Helsinki, 14 December 2016

Addressee: [redacted]

Decision number: TPE-D-2114350394-51-01/F
Substance name: N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)
EC number: 204-613-6
CAS number: 123-26-2
Registration number: [redacted]
Submission number: [redacted]
Submission date: 05.08.2016
Registered tonnage band: 100-1000T

DECISION ON A TESTING PROPOSAL

Based on Article 40 of Regulation (EC) No 1907/2006 (the 'REACH Regulation'), ECHA has taken the following decision.

Your testing proposal is accepted and you are requested to carry out:

1. **Sub-chronic toxicity study (90-day), oral route (Annex IX, Section 8.6.2.; test method: EU B.26./OECD TG 408) in rats using the registered substance.**

Your testing proposal is accepted and you are requested to carry out:

2. **Pre-natal developmental toxicity study (Annex IX, Section 8.7.2.; test method: EU B.31./OECD TG 414) in a first species (rats or rabbits), oral route using the analogue substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0).**

Your testing proposal is accepted and you are requested to carry out:

3. **Long-term toxicity testing on aquatic invertebrates (Annex IX, Section 9.1.5.; test method: Daphnia magna reproduction test, EU C.20./OECD TG 211) using the analogue substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0).**

You are requested to perform as additional test:

4. **Long-term toxicity testing on fish (Annex IX, Section 9.1.6.1.; test method: Fish, early-life stage (FELS) toxicity test, OECD TG 210) using the registered substance.**

You are requested to perform as additional test:

5. **Growth inhibition study aquatic plants (Annex VII, Section 9.1.2.; test method: Freshwater Alga and Cyanobacteria, Growth inhibition test, OECD TG 201) using the registered substance.**

Your testing proposal is accepted and you are requested to carry out:

6. **Long-term toxicity on terrestrial invertebrates (Annex IX, Section 9.4.1., column 2; test method: Earthworm reproduction test, OECD TG 222) using the analogue substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0).**

You are requested to perform as additional test:

7. **Long-term toxicity testing on plants (Annex IX, Section 9.4.3., column 2; test method: Terrestrial plants, growth test, OECD TG 208, with at least six species tested, with as a minimum two monocotyledonous and four dicotyledonous species)**

   or

   Long-term toxicity testing on plants (Annex IX, Section 9.4.3., column 2; test method: Soil Quality –Biological Methods – Chronic toxicity in higher plants, ISO 22030)

   using the registered substance.

You are requested to perform as additional test:

8. **Effects on soil micro-organisms (Annex IX, Section 9.4.2.; test method: Soil microorganisms: nitrogen transformation test, EU C.21/OECD TG 216) using the registered substance.**

You may adapt the testing requested above according to the specific rules outlined in Annexes VI to X and/or according to the general rules contained in Annex XI of the REACH Regulation. In order to ensure compliance with the respective information requirement, any such adaptation will need to have a scientific justification, referring and conforming to the appropriate rules in the respective Annex, and an adequate and reliable documentation.

You are required to submit the requested information in an updated registration dossier by **21 September 2018**. You shall also update the chemical safety report, where relevant

The reasons of this decision are set out in Appendix 1. The procedural history is described in Appendix 2. Advice and further observations are provided in Appendix 3.

Appeal

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

Authorised[1] by Leena Ylä-Mononen, Director of Evaluation

[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.

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Appendix 1: Reasons

The decision of ECHA is based on the examination of the testing proposal(s) submitted by you.

0. Grouping of substances and read-across approach

You have applied read-across for toxicological and ecotoxicological standard information requirements. The proposed read-across is discussed in this Section (0) as it is based on similar justifications. The corresponding Sections 2 (pre-natal developmental toxicity study), 3 (long-term toxicity testing on aquatic invertebrates), 4 (long-term toxicity testing on fish), section 5 (growth inhibition study aquatic plants) and 6 (long-term toxicity to terrestrial invertebrates) refer back to this Section.

Article 13(1) of the REACH Regulation provides that information on intrinsic properties of substances may be generated by means other than tests. Such other means include the use of information from structurally related substances (grouping of substances and read-across), "provided that the conditions set out in Annex XI are met".

Annex XI, 1.5. requires a structural similarity among the substances within a group or category such that relevant properties of a substance within the group can be predicted from the data on reference substance(s) within the group by interpolation. The following analysis presents your justification for the proposed grouping approach and read-across hypothesis, together with ECHA's analysis concerning the justification in both a generic and a property-specific context.

0.1. Introduction of the grouping of substances and read-across approach for (eco)toxicological information proposed by the Registrant

In the initial submission [redacted] (16 July 2014) you did provide read across but not a read-across justification. In the dossier update ([redacted], 5 August 2016) you attached a read-across justification document to your technical dossier, Section 13 ([redacted]). In this document you have addressed the read-across approaches in environmental fate and pathways, ecotoxicology and mammalian toxicology.

ECHA re-evaluated the information provided in the dossier update including more detailed description of the composition of the registered substance. The following assessment considers the information in the updated technical dossier and your comments to the draft decision.

In the updated registration, you have applied the read-across approach for environmental and human health hazard assessment; you propose to cover the standard information requirements for a pre-natal developmental toxicity study (Annex IX, Section 8.7.2.); long-term toxicity testing on aquatic invertebrates (Annex IX, Section 9.1.5) and long-term toxicity on terrestrial invertebrates (Annex IX, Section 9.4.1., column 2) by performing the proposed tests with the source substance Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (CAS 100545-48-0, EC 309-629-8).

You have proposed that the source substance Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (CAS 100545-48-0, EC 309-629-8) and target substance N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) (CAS 123-26-2) have "*very close similarities in the chemical composition*". You state further that "*only apparent difference between the substances in that the analysis for CAS 123-26-3 report the presence of "Other unknown structurally related bisamides formed from other fatty acids (<30 substances)". This constituent is not reported by the analysis for CAS 100545-48-0.... Whilst structural /compositional similarity per se is not necessarily sufficient of itself to justify read across, in this case the structural /compositional similarity is so close that the target substance can effectively be viewed as a slightly purer form of the source substance".* The composition of both the target (i.e., the registered substance) substance and the source substance are provided.

The target substance (monoconstituent, CAS 123-26-2) is the main component of the source substance (UVCB). The percentage of the main component in the source substance is ca. [redacted]% ([redacted]%) and purity of the registered target substance is ca. 58% (55-90%). The target substance shows impurities present in high percentages. ECHA notes that in addition to having the same major component, minor components specified above are the same in the source and target substance deviating in typical w/w%.

Read across studies

You have provided three read-across studies with the source substance Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (CAS 100545-48-0) relevant for the assessment of the testing proposals:

- Short-term toxicity testing on invertebrates (OECD 202, [redacted]
- Growth inhibition study aquatic plants (OECD 201, [redacted]);
- Short-term toxicity testing on fish (OECD 203, [redacted]).

These studies are provided in the dossier to adapt the information requirement for sections 9.1.1. and 9.1.2. of Annex VII and Section 9.1.3. of Annex VIII, by applying a read-across adaptation following REACH Annex XI, Section 1.5. The read-across approach is justified as follows in the justification document "*There are no ecotoxicological data available for the target substance*". Furthermore, you justified the approach by: "*Since the chemical composition of the substances are principally made up of the same components at similar levels, then it is also expected that these technical substances would have the same mode of action and exert similar adverse effects. There are no chemical species known to be unique to either the source or target substances. The source substance CAS 100545-48-0 comprises higher levels of the minor constituents than the target substance and, as such, laboratory tests for ecotoxicity endpoints take account of the target substance and its constituents. If any of those minor constituents influences potential toxicity, then testing on CAS 100545-48-0 allows more opportunity for those properties to be manifested. Therefore CAS 100545-48-0 can be considered as the more conservative or worst case substance on which to conduct laboratory testing.*"

You propose that the source and registered substances have same mode of action and exert similar adverse effects for the above-mentioned information requirements.

ECHA considers that information described in section 0.1 is your read-across hypothesis.

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0.2. ECHA analysis of the grouping and read-across approach in light of the requirements of Annex XI, Section 1.5.

ECHA considers that there is an overlap between the range of the main components present in the source substance and the purity range of the target substance and the structural similarity between the target and the source is fairly high as the two largest (as %) constituents are the same. ECHA further considers that your read-across hypothesis is based on the proposition that the registered substance and source substance have substantially the same composition.

ECHA considers your read-across to be plausible. However, ECHA considers that there are several uncertainties which would need to be addressed:

(i) In the read across justification document, the compositions of the source and the target substances are compared. For most components, the typical concentrations and the ranges are similar between the source and the target substance. The target substance has up to [redacted]% of "*Other unknown structurally related bisamides formed from other fatty acids (>30 substances)*" which are not reported for the source. You state that "*since CAS 100545-48-0 is presumably also manufactured using commercially available 12-Hydroxystearic acid (derived from natural sources), it will inevitably also contain minor amounts of bisamides formed from other fatty acid acids ie this apparent difference in the composition is most likely not a real difference but is due to an incomplete analysis of the source substance.*" ECHA considers that these unknown components should be considered and addressed to ensure that their properties can be predicted.

(ii) According to you "*The source substance CAS 100545-48-0 comprises higher levels of the minor constituents than the target substance and, ... Therefore CAS 100545-48-0 can be considered as the more conservative or worst case substance on which to conduct laboratory testing.*" This is true for some components, however, the main component N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) can be up to [redacted]% lower in concentration in the source than in the target, even though the typical concentrations do not vary much. The final read-across justification should perform a quantitative evaluation of the effects of such variation in the constituent composition for the prediction of the properties of the registered substance.

Regarding, in particular, the short-term aquatic toxicity:

(iii) ECHA acknowledges that there is a large overlap of the composition between the target and source substances. However, ECHA notes that there is a strong indication that both the target and the source substance would be difficult-to-test substances due to their low water solubility (target <0.115 mg/L, source ≤0.0439 mg/L) and high molecular weight. Testing these substances would have to take into account considerations presented in OECD Guidance Document on Aquatic Toxicity Testing of Difficult Substances and Mixtures, ENV/JM/MONO (2000)6.

In your short-term aquatic toxicity tests, you did not justify that the method to dissolve the substance in the test media (i.e., 24-h stirring) ensured the dissolution to the maximum possible extent. You filtered the test media through a cellulose nitrate filter, which might have caused potential for losses of the test substance due to high adsorption potential of the source substance (Log Koc > 5.63).

In addition, you performed short-term toxicity testing for Daphnia and algae in static conditions. Considering the low water solubility and high adsorption potential, it is highly unlikely that the exposure conditions would stay stable during the 48 and 72-h tests without test media renewal. Additionally, the substance concentration in the test media was not measured.

Therefore, ECHA considers that the results of the short term aquatic studies do not meet the requirement for reliability and adequacy, because they do not appear to be adequate for the purpose of classification and labelling and/or risk assessment nor to have adequate and reliable coverage of the key parameters addressed in the corresponding test method referred to in Article 13(3), as required under Annex XI, Section 1.5.

0.3.Conclusion

In your comments and updated dossier you have provided adequate information to support the compositional similarity of the target and source substance. Therefore ECHA considers that your read-across justification for the pre-natal developmental toxicity and long-term toxicity on aquatic and terrestrial invertebrates is plausible and the proposed analogue substance could be used to predict the properties of the registered substance, subject to the uncertainties expressed above. ECHA notes that the final assessment of the acceptability of the read-across is only possible in the follow up stage when results are available and the read-across justification is provided. This justification shall ensure that any remaining uncertainties are analysed, minimised, and taken into account for the purpose of classification and labelling and/or risk assessment.

Regarding the short-term aquatic studies, however, ECHA does not consider the adaptation acceptable to predict the properties of the registered substance by interpolation because of the lack of reliability and adequacy of the studies provided. Thus, the adaptation for the short-term aquatic studies does not comply with the general rules of adaptation as set out in Annex XI, Section 1.5. Therefore, ECHA does not accept the read-across for the short-term aquatic studies.

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

Pursuant to Article 40(3)(a) of the REACH Regulation, ECHA may require the Registrant to carry out the proposed test.

A sub-chronic toxicity study (90 day) is a standard information requirement as laid down in Annex IX, Section 8.6.2. of the REACH Regulation. The information on this endpoint is not available for the registered substance but needs to be present in the technical dossier to meet the information requirements. Consequently, there is an information gap and it is necessary to provide information for this endpoint.

You have submitted a testing proposal for a sub-chronic toxicity study (90 day) in rats by the oral route according to EU B.26/OECD TG 408 with the registered substance.

You proposed testing by the oral route. Based on the information provided in the technical dossier and in the chemical safety report, ECHA agrees that the oral route - which is the preferred one as indicated in ECHA *Guidance on information requirements and chemical safety assessment* (version 4.1, October 2015) Chapter R.7a, section R.7.5.4.3 - is the most appropriate route of administration. More specifically, even though the information indicates that human exposure to the registered substance by the inhalation route is likely, potential inhalation-specific effects are already addressed by providing a sub-acute toxicity study by the inhalation route and by deriving a long-term DNEL for inhalation, local effects. Hence, the test shall be performed by the oral route using the test method EU B.26./OECD TG 408.

According to the test method EU B.26/OECD TG 408 the rat is the preferred species. ECHA considers this species as being appropriate and testing should be performed with the rat.

Therefore, pursuant to Article 40(3)(a)of the REACH Regulation, you are requested to carry out the proposed study with the registered substance subject to the present decision: Sub-chronic toxicity study (90-day) in rats, oral route (test method: EU B.26/OECD TG 408).

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

Pursuant to Article 40(3)(a) of the REACH Regulation, ECHA may require the Registrant to carry out the proposed test.

A pre-natal developmental toxicity study for a first species is a standard information requirement as laid down in Annex IX, Section 8.7.2. of the REACH Regulation. The information on this endpoint is not available for the registered substance but needs to be present in the technical dossier to meet the information requirements. Consequently, there is an information gap and it is necessary to provide information for this endpoint.

You have submitted a testing proposal for a pre-natal developmental toxicity study according to EU B.31/OECD TG 414 with the analogue substance octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (EC No 309-629-8).

ECHA has evaluated your proposal to perform the test with the analogue substance octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (EC No 309-629-8). As explained above in Section 0, your read across hypothesis is deemed to be plausible. ECHA considers that the proposed study performed with the analogue substance octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (EC: 309-629-8, CAS: 100545-48-0) is deemed to be plausible to fulfil the information requirement of Annex IX, Section 8.7.2. of the REACH Regulation, subject to the uncertainties described in Section 0 of this Appendix.

You did not specify the species to be used for testing. According to the test method EU B.31./OECD TG 414, the rat is the preferred rodent species and the rabbit the preferred non-rodent species. Based on this default consideration, ECHA considers testing should be performed with the rat or rabbit as a first species.

You did not specify the route for testing. ECHA considers that the oral route is the most appropriate route of administration for substances except gases to focus on the detection of hazardous properties on reproduction as indicated in ECHA *Guidance on information requirements and chemical safety assessment* (version 4.1, October 2015) R.7a, chapter R.7.6.2.3.2. Since the substance to be tested is a solid, ECHA concludes that testing should be performed by the oral route.

Therefore, pursuant to Article 40(3)(a)of the REACH Regulation, you are requested to carry out the proposed study with the analogue substance subject to the present decision: Pre-natal developmental toxicity study in a first species (rats or rabbits), oral route (test method: EU B.31./OECD TG 414) with the analogue substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0).

Notes for your consideration

For the selection of the appropriate species you are advised to consult ECHA *Guidance on information requirements and chemical safety assessment* (version 4.1, October 2015), Chapter R.7a, section R.7.6.2.3.2.

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

Pursuant to Article 40(3)(a) of the REACH Regulation, ECHA may require the Registrant to carry out the proposed test.

"Long-term toxicity testing on aquatic invertebrates" is a standard information requirement as laid down in Annex IX, Section 9.1.5. of the REACH Regulation. The information on this endpoint is not available for the registered substance but needs to be present in the technical dossier to meet the information requirements. Consequently, there is an information gap and it is necessary to provide information for this endpoint.

You have submitted a testing proposal for long-term toxicity testing on aquatic invertebrates (*Daphnia magna* reproduction test, EU C.20/OECD TG 211) with the analogue susbtance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0).

ECHA considers that the proposed study performed with the analogue substance octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (EC: 309-629-8, CAS: 100545-48-0) is deemed to be plausible to fulfil the information requirement of Annex IX, Section 8.7.2. of the REACH Regulation, subject to the uncertainties described Section 0 of this Appendix.

According to ECHA *Guidance on information requirements and chemical safety assessment* (version 3.0, February 2016), Chapter R7b (Section R.7.8.5 including Figure R.7.8-4), if based on acute aquatic toxicity data neither fish nor invertebrates are shown to be substantially more sensitive, long-term studies may be required on both.

Regarding the standard information requirement for short-term toxicity on aquatic invertebrates in Annex VII, Section 9.1.1. of the REACH Regulation, you have provided a study record for Daphnia sp. Acute Immobilisation Test (OECD TG 202) with the analogue substance Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (CAS no 100545-48-0). Regarding the standard information requirement for short-term toxicity on fish in Annex VIII, Section 9.1.3 of the REACH Regulation, you have provided a study record for Fish, Acute Toxicity Test (OECD TG 203) with the analogue substance Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (CAS no 100545-48-0).

ECHA notes that no information on short-term toxicity on fish or on invertebrates is available, since your adaptation of the information requirement cannot be accepted (Appendix 1, Section 0 of this decision). In the absence of information on short-term toxicity, it cannot be concluded if fish or invertebrates are shown to be substantially more sensitive. In addition, according to adaptation rules of Column 2 of Annex VII, section 9.1.1 and Annex VIII, section 9.1.3., the long term aquatic toxicity studies shall be considered if the substance is poorly water soluble. In such a case short-term testing on daphnia and fish do not need to be conducted.

In conclusion there is a data gap for both long-term daphnia and long-term fish toxicity.

Therefore, pursuant to Article 40(3)(a) of the REACH Regulation, you are requested to carry out the proposed test using the analogue substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0): Long-term toxicity testing on aquatic invertebrates (test method: *Daphnia magna* reproduction test, EU C.20/OECD TG 211).

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Notes for your consideration

Due to the low solubility of the substance in water you should consult the OECD Guidance Document on Aquatic Toxicity Testing of Difficult Substances and Mixtures, ENV/JM/MONO (2000)6 and ECHA Guidance, Chapter R7b, table R. 7.8-3 summarising aquatic toxicity testing of difficult substances for choosing the design of the requested long-term ecotoxicity tests and for calculation and expression of the result of this test.

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

Pursuant to Article 40(3)(c) of the REACH Regulation, ECHA may require the Registrant to carry out one or more additional tests in case of non-compliance of the testing proposal with Annexes IX, X or XI of the REACH Regulation.

"Long-term toxicity testing on fish" is a standard information requirement as laid down in Annex IX, Section 9.1.6. of the REACH Regulation. The information on this endpoint is not available for the registered substance but needs to be present in the technical dossier to meet the information requirements. Consequently, there is an information gap and it is necessary to provide information for this endpoint.

Regarding the standard information requirement for short-term toxicity on fish in Annex VIII, Section 9.1.3 of the REACH Regulation, you have provided a study record for Fish, Acute Toxicity Test (OECD TG 203) with the analogue substance Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (CAS no 100545-48-0). As explained above in Appendix 1, Section 0 of this decision, your adaptation of the information requirement cannot be accepted. Consequently, there is an information gap and it is necessary to provide information on this endpoint.

Regarding the standard information requirement for Annex IX, Sections 9.1.6. of the REACH Regulation respectively, you have provided the following justification: *"No effects being observed with the read-across substance bisamide (UVCB) at the water solubility limit and at the highest loading rate for all of three trophic levels (fish, aquatic invertebrates and algae) in tests of Annex VII and VIII, no aquatic PNEC was derived. In order to characterise better its potential long-term aquatic toxicity and to derive aquatic PNEC values, chronic testing in Daphnia is proposed (with the read-across substance bisamide (UVCB)). Therefore, no test to assess the long-term toxicity to fish was proposed."* ECHA notes that the justification for waiving provided does not meet the criteria of either the specific adaptation rules of Column 2 of Annex IX, section 9.1.6. or of the general adaptation rules of Annex XI. Consequently, there is a data gap for both short- and long-term fish toxicity.

In accordance with column 2 of Annex VII, 9.1.1. and column 2 of Annex VIII, 9.1.3. long-term testing on invertebrates and on fish shall be considered instead of short-term testing if the substance is poorly water soluble. In this case ECHA considers long-term testing to be more appropriate. Based on low water solubility (0.115 mg/L) and high adsorption potential (logK_{OW} 5.86, log K_{OC}>5.63), the short-term test would not provide sufficient level of exposure for assessment of the aquatic toxicity of the substance. Additionally, the dossier is at the tonnage level of 100 or more tonnes per year. At this tonnage level long-term test for fish are standard information requirements according to Annex IX, 9.1.6.

According to ECHA *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2014), Chapter R7b (Section R.7.8.5 including Figure R.7.8-4), if based on acute aquatic toxicity data neither fish nor invertebrates are shown to be substantially more sensitive, long-term studies may be required on both. ECHA notes that no information on short- or long-term toxicity on fish or on invertebrates is available, since your adaptation of the information requirements cannot be accepted (Appendix 1, Section 0 of this decision). In the absence of information on short-term toxicity, it cannot be concluded if fish or invertebrates are shown to be substantially more sensitive.

Therefore, you are requested to perform as additional test, with the registered substance, a long-term toxicity test on fish. ECHA considers that early-life stage (FELS) toxicity test according to OECD TG 210 is appropriate to fulfil the information requirement of Annex IX, section 9.1.6 of the REACH regulation.

FELS toxicity test according to OECD TG 210 is the most sensitive of the standard fish tests available as it covers several life stages of the fish from the newly fertilised egg, through hatch to early stages of growth and should therefore be used (see ECHA *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2014), Chapter R7b, Figure R.7.8-4 page 26).

The test method OECD TG 210 is also the only suitable test currently available for examining the potential toxic effects of bioaccumulation (ECHA Guidance R7b, version 2.0, November 2014, p. 26). For these reasons, ECHA considers the FELS toxicity test using the test method OECD TG 210 as appropriate and suitable.

Therefore, pursuant to Article 40(3)(c) of the REACH Regulation, you are requested to carry out the proposed test using the registered substance subject to the present decision: Fish, early-life stage (FELS) toxicity test (test method: Fish, early-life stage toxicity test, OECD TG 210).

In your comments to the draft decision you disagree with the need to conduct long term toxicity testing on fish (OECD TG 210). You argue that taking into account several considerations (the low water solubility and high molecular weight leading to limited exposure, the type of uses and the REACH information requirements for substances at the tonnage band of 100 – 1000 tpa), this study (and others; requests 4-8 of the decision) would not be needed and a study on long term aquatic invertebrates would be sufficient to provide a robust ecotoxicological assessment.

ECHA notes that, as described in this decision, Appendix 1, Section 0, the short-term studies are not considered reliable. Consequently, the sensitivity difference between species in the short term studies cannot be established, and hence long term testing is needed (column 2 of Annex VII 9.1.3) on both daphnia and fish. ECHA notes that REACH Annex IX requirements apply to substances imported 100 – 1000 tpa. In addition, ECHA notes that the uses reported in the technical dossier include uses indicating wide dispersive outdoor uses e.g. by professional workers and consumers (ERC 8a, ERC 8c, ERC 8d, ERC 8f). Therefore the exposure to the environment cannot be excluded and adaptation under column 2 Annex IX, section 9.1 does not apply. ECHA considers that your comments do not provide a basis to amend the decision.

Notes for your consideration

Due to the low solubility of the substance in water you should consult the OECD Guidance Document on Aquatic Toxicity Testing of Difficult Substances and Mixtures, ENV/JM/MONO (2000)6 and ECHA Guidance, Chapter R7b, table R. 7.8-3 summarising aquatic toxicity testing of difficult substances for choosing the design of the requested long-term ecotoxicity tests and for calculation and expression of the result of this test.

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

Pursuant to Article 40(3)(c) of the REACH Regulation, ECHA may require the Registrant to carry out one or more additional tests in case of non-compliance of the testing proposal with Annexes IX, X or XI of the REACH Regulation.

"Growth inhibition study aquatic plants" is a standard information requirement as laid down in Annex VII, Section 9.1.2. of the REACH Regulation. Adequate information on this endpoint needs to be present in the technical dossier for the registered substance to meet this information requirement.

You have sought to adapt this information requirement according to Annex XI, Section 1.5. of the REACH Regulation by providing a study record for Freshwater Alga and Cyanobacteria, Growth Inhibition Test (OECD TG 201) with the analogue substance Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (CAS no 100545-48-0).

However, as explained above in Appendix 1, Section 0 of this decision, your adaptation of the information requirement cannot be accepted. Therefore, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirement. Consequently there is an information gap and it is necessary to provide information for this endpoint.

According to ECHA *Guidance on information requirements and chemical safety assessment, Chapter R.7b* (version 3.0, February 2016), Algae growth inhibition test (test method EU C.3. / OECD TG 201) is the preferred test to cover the standard information requirement of Annex VII, Section 9.1.2.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to submit the following information derived with the registered substance subject to the present decision: Algae growth inhibition test, EU C.3./OECD TG 201).

As described above in Appendix 1, Section 4, in your comments to the draft decision you disagree with the need to conduct tests requested under Sections 4-8, including toxicity test on algae (OECD TG 201). You argue that taking into account several considerations (the low water solubility and high molecular weight leading to limited exposure, the type of uses and the REACH information requirements for substances at the tonnage band 100 – 1000 tpa), this study (and others: requests 4-8 of the decision) would not be needed and study on long term aquatic invertebrates would be sufficient to provide robust ecotoxicological assessment.

Growth inhibition study aquatic plants is a standard information requirement in Annex VII, Section 9.1.2. ECHA notes that as explained in Appendix 1, Section 0, the quality of the information provided is not adequate even if the provided read across justification shows that the proposed read across is plausible. ECHA further notes that you have not provided any adaptation based on column 2 of the Annex VII to this information requirement in the updated technical dossier or substantiated your comment on limited exposure with any supporting information, while ECHA notes that the uses reported in the technical dossier include uses indicating wide dispersive outdoor uses e.g. by professional workers and consumers (ERC 8a, ERC 8c, ERC 8d, ERC 8f). ECHA considers that your comments do not provide a basis to amend the decision.

Notes for your consideration

Due to the low solubility of the substance in water you should consult the OECD Guidance Document on Aquatic Toxicity Testing of Difficult Substances and Mixtures, ENV/JM/MONO (2000)6 and ECHA Guidance, Chapter R7b, table R. 7.8-3 summarising aquatic toxicity testing of difficult substances for choosing the design of the requested long-term ecotoxicity tests and for calculation and expression of the result of this test.

6. Long-term toxicity on terrestrial invertebrates (Annex IX, Section 9.4.1., column 2)

Pursuant to Article 40(3)(a) of the REACH Regulation, ECHA may require the Registrant to carry out the proposed test.

"Effects on terrestrial organisms" is a standard information requirement as laid down in Annex IX and X, Section 9.4. of the REACH Regulation. The Registrant must address the standard information requirements set out in Annex IX and X, Section 9.4., for different taxonomic groups: short-term toxicity testing on invertebrates (Annex IX, Section 9.4.1.), long-term toxicity testing on invertebrates (Annex X, section 9.4.4.), short-term toxicity testing on plants (Annex IX, section 9.4.3.) and long-term toxicity testing on plants (Annex X, section 9.4.6.). Column 2 of section 9.4 of Annex IX specifies that long-term toxicity testing shall be considered by the Registrant instead of short-term, in particular for substances that have a high potential to adsorb to soil or that are very persistent.

The information on "long-term toxicity to invertebrates" is not available for the registered substance but needs to be present in the technical dossier to meet the information requirements. Consequently there is an information gap and it is necessary to provide information for this endpoint.

You have submitted a testing proposal for a long-term toxicity test to invertebrates (Earthworm Reproduction Test, OECD TG 222) with the analogue substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0).

ECHA considers that the proposed study performed with the analogue substance octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine (EC: 309-629-8, CAS: 100545-48-0) is deemed to be plausible to fulfil the information requirement of Annex IX, Section 8.7.2. of the REACH Regulation subject to the uncertainties described in section 0 of this Appendix.

According to Section R.7.11.5.3., Chapter R.7c of the ECHA *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2014), substances that are ionisable or have a log K_{ow}/K_{oc} >5 are considered highly adsorptive. According to the evidence presented within the Registration dossier, the substance has a high potential to adsorb to soil (logK_{ow} 5.86, log K_{OC}>5.63). Therefore ECHA agrees that a long-term testing is indicated and the proposed test is appropriate to fulfil the information requirement of Annex IX, Section 9.4.1., colulmn 2.

Therefore, pursuant to Article 40(3)(a) of the REACH Regulation, you are required to carry out the proposed study using the analogue substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0): Earthworm reproduction test (*Eisenia fetida/Eisenia andrei*) OECD 222.

As described above in Appendix 1 Section 4, in your comments to the draft decision you disagree with the need to conduct tests requested under sections 4-8. In your comments you state that the proposed study on *Daphnia magna* reproduction would provide sufficient information to cover sections 9.4.1, 9.4.2 and 9.4.3.

However, you have a testing proposal for Long term toxicity on terrestrial invertebrates (Annex IX, 9.4.1, Earthworm reproduction test, OECD 222). As explained above in this Section ECHA agrees that there is a data gap for Long term toxicity on terrestrial invertebrates (Annex IX, 9.4.1, column 2). The proposed study on *Daphnia magna* reproduction would not be adequate because the substance is highly adsorptive. According to Section R.7.11.5.3., Chapter R.7c of the ECHA Guidance on information requirements and chemical safety assessment (version 2.0, November 2014) if there is indication of high adsorption or high persistence of the substance in soil confirmatory long term soil toxicity study should be conducted, as decribed above. Therefore, ECHA considers that your comments do not provide a basis to remove this request for information.

7. Long-term toxicity on plants (Annex IX, Section 9.4.3., column 2)

Pursuant to Article 40(3)(c) of the REACH Regulation, ECHA may require the Registrant to carry out one or more additional tests in case of non-compliance of the testing proposal with Annexes IX, X or XI of the REACH Regulation.

"Effects on terrestrial organisms" is a standard information requirement as laid down in Annex IX and X, Section 9.4. of the REACH Regulation. The Registrant must address the standard information requirements set out in Annex IX and X, Section 9.4., for different taxonomic groups: short-term toxicity testing on invertebrates (Annex IX, Section 9.4.1.), long-term toxicity testing on invertebrates (Annex X, section 9.4.4.), short-term toxicity testing on plants (Annex IX, section 9.4.3.) and long-term toxicity testing on plants (Annex X, section 9.4.6.). Column 2 of section 9.4 of Annex IX specifies that long-term toxicity testing shall be considered by the Registrant instead of short-term, in particular for substances that have a high potential to adsorb to soil or that are very persistent.

The information on "long-term toxicity to plants" is not available for the registered substance but needs to be present in the technical dossier to meet the information requirements. Consequently, there is an information gap and it is necessary to provide information for this endpoint.

Regarding the standard information requirement for Annex IX, Sections 9.4.3. of the REACH Regulation, you have provided the following justification: "*No toxicity testing on terrestrial plants was conducted. An earthworm reproduction test is proposed to derive PNECs for the terrestrial environment.*" ECHA notes that the justification for waiving provided does not meet the criteria of Annex IX, section 9.4.3., column 2.

The proposed test accepted by ECHA under Section 6 above is not sufficient by itself to address the standard information requirements of Annex IX, section 9.4.3. ECHA notes that the registration dossier does not contain data for this endpoint.

According to section R.7.11.6., Chapter R.7c of the ECHA *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2014), where there is adequate data available to sufficiently derive a PNEC for aquatic organisms, this PNEC can be used in a screening assessment for soil risks through the use of the Equilibrium Partitioning Method (EPM) approach.

However, ECHA notes that you have proposed a toxicity test on aquatic invertebrates (Section 3 of the present Decision) and that the results of this proposed test may lead to a revision of the currently derived $PNEC_{water}$. Therefore, ECHA considers that accurate allocation of an appropriate soil hazard category according to table R7.11-2, of the abovementioned guidance, is not possible at this time.

Consequently, it is not possible to waive the standard information requirements for the terrestrial compartment through an initial screening assessment based upon the EPM, mentioned in Column 2 of Annex IX, section 9.4. Since a screening assessment for terrestrial organisms is not possible, testing for effects on all terrestrial organisms indicated in section 9.4 of Annex IX is considered necessary.

Moreover, ECHA considers that only a long-term toxicity test on plants will provide the necessary information on the properties of the substance. At this tonnage level, according to column 2 of Section 9.4. of Annex IX, the registrant shall consider long-term testing for substances that have a high potential to adsorb in soil or that are very persistent. Based on the substance properties (water solubility 0.115 mg/L, $\log K_{OW}$ 5.86, $\log K_{OC}$>5.63, vapour pressure 0.0001 Pa), there is an indication for high adsorption potential of the substance in soil. That indicates the need for long-term testing to be performed. You did also not provide any argument why long-term testing would not be appropriate.

It is also noted that the ECHA Guidance on information requirements and chemical safety assessment Chapter R10, section R.10.6.2. (version May 2008) allows the potential application of a lower assessment factor (AF), if information on additional long-term terrestrial toxicity tests of two trophic levels were available. In contrast, the Guidance does not allow for a lower AF to be applied if information on a short-term study were to become available in addition to the long-term invertebrate study, which ECHA accepts under point (6) above. For all these reasons, ECHA concludes that, only a long-term toxicity test on plants (and not the short-term) will provide the necessary information.

OECD guideline 208 (Terrestrial plants, growth test) considers the need to select the number of test species according to relevant regulatory requirements, and the need for a reasonably broad selection of species to account for interspecies sensitivity distribution. For long-term toxicity testing, ECHA considers six species as the minimum to achieve a reasonably broad selection. Testing shall be conducted with species from different families, as a minimum with two monocotyledonous species and four dicotyledonous species, selected according to the criteria indicated in the OECD TG 208 guideline. You should consider if testing on additional species is required to cover the information requirement.

Therefore, pursuant to Article 40(3)(c) of the REACH Regulation, you are required to carry out one of the following additional studies using the registered substance subject to the present decision: Terrestrial plants, growth test (OECD 208), with at least six species tested (with as a minimum two monocotyledonous species and four dicotyledonous species) or Soil Quality – Biological Methods – Chronic toxicity in higher plants (ISO 22030).

As described above in Appendix 1 section 4, in your comments to the draft decision you disagree with the need to conduct tests requested under sections 4-8. In you comments you state that the proposed study on *Daphnia magna* reproduction would provide sufficient information to cover sections 9.4.1, 9.4.2 and 9.4.3. As explained above "Effects on terrestrial organisms" is a standard information requirement as laid down in Annex IX and X, Section 9.4. of the REACH Regulation. At this stage the proposed study on *Daphnia magna* reproduction would not adequately cover the endpoints under sections 9.4.1, 9.4.2 and 9.4.3, see "Note for your considerations" below.

Therefore, ECHA considers that your comments do not provide a basis to amend the decision.

Notes for your consideration

ECHA notes that where there is adequate data available to sufficiently derive a PNEC for aquatic organisms, this PNEC can be used in a screening assessment for soil risks through the use of the Equilibrium Partitioning Method (EPM) approach. There is currently, however, no valid $PNEC_{water}$ in the technical dossier.

If the results of the long-term toxicity tests on fish and aquatic invertebrates allow the subsequent derivation of a $PNEC_{water}$, you may consider the ITS as recommended in section R.7.11.6., Chapter R.7c of the ECHA *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2014), and determine the need for further testing on terrestrial organisms.

8. Effects on soil micro-organisms (Annex IX, Section 9.4.2.)

Pursuant to Article 40(3)(c) of the REACH Regulation, ECHA may require the Registrant to carry out one or more additional tests in case of non-compliance of the testing proposal with Annexes IX, X or XI of the REACH Regulation.

"Effects on terrestrial organisms" is a standard information requirement as laid down in Annex IX, Section 9.4. of the REACH Regulation. The Registrant must address the standard information requirements set out in Annex IX, Section 9.4., for different taxonomic groups: short-term toxicity testing on invertebrates (Annex IX, Section 9.4.1.), effects on soil micro-organisms (Annex IX, Section 9.4.2.), and short-term toxicity testing on plants (Annex IX, Section 9.4.3.).

You have sought to adapt the information requirement for "effects on soil micro-organisms". You provided the following justification for the adaptation: "*No toxicity testing on terrestrial microorganisms was conducted. An earthworm reproduction test is proposed to derive PNECs for the terrestrial environment. Also, the substance proved to be non-toxic to aquatic microorganisms at doses up to 1 mg/L in ready biodegradation testing conducted according to OECD Guideline 301D.*"

ECHA notes that the justification for waiving provided does not meet the criteria of Annex IX, section 9.4.3., column 2. For the reasons outlined in Section 7 of the present decision, ECHA notes that the proposed test accepted under point (6) above is not sufficient to address this standard information requirement. Additionally, the information from a single source alone is regarded insufficient to support the weight of evidence approach, as laid down in Annex XI, Section 1.2. of the REACH Regulation. Therefore, your adaptation of the information requirement cannot be accepted. Consequently, there is an information gap and it is necessary to provide information for this endpoint.

ECHA concludes that the effects on soil microorganisms need to be ascertained by performing a relevant test.

ECHA emphasises that the intrinsic properties of soil microbial communities are not addressed through the EPM extrapolation method and therefore the potential adaptation possibility outlined for the information requirement of Annex IX, Section 9.4.3. does not apply for the present endpoint.

To address this endpoint, either a nitrogen transformation test (test method: EU C.21/OECD TG 216) or a carbon transformation test (test method: EU C.22/OECD TG 217) could be performed. According to Section R.7.11.3.1, Chapter R.7c of the ECHA *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2014), ECHA considers the nitrogen transformation test (EU C.21/OECD TG 216) suitable for non-agrochemicals. For agrochemicals the carbon transformation test (EU: C.22/OECD TG 217) is also required.

Therefore, pursuant to Article 40(3)(c) of the REACH Regulation, you are requested to carry out the following additional test using the registered substance subject to the present decision: Soil microorganisms: nitrogen transformation test, EU C.21/OECD TG 216.

As described above in Appendix 1 Section 4, in your comments to the draft decision you disagree with the need to conduct tests requested under Sections 4-8. In you comments you state that proposed study on *Daphnia magna* reproduction would provide sufficient information to cover sections 9.4.1 9.4.2 and 9.4.3. ECHA notes that the proposed study on *Daphnia magna* reproduction would not adequately cover the endpoints under Annex IX, section 9.4.2 because as explained above, the intrinsic properties of soil microbial communities are not addressed through the EPM extrapolation method and therefore the potential adaptation possibility outlined for the information requirement of Annex IX, Section 9.4.3. does not apply for the present endpoint. Therefore, ECHA considers that your comments do not provide a basis to amend the decision.

Notes for your consideration

If the results of the long-term toxicity tests on fish and aquatic invertebrates allow the subsequent derivation of a $PNEC_{water}$, you may consider the ITS as recommended in section R.7.11.6., Chapter R.7c of the ECHA *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2014), and determine the need for further testing on terrestrial organisms.

9. Timeline for providing the requested information

In the draft decision communicated to you the time indicated to provide the requested information was 24 months from the date of adoption of the decision. This period took into account that all the requested studies would be performed with the registered substance. In your comments on the draft decision, you provided additional information on the proposed analogue approach. ECHA considered your hypothesis for the analogue plausible.

On that basis, ECHA considers that a reasonable time period for providing the required information on the form of the updated registration is 21 months from the date of the adoption of the decision. Indeed, the provided time period takes into account the ECHA decision on the testing proposal for the source substance (Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine, EC: 309-629-8, CAS: 100545-48-0) which covers the requests 2, 3 and 6 in this decision. This information is required to be available by 27 April 2018. The decision was therefore modified accordingly.

Appendix 2: Procedural history

ECHA received your registration containing the testing proposals for examination pursuant to Article 40(1) on 17 May 2013.

ECHA held a third party consultation for the testing proposals from 30 September 2015 until 16 November 2015. ECHA did not receive information from third parties.

This decision does not take into account any updates after **8 August 2016**, 30 calendar days after the end of the commenting period.

The decision making followed the procedure of Articles 50 and 51 of the REACH Regulation, as described below:

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

ECHA took into account your comments and amended the request(s).

You updated your registration on 5 August 2016. ECHA took the information in the updated registration into account, and amended the draft decision. The updated information is reflected in the Reasons (Appendix 1).

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

As no amendments were proposed, ECHA took the decision according to Article 51(3) of the REACH Regulation.

Appendix 3: Further information, observations and technical guidance

1. This decision does not imply that the information provided in your registration dossier is in compliance with the REACH requirements. The decision does not prevent ECHA from initiating a compliance check on the registration at a later stage.

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

3. In carrying out the test(s) required by the present decision it is important to ensure that the particular sample of substance tested is appropriate to assess the properties of the registered substance, taking into account any variation in the composition of the technical grade of the substance as actually manufactured or imported. If the registration of the substance covers different grades, the sample used for the new test(s) must be suitable to assess these. Furthermore, there must be adequate information on substance identity for the sample tested and the grade(s) registered to enable the relevance of the test(s) to be assessed.