufficient to address the short-term toxicity to fish properties of each of the dissociation products of the Substance and, as a result, of the Substance as well.

113 Furthermore, in your comments on the draft decision, you state that the aquatic toxicity testing will not be feasible to conduct due to the rapid dissociation of the Substance in water. We understand this as your intention to omit this information requirement based on technical feasibility according to Annex XI, Section 2 (technically not feasible).

4.2. Assessment of the information provided in your comments

4.2.1. Assessment of the weight of evidence adaptation according to Annex XI, Section 1.2.

114 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

115 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VIII, Section 9.1.3 includes similar information that is produced by the OECD TG 203. This test guideline investigates the following key parameter: the concentration of the test material leading to the mortality of 50% of juvenile fish (exposed for a minimum of 96 hours) is estimated.

116 The source of information (i) which is extracted from the ECHA RAC opinion (2011) provides information on the key parameter for the dissociation product (Z)-octadec-9-enylamine (EC 204-015-5). However this information does not cover the properties of the other dissociation products or of the Substance as a whole

117 For the reasons explained in the section 0.1, the sources of information (ii) and (iii) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant and reliable information.

118 The sources of information provided do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

119 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for short-term toxicity to fish.

120 Based on the above, your adaptation is rejected.

4.2.2. Assessment of the adaptation under Annex XI, Section 2

121 In regards to your comments on technical feasibility, as already explained in Section 0.2., your adaptation under Annex XI, Section 2 is rejected.

122 Therefore, the information requirement is not fulfilled.

4.3. Study design and test specifications

123 OECD TG 203 specifies that, for difficult to test substances, OECD GD 23 must be followed. As already explained in the reasons for request 1 above, the Substance is difficult to test. Therefore, you must fulfil the requirements described in 'Study design and test specifications' under request 1.

5. Simulation testing on ultimate degradation in surface water

124 Further degradation testing must be considered if the chemical safety assessment (CSA) according to Annex I indicates the need to investigate further the degradation of the substance (Annex VIII, Section 9.2., Column 2).

5.0. Triggering of the information requirement

125 This information requirement is triggered in case the chemical safety assessment (CSA) indicates the need for further degradation investigation (Annex I, Section 4; Annex XIII, Section 2.1), such as if the substance is a potential PBT/vPvB substance (Guidance on IRs and CSA, Section R.11.4.).

126 This is the case if the Substance itself or any of its constituent or impurity present in concentration ≥ 0.1% (w/w) or relevant transformation/degradation product meets the following criteria based on screening information:

- it is potentially persistent or very persistent (P/vP) as:
  - it is not readily biodegradable (*i.e.* <70% degradation in an OECD 301F);
- it is potentially bioaccumulative or very bioaccumulative (B/vB) as:
  - it has a high potential to partition to lipid storage (*e.g.* log K_{ow} > 4.5).
  - for some groups of substances (e.g. organometals, ionisable substances, surfactants) other partitioning mechanisms may drive bioaccumulation (e.g. binding to protein/cell membranes) and high potential for bioaccumulation cannot be excluded solely based on its potential to partition to lipid

127 Your registration dossier provides the following PBT/vPvB screening information:

- the Substance is not readily biodegradable (no degradation, i.e. 0% of the test material, calculated from the oxygen consumption values, was observed after 28 days in an OECD TG 301F study);
- the Substance has a high potential to partition to lipid storage (Log K_{ow} > 4.5 based on OECD TG 117);
- the Substance is ionisable at pH 4, 7, and 9 and a surfactant (surface tension = 34.4 mN/m) and therefore high potential for bioaccumulation cannot be excluded based on information of log K_{ow} only.

128 Furthermore:

- it is not possible to conclude on the bioaccumulation potential of the Substance (see request 9 of this decision), and
- the Substance fulfils the criteria for being T as it is classified as STOT RE 2 as well as Aquatic Chronic 1.

129 Under section 2.3 of your IUCLID dossier ('PBT assessment'), you conclude that the Substance is not PBT/vPvB based on the assessment of its dissociation products.

130 You base your conclusion on the following assumptions:

131 The Substance dissociates in contact with water back to the starting materials. The starting materials are as follows:

132 [redacted]Regarding persistence properties you provide the following:

- Starting material (1) is concluded to be readily biodegradable based on an EU RAR report (2008). You did not provide further information to support that conclusion.Starting materials (2), (3) and (4) are not readily biodegradable.

133 Regarding bioaccumulation you provide the following:

- Starting material (1) is considered B but not vB based on an EU RAR report (2008). You did not provide further information to support that conclusion
- Starting materials (2), (3) and (4) are considered not B/vB based on BCF values predicted with LMC OASIS Catalogic v5.11.17, BCF base-line model v.02.09.

  in addition, for starting material (4), the not B/vB conclusion is supported based on BCF data of a source substance i.e. Phosphorodithioic acid, O,O-diethyl ester (CAS 298-06-6, EC 206-055-9).

134 We have assessed the additional information in your PBT assessment and identified the following issues.

135 Regarding persistence properties:

136 ECHA acknowledges that as regards the starting material (1) you have provided additional documentation in your comments on the draft decision, including references to information from the EU RAR (2008) and ECHA RAC opinion (2011) on the starting material (1) and that these reports indicate that the starting material (1) is unlikely to be P.

137 However, the Substance, and the starting materials (2), (3) and (4) are not readily biodegradable. Therefore they are considered to meet the screening criteria for P/vP.

138 In your comments on the draft decision you agree that the Substance meets the screening criteria for persistence and you have not provided information to challenge the conclusion that the Substance is not readily biodegradable. However, you argue based on a weight of evidence that starting materials (2), (3) and (4) are not P/vP. However, this new information in the format of a weight of evidence does not allow a conclusion to be reached on the persistence properties of the Substance (for the reasons explained under Requests 5, 6, 7, and 8).

139 Therefore, P/vP properties cannot be ruled out for the Substance.

140 Regarding bioaccumulation properties:

141 As regards the starting material (1), ECHA acknowledges that you have provided additional documentation in your comments on the draft decision including references to information from the EU RAR (2008) and ECHA RAC opinion (2011) on the starting material (1). The EU RAR (2008) and the RAC opinion (2011) conclude that the starting material (1) is unlikely to be B, although it is noted that the upper end of the possible range of BCFs in the RAC (2011) report are in the range for B since it is >2000 (i.e. BCF range 200-2400).

142 As regards starting materials (2), (3) and (4) – although you agree in your comments on the draft decision that the Log Kow of the Substance is 4.7 and therefore exceeds the screening criteria of 4.5 for bioaccumulation, you argue based on a weight of evidence provided in your comments that starting materials (2), (3) and (4) are not B/vB. However, this new information in the format of a weight of evidence does not allow a conclusion to be reached on the bioaccumulation property of the Substance (for the reasons explained under Request 9).

143 The QSAR predictions for starting materials (2), (3) and (4) and, in addition, the read-across for component (4) are further rejected for the following reasons.

5.0.1. The QSAR predictions for starting materials (2), (3) and (4) are rejected

5.0.1.1. log K_{ow} is not a reliable basis to predict bioaccumulation properties for ionised and/or surface active substances

144 For Substances that are ionised and/or surface active, log K_{ow} alone is not a reliable basis to predict bioaccumulation properties (Guidance on IR and CSA R7.10-3). Instead, other partitioning mechanisms may drive bioaccumulation (e.g. binding to protein/cell membranes).

145 You predict BCF values for component (2), (3) and (4) by using BCF base-line model v.02.09. You state that metabolism and/or diameter were considered in the respective predictions as mitigating factors. You do not explain how ionisation was taken into account for BCF prediction.

146 BCF base-line model v.02.09 predicts BCF values based on the estimated log K_{ow} of the input structure. Even though the model is capable to take ionisation into account for acids

as a mitigating factor, the calculation of BCF is uncertain for substances that are ionised at different environmentally relevant pH, i.e. 4, 7 and 9.

147 Starting materials (2), (3) and (4) are ionised at environmentally relevant pH 4 – 9. Therefore, the reliability of predicted BCF values obtained with BCF base-line model is uncertain and their bioaccumulation potential can be underestimated.

5.0.2. The read-across for component (4) is rejected

5.0.2.1. Absence of read-across documentation

148 Annex XI, Section 1.5 requires that whenever read-across is used adequate and reliable documentation of the applied method must be provided.

149 Such documentation must include an explanation why the properties of the Substance may be predicted from information on the source substance(s).

150 You have provided a BCF value of a structural analogue substance (EC 206-055-9), i.e. source substance, however, you have not provided documentation as to why this information is relevant for starting material (4) and thus why the properties of starting material (4) may be predicted from information on the source substance.

151 In the absence of such documentation, the bioaccumulation properties of starting material (4) cannot be reliably predicted from the data on the source substance.

152 Moreover, based on the properties of the source substance, it might underestimate the hazard of starting material (4), as it has a shorter carbon chain length and lower log K_{ow}. Therefore, the BCF value obtained with the source substance is expected to be lower than a BCF that would be obtained with starting material (4).

5.0.3. Conclusion on the PBT assessment of the Substance

153 The Substance is a potential PBT/vPvB therefore further information on P and B properties is required, and the information provided in your comments on the draft decision does not allow a conclusion to be reached on the PTB/vPvB properties of the Substance (as addressed under requests 5, 6, 7, 8 and 9). Therefore, the chemical safety assessment (CSA) indicates the need for further degradation investigation.

5.1. Information provided to fulfil the information requirement

154 Your registration dossier does not include any information on aerobic and anaerobic transformation in surface water.

155 Therefore the information requirement is not met.

5.2. Information provided in your comments on the draft decision

156 In your comments on the draft decision you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2 and you rely on the following information:

i. Additional documentation including the EU RAR (2008) and RAC opinion (2011), for the assessment of the persistence properties of starting material (1):

ii. A summary of available information on the biodegradability of dibutyl phosphate EC 203-509-8 (starting material 2). No robust summaries are provided:

iii. A summary of biodegradability information on the following analogue substances: Butyl acid phosphate (CAS 12788-93-1), Dodecyl dihydrogen phosphate (CAS 2627-35-2), Hexadecyl dihydrogen phosphate potassium salt (CAS 19035-79-1), [redacted] (for starting materials 2 and 3), and [redacted] (for starting material 4). No robust study summaries are provided.

157 You conclude that this set of information and data is sufficient to address the simulation in surface water information requirement for each of the dissociation products of the Substance and, as a result, of the Substance as well.

158 Furthermore, in your comments on the draft decision, you state that simulation testing in surface water will not be feasible to conduct due to the rapid dissociation of the Substance in water.

5.3. Assessment of the information provided in your comments

5.3.1. Assessment of the weight of evidence adaptation according to Annex XI Section 1.2

159 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

160 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VIII, Section 9.2., Column 2 for further degradation testing includes similar information that is produced by the OECD TG 309. This test investigates the following key parameter: The rate of aerobic transformation of the test material in natural surface water is determined; and the identity and rates of formation and decline of transformation/degradation products are determined if those are: (a) detected at ≥ 10% of the applied dose in the total water-sediment system at any sampling time, or (b) continuously increasing during the study even if their concentrations are < 10% of the applied dose (unless appropriate justification is provided).

161 The source of information (i) provides information on the key parameter for the dissociation product (Z)-octadec-9-enylamine (EC 204-015-5), however, this information does not cover the properties of the other dissociation products or the Substance as a whole.

162 For the reasons explained in section 0.1 the sources of information (ii-iii) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant or reliable information.

163 The sources of information provided do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

164 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for simulation in surface water.

5.3.2. Assessment of the adaptation under Annex XI, Section 2

165 In regards to your comments on technical feasibility, as already explained in Section 0.2, your adaptation under Annex XI, Section 2 is rejected.

166 Therefore, the information requirement is not fulfilled.

5.4. Study design and test specifications

167 Simulation degradation studies must include two types of investigations (Guidance on IRs and CSA, Section R.7.9.4.1.):

1) a degradation pathway study where transformation/degradation products are quantified and, if relevant, are identified, and

2) a kinetic study where the degradation rate constants (and degradation half-lives) of the parent substance and of relevant transformation/degradation products are experimentally determined.

168 You must perform the test, by following the pelagic test option with natural surface water containing approximately 15 mg dw/L of suspended solids (acceptable concentration between 10 and 20 mg dw/L) (Guidance on IRs and CSA, Section R.11.4.1.1.3.).

169 The required test temperature is 12°C, which corresponds to the average environmental temperature for the EU (Guidance on IRs and CSA, Table R.16-8) and is in line with the applicable test conditions of the OECD TG 309.

170 As specified in Guidance on IRs and CSA, Section R.7.9.4.1., the organic carbon (OC) concentration in surface water simulation tests is typically 2 to 3 orders of magnitude higher than the test material concentration and the formation of non-extractable residues (NERs) may be significant in surface water tests. Paragraph 52 of the OECD TG 309 provides that the "total recovery (mass balance) at the end of the experiment should be between 90% and 110% for radiolabelled substances, whereas the initial recovery at the beginning of the experiment should be between 70% and 110% for non-labelled substances". NERs contribute towards the total recovery. Therefore, the quantity of the (total) NERs must be accounted for the total recovery (mass balance), when relevant, to achieve the objectives of the OECD TG 309 to derive degradation rate and half-life. The reporting of results must include a scientific justification of the used extraction procedures and solvents.

171 For the persistence assessment by default, total NERs is regarded as non-degraded Substance. However, if reasonably justified and analytically demonstrated a certain part of NERs may be differentiated and quantified as irreversibly bound or as degraded to biogenic NERs, such fractions could be regarded as removed when calculating the degradation half-life(s) (Guidance on IRs and CSA, Section R.11.4.1.1.3.). Further recommendations may be found in the background note on options to address non-extractable residues in regulatory persistence assessment available on the ECHA website (NER - summary 2019 (europa.eu)).

172 Relevant transformation/degradation products are at least those detected at ≥ 10% of the applied dose at any sampling time or those that are continuously increasing during the study even if their concentrations do not exceed 10% of the applied dose, as this may indicate persistence (OECD TG 309; Guidance on IRs and CSA, Section R.11.4.1.).

6. Soil simulation testing

173 Further degradation testing must be considered if the chemical safety assessment (CSA) according to Annex I indicates the need to investigate further the degradation of the substance (Annex VIII, Section 9.2., Column 2).

6.0. Triggering of the information requirement

174 This information requirement is triggered in case the chemical safety assessment (CSA) indicates the need for further degradation investigation (Annex I, Section 4; Annex XIII,

Section 2.1), such as if the substance is a potential PBT/vPvB substance (Guidance on IRs and CSA, Section R.11.4.).

175 As already explained in the above reasons for Request 5, the Substance is a potential PBT/vPvB substance.

176 Further, the Substance will be completely ionised at pH = 4, 7, 9, indicating high potential to adsorb to soil.

177 Therefore, the chemical safety assessment (CSA) indicates the need for further degradation investigation. Based on the adsorptive properties of the Substance, soil represents a relevant environmental compartment.

6.1. Information provided in your dossier to fulfil the information requirement

178 Your registration dossier does not include any information on aerobic and anaerobic biodegradation in soil.

6.2. Information provided in your comments on the draft decision

179 In your comments on the draft decision you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2 and you rely on the following information:

i. Additional documentation including the EU RAR (2008) and the ECHA RAC opinion (2011) for the assessment of the persistence properties of starting material (1).

ii. A summary of available information on the biodegradability of [redacted] (starting material 2). No robust summaries are provided.

iii. A summary of biodegradability information on the following analogue substances: Butyl acid phosphate (CAS 12788-93-1), Dodecyl dihydrogen phosphate (CAS 2627-35-2), Hexadecyl dihydrogen phosphate potassium salt (CAS 19035-79-1), [redacted] (for starting materials 2 and 3), and [redacted]s (for starting material 4). No robust study summaries are provided.

180 You conclude that this set of information and data is sufficient to address the simulation in soil information requirement for each of the dissociation products of the Substance and, as a result, of the Substance as well.

181 Furthermore, in your comments on the draft decision, you state that simulation testing in soil will not be feasible to conduct due to the rapid dissociation of the Substance in water.

182 You also provide a statement that simulation tests for soil and sediment are not required as direct or indirect exposure of soils and sediments is unlikely. We understand that you seek to adapt this information requirement using Column 2 of Annex IX, Section 9.2.1.3.

183 We have assessed your comments and have identified the following issues.

6.3. Assessment of the information provided in your comments

6.3.1. Assessment of the weight of evidence adaptation according to Annex XI Section 1.2

184 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

185 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VIII, Section 9.2., Column 2 for further degradation testing includes similar information that is produced by the OECD TG 307. This test investigates the following key parameter: the rate of aerobic and anaerobic transformation of the test material in four soil types, and the identity and rates of formation and decline of transformation products in at least one soil type.

186 The source of information (i) provides information on the key parameter for the dissociation product (1) (Z)-octadec-9-enylamine (EC 204-015-5), however, this information does not cover the properties of the other dissociation products or the Substance as a whole.

187 For the reasons explained in section 0.1 the sources of information (ii-iii) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant or reliable information.

188 The sources of information provided do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

189 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for soil simulation.

6.3.2. Assessment of the adaptation under Annex XI, Section 2

190 In regards to your comments on technical feasibility, as already explained in Section 0.2, your adaptation under Annex XI, Section 2 is rejected.

6.3.3. Assessment of the adaptation under Column 2 of Annex IX, Section 9.2.1.3

191 Regarding your statement that soil and sediment simulations tests are not required as the exposure of soils and sediments is unlikely which we understand as your intention to adapt this information requirement using Column 2 of Annex IX, Section 9.2.1.3.

192 However, this provision is not an adaptation possibility at Annex VIII when (triggered by column 2) further degradation testing is required to assess PBT or vPvB properties of the substance (Annex XIII, section 2.1.). As set out in Annex XIII (and further explained in Guidance on IRs and CSA R.11.4), testing to conclude on potential PBT/vPvB properties cannot be omitted unless the process and use conditions of the substance meet the conditions as specified in Section 3.2(b) or (c) of Annex XI, and subsequently the substance is considered as if it is a PBT or vPvB in the registration dossier. Annex XI Section 3.2(b) requires that the Substance is used throughout the lifecycle under strictly controlled conditions, and (c) requires that the Substance is not released during the lifecycle.

193 You have not provided an adaptation under Annex XI section 3.2 (b) or (c) and you do not provide a rigorous exposure assessment demonstrating that the Substance is used throughout the lifecycle under strictly controlled conditions, or that the Substance not released during its lifecycle. To the contrary, as evident from your registration dossier, your Substance is used as a lubricant additive and has end uses by consumers and professional workers. These uses are associated with the following ERCs: ERC9a: Widespread use of functional fluid (indoor) & ERC9b: Widespread use of functional fluid (outdoor) indicating environmental releases during use.

194 Therefore, the information requirement is not fulfilled.

6.4. Study design and test specifications

195 Simulation degradation studies must include two types of investigations (Guidance on IRs and CSA, Section R.7.9.4.1.):

1) a degradation pathway study where transformation/degradation products are quantified and, if relevant, are identified, and

2) a kinetic study where the degradation rate constants (and degradation half-lives) of the parent substance and of relevant transformation/degradation products are experimentally determined.

196 In accordance with the specifications of OECD TG 307, you must perform the test using at least four soils representing a range of relevant soils (i.e. varying in their organic content, pH, clay content and microbial biomass).

197 The required test temperature is 12°C, which corresponds to the average environmental temperature for the EU (Guidance on IRs and CSA, Table R.16-8) and is in line with the applicable test conditions of the OECD TG 307.

198 In accordance with the specifications of OECD TG 307, non-extractable residues (NER) must be quantified. The reporting of results must include a scientific justification of the used extraction procedures and solvents (Guidance on IRs and CSA, Section R.7.9.4.1.). By default, total NER is regarded as non-degraded Substance.

199 However, if reasonably justified and analytically demonstrated a certain part of NER may be differentiated and quantified as irreversibly bound or as degraded to biogenic NER, such fractions could be regarded as removed when calculating the degradation half-life(s) (Guidance on IRs and CSA, Section R.11.4.1.1.3.).

200 Further recommendations may be found in the background note on options to address non-extractable residues in regulatory persistence assessment available on the ECHA website.

201 Relevant transformation/degradation products are at least those detected at ≥ 10% of the applied dose at any sampling time or those that are continuously increasing during the study even if their concentrations do not exceed 10% of the applied dose, as this may indicate persistence (OECD TG 307; Guidance on IRs and CSA, Section R.11.4.1.).

7. Sediment simulation testing

202 Further degradation testing must be considered if the chemical safety assessment (CSA) according to Annex I indicates the need to investigate further the degradation of the substance (Annex VIII, Section 9.2., Column 2).

7.0. Triggering of the information requirement

203 This information requirement is triggered in case the chemical safety assessment (CSA) indicates the need for further degradation investigation (Annex I, Section 4; Annex XIII, Section 2.1), such as if the substance is a potential PBT/vPvB substance (Guidance on IRs and CSA, Section R.11.4.).

204 As already explained in the above reasons for Request 5, the Substance is a potential PBT/vPvB substance.

205 Further, the Substance will be completely ionised at pH = 4, 7, 9, indicating high potential to adsorb to sediment.

206 Therefore, the chemical safety assessment (CSA) indicates the need for further degradation investigation. Based on the adsorptive properties of the Substance, sediment represents a relevant environmental compartment.

7.1. Information provided to fulfil the information requirement

207 Your registration dossier does not include any information on aerobic and anaerobic biodegradation in sediment.

7.2. Information provided in your comments on the draft decision

208 In your comments on the draft decision you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2 and you rely on the following information:

i. Additional documentation including the EU RAR (2008) and ECHA RAC opinion (2011), for the assessment of the persistence properties of starting material (1);

ii. A summary of available information on the biodegradability of [redacted] (starting material 2). No robust summaries are provided;

iii. A summary of biodegradability information on the following analogue substances: Butyl acid phosphate (CAS 12788-93-1), Dodecyl dihydrogen phosphate (CAS 2627-35-2), Hexadecyl dihydrogen phosphate potassium salt (CAS 19035-79-1), [redacted] (for starting materials 2 and 3), and [redacted] (for starting material 4). No robust study summaries are provided.

209 You conclude that this set of information and data is sufficient to address the simulation in sediment information requirement for each of the dissociation products of the Substance and, as a result, of the Substance as well.

210 Furthermore, in your comments on the draft decision, you state that simulation testing in sediments will not be feasible to conduct due to the rapid dissociation of the Substance in water.

211 You also provide a statement that simulation tests for soil and sediment are not required as direct or indirect exposure of soils and sediments is unlikely. We understand that you seek to adapt this information requirement using Column 2 of Annex IX, Section 9.2.1.4.

212 We have assessed your comments and have identified the following issues.

7.3. Assessment of the information provided in your comments

7.3.1. Assessment of the weight of evidence adaptation according to Annex XI Section 1.2

213 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

214 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VIII, Section 9.2., Column 2 for further degradation testing includes similar information that is produced by the OECD TG 307. This test investigates the following key parameter: the rate of aerobic and/or anaerobic transformation of the test

material on at least two sediments, and the identity and rates of formation and decline of transformation products.

215 The source of information (i) provides information on the key parameter for the dissociation product (1) (Z)-octadec-9-enylamine (EC 204-015-5), however, this information does not cover the properties of the other dissociation products or the Substance as a whole.

216 For the reasons explained in section 0.1 the sources of information (ii-iii) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant or reliable information.

217 Therefore, the sources of information provided do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

218 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for sediment simulation.

7.3.2. Assessment of the adaptation under Annex XI, Section 2

219 In regards to your comments on technical feasibility, as already explained in Section 0.2, your adaptation under Annex XI, Section 2 is rejected.

7.3.3. Assessment of the adaptation under Column 2 of Annex IX, Section 9.2.1.4.

220 Regarding your statement that soil and sediment simulations tests are not required as the exposure of soils and sediments is unlikely which we understand as your intention to adapt this information requirement using Column 2 of Annex IX, Section 9.2.1.3:

221 However, this provision is not an adaptation possibility at Annex VIII when (triggered by column 2) further degradation testing is required to assess PBT or vPvB properties of the substance (Annex XIII, section 2.1.). As set out in Annex XIII (and further explained in Guidance on IRs and CSA R.11.4), testing to conclude on potential PBT/vPvB properties cannot be omitted unless the process and use conditions of the substance meet the conditions as specified in Section 3.2(b) or (c) of Annex XI, and subsequently the substance is considered as if it is a PBT or vPvB in the registration dossier. Annex XI Section 3.2(b) requires that the Substance is used throughout the lifecycle under strictly controlled conditions, and (c) requires that the Substance is not released during the lifecycle.

222 You have not provided an adaptation under Annex XI section 3.2 (b) or (c) and you do not provide a rigorous exposure assessment demonstrating that the Substance is used throughout the lifecycle under strictly controlled conditions, or that the Substance not released during its lifecycle. To the contrary, as evident from your registration dossier, your Substance is used as a lubricant additive and has end uses by consumers and professional workers. These uses are associated with the following ERCs: ERC9a: Widespread use of functional fluid (indoor) & ERC9b: Widespread use of functional fluid (outdoor) indicating environmental releases during use.

223 Therefore, the information requirement is not fulfilled.

7.4. Study design and test specifications

224 Simulation degradation studies must include two types of investigations (Guidance on IRs and CSA, Section R.7.9.4.1.):

1) a degradation pathway study where transformation/degradation products are quantified and, if relevant, are identified, and

2) a kinetic study where the degradation rate constants (and degradation half-lives)

of the parent substance and of relevant transformation/degradation products are experimentally determined.

225 In accordance with the specifications of OECD TG 308, you must perform the test using two sediments. One sediment should have a high organic carbon content (2.5-7.5%) and a fine texture, the other sediment should have a low organic carbon content (0.5-2.5%) and a coarse texture. If the Substance may also reach marine waters, at least one of the water-sediment systems should be of marine origin.

226 The required test temperature is 12°C, which corresponds to the average environmental temperature for the EU (Guidance on IRs and CSA, Table R.16-8) and is in line with the applicable test conditions of the OECD TG 308.

227 In accordance with the specifications of OECD TG 308, non-extractable residues (NER) must be quantified. The reporting of results must include a scientific justification of the used extraction procedures and solvents (Guidance on IRs and CSA, Section R.7.9.4.1.). By default, total NER is regarded as non-degraded Substance.

228 However, if reasonably justified and analytically demonstrated a certain part of NER may be differentiated and quantified as irreversibly bound or as degraded to biogenic NER, such fractions could be regarded as removed when calculating the degradation half-life(s) (Guidance on IRs and CSA, Section R.11.4.1.1.3.).

229 Further recommendations may be found in the background note on options to address non-extractable residues in regulatory persistence assessment available on the ECHA website.

230 Relevant transformation/degradation products are at least those detected at ≥ 10% of the applied dose at any sampling time or those that are continuously increasing during the study even if their concentrations do not exceed 10% of the applied dose, as this may indicate persistence (OECD TG 308; Guidance on IRs and CSA, Section R.11.4.1.).

8. Identification of degradation products

231 Further degradation testing must be considered if the chemical safety assessment (CSA) according to Annex I indicates the need to investigate further the degradation of the substance (Annex VIII, Section 9.2., Column 2).

8.0. Triggering of the information requirement

232 This information requirement is triggered in case the chemical safety assessment (CSA) indicates the need for further degradation investigation (Annex VIII, Section 9.2., Column 2), such as if the substance is a potential PBT/vPvB substance (Guidance on IRs and CSA, Section R.11.4.).

233 As already explained in the above reasons for Request 5, the Substance is a potential PBT/vPvB substance.

234 Therefore, the chemical safety assessment (CSA) indicates the need for further degradation investigation.

8.1. Information provided to fulfil the information requirement

235 Your registration dossier does not include any information on degradation products identity.

236 Therefore, the information requirement is not fulfilled.

8.2. Information provided in your comments on the draft decision

237 In your comments on the draft decision you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2 and you rely on the following information:

i. Additional documentation including the EU RAR (2008) and the ECHA RAC opinion (2011), for the assessment of the persistence properties of starting material (1);

ii. A summary of available information on the biodegradability of [redacted] (starting material 2). No robust summaries are provided;

iii. A summary of biodegradability information on the following analogue substances: Butyl acid phosphate (CAS 12788-93-1), Dodecyl dihydrogen phosphate (CAS 2627-35-2), Hexadecyl dihydrogen phosphate potassium salt (CAS 19035-79-1), [redacted] (for starting materials 2 and 3), and [redacted] (for starting material 4). No robust study summaries are provided.

238 You conclude that this set of information and data is sufficient to address the identification of degradation products information requirement for each of the dissociation products of the Substance and, as a result, of the Substance as well.

239 Furthermore, in your comments on the draft decision, you state that simulation testing and the identification of degradation products will not be feasible to conduct due to the rapid dissociation of the Substance in water.

8.3. Assessment of the information provided in your comments

8.3.1. Assessment of the weight of evidence adaptation according to Annex XI Section 1.2

240 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

241 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VIII, Section 9.2., Column 2 for further degradation testing and the identification of degradation products includes similar information that is produced by simulation testing (OECD TG 307, 308 and 309). These tests investigate the following key parameter: the rate of transformation of the test material is determined; and the identity and rates of formation and decline of transformation/degradation products are determined if those are: (a) detected at ≥ 10% of the applied dose at any sampling time, or (b) continuously increasing during the study even if their concentrations are < 10% of the applied dose (unless appropriate justification is provided).

242 The source of information (i) provides information on the key parameter for the dissociation product (1) (Z)-octadec-9-enylamine (EC 204-015-5), however, this information does not cover the properties of the other dissociation products or the Substance as a whole.

243 For the reasons explained in section 0.1 the sources of information (ii-iii) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant or reliable information.

244 The sources of information provided do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

245 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for identification of degradation products.

8.3.2. Assessment of the adaptation under Annex XI, Section 2

246 In regards to your comments on technical feasibility, as already explained in Section 0.2, your adaptation under Annex XI, Section 2 is rejected.

247 Therefore the information requirement is not met.

8.4. Study design and test specifications

248 Simulation degradation studies must include two types of investigations (Guidance on IRs and CSA, Section R.7.9.4.1.):

(1) a degradation pathway study where transformation/degradation products are quantified and, if relevant, are identified, and
(2) a kinetic study where the degradation rate constants (and degradation half-lives) of the parent substance and of relevant transformation/degradation products are experimentally determined.

249 Identity, stability, behaviour, and molar quantity of the degradation/transformation products relative to the Substance must be evaluated and reported. In addition, identified transformation/degradation products must be considered in the CSA including PBT assessment.

250 You must obtain this information from the degradation studies requested in requests 5, 6, and 7.

251 To determine the degradation rate of the Substance, the requested study according to the OECD TG 309 (request 5) must be conducted at 12°C and at a test concentration < 100 µg/L. However, to overcome potential analytical limitations with the identification and quantification of major transformation/degradation products, you may consider running a parallel test at higher temperature (but within the frame provided by the test guideline, e.g. 20°C) and at higher application rate (i.e. > 100 µg/L).

252 To determine the degradation rate of the Substance, the requested studies according to OECD TG 308 and 307 (requests 6 and 7) must be conducted at 12°C and at test material application rates reflecting realistic assumptions. However, to overcome potential analytical limitations with the identification and quantification of major transformation/degradation products, you may consider running a parallel test at higher temperature (but within the frame provided by the test guideline) and at higher application rate (e.g. 10 times).

253 Regarding the selection of appropriate and suitable test method(s), the method(s) will have to be substance-specific. Identity, stability, behaviour, and molar quantity of the degradation/transformation products relative to the Substance must be evaluated and reported, when analytically possible. In addition, degradation half-life, log K_{ow} and potential toxicity of the transformation/degradation may need to be investigated.

254 You may obtain this information from the degradation studies requested in Requests 5, 6 and 7 or by some other measure. If any other method is used for the identification of the transformation/degradation products, you must provide a scientifically valid justification for the chosen method.

9. Bioaccumulation in aquatic species

255 Under Annex VIII, Section 9.3., Column 2, further information on bioaccumulation must be generated if additional information on bioaccumulation as set out in Annex XIII 3.2.2 is required to assess the PBT/vPvB properties of the Substance.

9.0. Triggering of the information requirement

256 Additional information on bioaccumulation as set out in Annex XIII, point 3.2.2, is required to assess PBT or vPvB properties of the substance in accordance with subsection 2.1 of that Annex. (Guidance on IRs and CSA, Section R.11.4.).

257 As already explained in Request 5, the Substance is a potential PBT/vPvB substance and the information that you havee provided in your bioaccumulation assessment cannot be used to conclude on the B/vB properties of the Substance.

258 Therefore, further information is needed to conclude on the PBT/vPvB properties of the Substance including the need for further investigation on bioaccumulation in aquatic species.

9.1. Information provided to fulfil the information requirement

259 Your registration dossier does not include any information on bioaccumulation of the Substance.

9.2. Information provided in your comments on the draft decision

260 In your comments on the draft decision you have indicated your intention to address this information requirement by using a weight of evidence adaptation according to Annex XI, Section 1.2 and you rely on the following information:

i. Additional documentation including the EU RAR (2008) and the ECHA RAC opinion (2011), for the assessment of the bioaccumulation properties of starting material (1);

ii. A summary of available information relevant to the bioaccumulation potential of [redacted] (starting material 2) including reference to the Log Kow values available and an OECD TG 305 study on EC 203-509-8 No robust summaries are provided;

iii. Estimations for the bioaccumulation potential of [redacted] (starting material 3) based on experimental Log Kow values from an OECD TG 107 study on the analogue Substance BAP (CAS 12788-93-1) and Catalogic model (DP v02.07) results. No robust summary provided for the study on the analogue substance;

iv. Estimations for the bioaccumulation potential of [redacted] (starting material 4) based on ACDLab (v.12.0) and Catalogic model DP (v. 02.07) with the predictions being supported by references to studies on analogue substances (i.e.2-ethylhexyl dithiophosphate (CAS 5810-88-8) and sodium O,O-diethyl dithiophosphate (CAS 298-06-6)). No robust summaries are provided for the studies on the analogue substance.

261 You conclude that this set of information and data is sufficient to address the bioaccumulation information requirement for each of the dissociation products of the Substance and, as a result, of the Substance as well.

262 Furthermore, in your comments on the draft decision, you state that bioaccumulation testing will not be feasible to conduct due to the rapid dissociation of the Substance in water.

263 You also state that bioaccumulation testing should not be requested based on the fact that it breaches Article 12(1)(c) which stipulates that the information requirements for Annex VIII should be provided; and because it breaches Article 25(1) which indicates that animal testing should be used as a last resort. Furthermore, you state that the request for bioaccumulation testing breaches the principle of proportionality by requiring unnecessary animal testing.

9.3. Assessment of the information provided in your comments

264 We have assessed your comments and have identified the following issues:

9.3.1. Assessment of the weight of evidence adaptation according to Annex XI Section 1.2

265 In addition to the deficiencies identified in Section 0.1, ECHA identified endpoint specific issues addressed below.

266 Information that can be used to support weight of evidence adaptation for the information requirement of Annex VIII, Section 9.3., Column 2 for further bioaccumulation testing includes similar information that is produced by th eOECD TG 305. This test investigates the following key parameters: the uptake rate constant (k1) and loss rate constants including the depuration rate constant (k2), and/or the steady-state bioconcentration factor (BCFSS), and/or the kinetic bioconcentration factor (BCFK), and/or the biomagnification factor (BMF).

267 The source of information (i) provides information on the key parameter for the dissociation product (1): (Z)-octadec-9-enylamine (EC 204-015-5). However, this information does not cover the properties of the other dissociation products or the Substance as a whole.

268 For the reasons explained in section 0.1 the sources of information (ii-iv) that are lacking robust study summaries cannot be considered as contributing on the key parameter with any relevant or reliable information.

9.3.1.1. QSAR predictions alone cannot be used to conclude on B

269 The QSAR predictions for starting materials (3) and (4) provided in information sources (iii) and (iv) cannot be used to conclude on the B properties for the following reasons.

270 Non-testing data, such as calculations and/or (Q)SAR predictions, can be used in a weight of evidence approach for B and vB assessment (Guidance on IRs and CSA R.11), meaning that they have to be accompanied by other relevant data and cannot be used as a single source of information to conclude on bioaccumulation potential.

271 As already noted above, and explained in section 0.1, the sources of information that are lacking robust study summaries cannot be considered as contributing to the assessment of B properties with any relevant or reliable information. Therefore the QSAR predictions provided in information sources (iii) and (iv) are the single remaining source of information to conclude on the bioaccumulation properties of the starting materials (3) and (4), respectively. However, QSAR predictions alone are insufficient to conclude on bioaccumulation potential.

9.3.1.2. Calculated BCFs are not a reliable basis to predict bioaccumulation properties for substances that are >90% ionised and surface active at environmental pH

272 For Substances that are ionised and surface active, log K_{ow} is not a reliable basis to predict bioaccumulation properties (Guidance on IR and CSA R7.10-3). Instead, other partitioning mechanisms may drive bioaccumulation (e.g. binding to protein/cell membranes).

273 In your comments on the draft decision you predict BCF values for component (4) by using Catalogic BCF base-line model v.02.07 (as provided in information source (iv)). You state that metabolism and/or diameter, and ionisation were considered in the predictions.

274 The BCF base-line model v.02.07 predicts BCF values based on the estimated log K_{ow} of the input structure. Even though the model is capable to take ionisation into account for acids as a mitigating factor, the calculation of BCF is uncertain for substances that are surface active and ionised at different environmentally relevant pH, i.e. 4, 7 and 9. In particular, calculated BCF values for substances that are >90% ionised at environmentally relevant pH 4-9, as is the case for dissociation product (4), are considered unreliable (for example, see Armitage et al., 2017).

275 Since starting material (4) is >90% ionised at environmentally relevant pH 4–9 the predicted BCF values obtained are considered unreliable.

9.3.1.3. Conclusion on the weight of evidence adaptation

276 Overall, the sources of information provided do not provide information on the above key parameter for all dissociation products or the Substance as a whole.

277 Therefore, it is not possible to conclude, based on any source of information alone or considered together, on the information requirement for bioaccumulation.

9.3.2. Assessment of the adaptation under Annex XI, Section 2

278 In regards to your comments on technical feasibility, as already explained in Section 0.2, your adaptation under Annex XI, Section 2 is rejected.

9.3.3. Assessment of your statement regarding Article 12(1)(c), Article 25(1) and the principal of proportionality

279 In regards to your statement that bioaccumulation testing should not be requested based Article 12(1)(c), Article 25(1), and the principle of proportionality ECHA notes the following.

280 Article 12(1)(c) indicates that, as a minimum, the information requirements for Annex VIII should be provided. Article 25(1), and the principle of proportionality, indicate that animal testing should be used as a last resort.

281 The Substance is a potential PBT/vPvB hence requirements of Annex VIII section 9.3 column 2 apply. Therefore further investigations on potential PBT/vPvB properties are required and the information as set out in Annex XIII section 3.2 must be generated, including bioaccumulation testing, in order to conclude on the B property.

282 Animal welfare considerations alone cannot be used as a legal basis to adapt the information requirement for bioaccumulation testing.

283 Therefore, the information requirement is not fulfilled.

9.4. Study design and test specification

284 Bioaccumulation in fish: aqueous and dietary exposure (Method EU C.13 / OECD TG 305) is the preferred test to investigate bioaccumulation (Guidance on IRs and CSA, Section

R.7.10.3.1.). Exposure via the aqueous route (OECD TG 305-I) must be conducted unless it can be demonstrated that:

- a stable and fully dissolved concentration of the test material in water cannot be maintained within ± 20% of the mean measured value, and/or
- the highest achievable concentration is less than an order of magnitude above the limit of quantification (LoQ) of a sensitive analytical method.

285 This test set-up is preferred as it allows for a direct comparison with the B and vB criteria of Annex XIII of REACH.

286 You may only conduct the study using the dietary exposure route (OECD 305-III) if you justify and document that testing through aquatic exposure is not technically possible as indicated above. You must then estimate the corresponding BCF value from the dietary test data according to Annex 8 of the OECD 305 TG and OECD Guidance Document on Aspects of OECD TG 305 on Fish Bioaccumulation (ENV/JM/MONO(2017)16).

References

The following documents may have been cited in the decision.

Armitage JM, Erickson RJ, Luckenbach T, Ng CA, Prosser RS, Arnot JA, Schirmer K, 4583
Nichols JW (2017) Assessing the bioaccumulation potential of ionizable organic 4584
compounds: current knowledge and research priorities. Environmental Toxicology and
4585 Chemistry 36(4) 882–897. https://doi.org/10.1002/etc.3680

Guidance on information requirements and chemical safety assessment (Guidance on IRs & CSA)

Chapter R.4 Evaluation of available information; ECHA (2011).
Chapter R.6 QSARs, read-across and grouping; ECHA (2008).
Appendix to Chapter R.6 for nanoforms; ECHA (2019).
Chapter R.7a Endpoint specific guidance, Sections R.7.1 – R.7.7; ECHA (2017).
Appendix to Chapter R.7a for nanomaterials; ECHA (2017).
Chapter R.7b Endpoint specific guidance, Sections R.7.8 – R.7.9; ECHA (2017).
Appendix to Chapter R.7b for nanomaterials; ECHA (2017).
Chapter R.7c Endpoint specific guidance, Sections R.7.10 – R.7.13; ECHA (2017).
Appendix to Chapter R.7a for nanomaterials; ECHA (2017).
Appendix R.7.13-2 Environmental risk assessment for metals and metal compounds; ECHA (2008).
Chapter R.11 PBT/vPvB assessment; ECHA (2017).
Chapter R.16 Environmental exposure assessment; ECHA (2016).

Guidance on data-sharing; ECHA (2017).
Guidance for monomers and polymers; ECHA (2012).
Guidance on intermediates; ECHA (2010).
All guidance documents are available online: https://echa.europa.eu/guidance-documents/guidance-on-reach

Read-across assessment framework (RAAF)

RAAF, 2017 Read-across assessment framework (RAAF); ECHA (2017).
RAAF UVCB, 2017 Read-across assessment framework (RAAF) – considerations on multi- constituent substances and UVCBs; ECHA (2017).

The RAAF and related documents are available online:
https://echa.europa.eu/support/registration/how-to-avoid-unnecessary-testing-on-animals/grouping-of-substances-and-read-across

***OECD Guidance documents* (OECD GDs)**

OECD GD 23 Guidance document on aquatic toxicity testing of difficult substances and mixtures; No. 23 in the OECD series on testing and assessment, OECD (2019).
OECD GD 29 Guidance document on transformation/dissolution of metals and metal compounds in aqueous media; No. 29 in the OECD series on testing and assessment, OECD (2002).
OECD GD 150 Revised guidance document 150 on standardised test guidelines for evaluating chemicals for endocrine disruption; No. 150 in the OECD series on testing and assessment, OECD (2018).
OECD GD 151 Guidance document supporting OECD test guideline 443 on the extended one-generation reproductive toxicity test; No. 151 in the OECD series on testing and assessment, OECD (2013).

Appendix 2: Procedure

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

ECHA followed the procedure detailed in Articles 50 and 51 of REACH.

The compliance check was initiated on 01 February 2022.

The deadline of the decision is set based on standard practice for carrying out OECD TG tests. It has been exceptionally extended by 12 months from the standard deadline granted by ECHA to take into account currently longer lead times in contract research organisations.

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

ECHA took your comments into consideration and did not amend the requests.

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.

Following the Board of Appeal's decision in case A-001-2022 ECHA revised the study design specifications for meeting the information requirement for simulation testing on ultimate degradation in surface water (Annex VIII, column 2, section 9.2).

Appendix 3: Addressees of this decision and their corresponding information requirements

In accordance with Articles 10(a) and 12(1) of REACH, the information requirements for individual registrations are defined as follows:

- the information specified in Annex VII to REACH, for registration at 1-10 tonnes per year (tpa), or as a transported isolated intermediate in quantity above 1000 tpa;
- the information specified in Annexes VII and VIII to REACH, for registration at 10-100 tpa;
- the information specified in Annexes VII, VIII and IX to REACH, for registration at 100-1000 tpa;
- the information specified in Annexes VII to X to REACH, for registration at more than 1000 tpa.

Registrant Name	Registration number	Highest REACH Annex applicable to you
[redacted]	[redacted]	[redacted]

Where applicable, the name of a third party representative (TPR) may be displayed in the list of recipients whereas ECHA will send the decision to the actual registrant.

Appendix 4: Conducting and reporting new tests for REACH purposes

1. Requirements when conducting and reporting new tests for REACH purposes

1.1. Test methods, GLP requirements and reporting

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

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

(3) 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 on How to report robust study summaries[2].

(4) Under the introductory part of Annexes VII/VIII/IX/X to REACH, where a test method offers flexibility in the study design, for example in relation to the choice of dose levels or concentrations, the chosen study design must ensure that the data generated are adequate for hazard identification and risk assessment.

1.2. Test material

Before generating new data, you must agree within the joint submission on the chemical composition of the material to be tested (Test Material) which must be relevant for all the registrants of the Substance.

(1) Selection of the Test material(s)
The Test Material used to generate the new data must be selected taking into account the following:
- the variation in compositions reported by all members of the joint submission,
- the boundary composition(s) of the Substance,
- 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.

(2) Information on the Test Material needed in the updated dossier
- You must report the composition of the Test Material selected for each study, under the "Test material information" section, for each respective endpoint study record in IUCLID.
- The reported composition must include all constituents of each Test Material and their concentration values and other parameters relevant for the property to be tested.

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

This information is needed to assess whether the Test Material is relevant for the Substance and whether it is suitable for use by all members of the joint submission.

Technical instructions on how to report the above is available in the manual on How to prepare registration and PPORD dossiers[3].

2. General recommendations for conducting and reporting new tests

2.1. Strategy for the PBT/vPvB assessment

Under Annex XIII, the information must be based on data obtained under conditions relevant for the PBT/vPvB assessment. You must assess the PBT properties of each relevant constituent of the Substance present in concentrations at or above 0.1% (w/w) and of all relevant transformation/degradation products. Alternatively, you would have to justify why you consider these not relevant for the PBT/vPvB assessment.

You are advised to consult Guidance on IRs & CSA, Sections R.7.9, R.7.10 and R.11 on PBT assessment to determine the sequence of the tests needed to reach the conclusion on PBT/vPvB. The guidance provides advice on 1) integrated testing strategies (ITS) for the P, B and T assessments and 2) the interpretation of results in concluding whether the Substance fulfils the PBT/vPvB criteria of Annex XIII.

In particular, you are advised to first conclude whether the Substance fulfils the Annex XIII criteria for P and vP, and then continue with the assessment for bioaccumulation. When determining the sequence of simulation degradation testing you are advised to consider the intrinsic properties of the Substance, its identified uses and release patterns as these could significantly influence the environmental fate of the Substance. You must revise your PBT assessment when the new information is available.

2.2. Environmental testing for substances containing multiple constituents

Your Substance contains multiple constituents and, as indicated in Guidance on IRs & CSA, Section R.11.4.2.2, you are advised to consider the following approaches for persistency, bioaccumulation and aquatic toxicity testing:

- the "known constituents approach" (by assessing specific constituents), or
- the "fraction/block approach, (performed on the basis of fractions/blocks of constituents), or
- the "whole substance approach", or
- various combinations of the approaches described above

Selection of the appropriate approach must take into account the possibility to characterise the Substance (i.e. knowledge of its constituents and/or fractions and any differences in their properties) and the possibility to isolate or synthesize its relevant constituents and/or fractions.

References to Guidance on REACH and other supporting documents can be found in Appendix 1.

[3] https://echa.europa.eu/manuals