EUROPEAN CHEMICALS AGENCY

Decision number: CCH-D-2114343360-61-01/F Helsinki, 21 September 2016

DECISION ON A COMPLIANCE CHECK OF A REGISTRATION PURSUANT TO ARTICLE 41(3) OF REGULATION (EC) NO 1907/2006

For Decanoic acid, mixed esters with heptanoic acid, octanoic acid and trimethylolpropane, CAS No 68130-53-0 (EC No 268-596-7), registration number: [redacted]

Addressee: [redacted]

The European Chemicals Agency (ECHA) has taken the following decision in accordance with the procedure set out in Articles 50 and 51 of Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation).

I. Procedure

Pursuant to Article 41(1) of the REACH Regulation ECHA has performed a compliance check of the registration for Decanoic acid, mixed esters with heptanoic acid, octanoic acid and trimethylolpropane, CAS No 68130-53-0 (EC No 268-596-7), submitted by [redacted] (Registrant).

This decision is based on the registration as submitted with submission number [redacted], for the tonnage band of 1000 tonnes or more tonnes per year. This decision does not take into account any updates submitted after the deadline for updating 15 March 2015 communicated to the Registrant by ECHA on 6 February 2015.

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

The compliance check was initiated on 8 August 2013.

On 11 December 2013 ECHA sent the draft decision to the Registrant and invited him to provide comments within 45 days of the receipt of the draft decision (extension exceptionally granted due to the commenting period falling on the Christmas and New Year period). That draft decision was based on submission number [redacted].

On 23 January 2014 ECHA received comments from the Registrant on the draft decision, concerning the information requirements of Annex VI Section 2.1, Annex VII Sections 7.7, 7.8, 8.5.1, 8.3 and 8.4.1, Annex VIII Sections 8.1.1, 8.2.1, 8.4.2, 9.2.2.1 and 9.1.4, Annex IX Sections 7.17, 8.6.2, 8.7.2, 9.2.1.2, 9.2.1.3, 9.2.1.4, 9.2.3, 9.3.2, 9.1.5, 9.1.6.1 and 9.4.2, and Annex X Sections 9.4.4, 9.4.6, 9.5.1 and 8.7.3. The Registrant also updated his registration dossier. The latest dossier update was submitted on 18 November 2014 (submission number [redacted]).

The compliance check requirement to submit information of a two-generation reproductive toxicity study (EU B.35, OECD TG 416) or an extended one-generation reproductive toxicity study (EU B.56, OECD TG 443) has been removed from this draft decision due to the legislative amendments to the REACH Regulation regarding Annex X, Section 8.7.3. In light of this, ECHA Secretariat did not consider further the Registrant's comments and update(s) concerning the information requirement of Annex X, Section 8.7.3. However, ECHA Secretariat did consider further the Registrant's comments and update(s) concerning the other information requirements listed above. On the basis of this information and change of scope, Section II was amended. The Statement of Reasons (Section III) was changed accordingly.

On 21 July 2016 ECHA notified the Competent Authorities of the Member States of its draft decision and invited them pursuant to Article 51(1) of the REACH Regulation to submit proposals for amendment of the draft decision within 30 days of the receipt of the notification.

As no proposal for amendment was submitted, ECHA took the decision pursuant to Article 51(3) of the REACH Regulation.

II. Information required

A. Information in the technical dossier derived from the application of Annexes VII to XI

Pursuant to Articles 41(1), 41(3), 10(a)(vi) and (vii), 12(1)(e), 13 and Annexes VII, VIII, IX, X of the REACH Regulation the Registrant shall submit the following information using the indicated test methods and the registered substance subject to the present decision:

1. Sub-chronic toxicity study (90-day), oral route (Annex IX, 8.6.2.; test method: EU B.26./OECD 408) in rats;
2. Pre-natal developmental toxicity study (Annex IX, 8.7.2.; test method: EU B.31./OECD 414) in rats or rabbits, oral route;
3. Long-term toxicity on aquatic organisms:
   a) Long-term toxicity testing on aquatic invertebrates (Annex IX, 9.1.5.; test method: Daphnia magna reproduction test, EU C.20./OECD 211);
   b) Long-term toxicity testing on fish (Annex IX, 9.1.6.1.; test method: Fish, early-life stage (FELS) toxicity test, OECD 210);
4. Effects on terrestrial organisms:
   a) Long-term toxicity testing on terrestrial invertebrates (Annex X, 9.4.4.; test method: Earthworm reproduction test (*Eisenia fetida/Eisenia andrei*) (test method: OECD 222), or Enchytraeid reproduction test (test method: OECD 220), or Collembolan reproduction test in soil, OECD 232); and
   b) Effects on soil micro-organisms (Annex IX, 9.4.2.; test method: Soil microorganisms: nitrogen transformation test, EU C.21./OECD 216);
   c) Effects on terrestrial organisms – Long-term toxicity testing on plants (Annex X, 9.4.6.; test method: 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).

Pursuant to Article 41(4) of the REACH Regulation the Registrant shall submit the information in the form of an updated registration to ECHA by **28 September 2018**. The timeline has been set to allow for sequential testing as appropriate.

III. Statement of reasons

Pursuant to Article 41(3) of the REACH Regulation, ECHA may require the Registrant to submit any information needed to bring the registration into compliance with the relevant information requirements.

A. Information in the technical dossier derived from the application of Annexes VII to XI

Pursuant to Articles 10(a)(vi) and (vii), 12(1)(e) of the REACH Regulation, a technical dossier for a substance manufactured or imported by the Registrant in quantities of 1000 tonnes or more per year shall contain as a minimum the information specified in Annexes VII, VIII, IX, and X of the REACH Regulation.

0. Grouping of substances and read-across approach (preliminary considerations)

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".

In the registration, the Registrant has adapted the standard information requirements for

- Sub-chronic toxicity study (90-day), oral route (Annex IX, 8.6.2.)
- Pre-natal developmental toxicity study (Annex IX, 8.7.2.)
- Long-term toxicity to aquatic organisms:
  - Long-term toxicity testing on aquatic invertebrates (Annex IX, 9.1.5)
  - Long-term toxicity testing on fish (Annex IX, 9.1.6)
- Effects on terrestrial organisms:
  - Long-term toxicity testing on terrestrial invertebrates (Annex IX, 9.4.1. and Annex X, 9.4.4.)
  - Effects on soil micro-organisms (Annex IX, 9.4.2.)
  - Long-term toxicity testing on plants (Annex IX, 9.4.3. and Annex X, 9.4.6.)

by applying a read-across adaptation following REACH Annex XI, Section 1.5.

Annex XI, Section 1.5. requires that application of the group concept requires that physicochemical properties, human health effects and environmental effects or environmental fate may be predicted from data for reference substance(s) within the group by interpolation to other substances in the group (read-across approach). The Registrant's justification for the proposed grouping approach and read-across hypothesis, as laid out in the updated dossier (submission number [redacted]), and the separate and different approach as laid out in their comments to the draft decision, together with ECHA's analysis concerning the justification are addressed in this section in general terms and specified below in sections 1-4 separately for each of the relevant endpoints.

In the original submission ([redacted]), for several endpoints the Registrant provided only the following waiving statement: "*In accordance with REACH Annex XI, section 1.5. (Grouping of substances and read across approach), the [test] does not need to be conducted.*" The following category definition for the read across was provided in the CSR: "*Conclusions for [the registered substance] are mainly based on read-across from analogue substances of a known category. Data were collected both from the (U. S.) HPV programme (polyol ester category) and from substances notified under Directive 67/548/EEC (NONS) in 2003/2004 (pentaerythritol ester category). The following substances were used to build the category: The category consists of pentaerythritol esters (CAS numbers 70693-33-3 and*

156559-00-1) and trimethylolpropane esters (CAS numbers 126-57-8, 189120-64-7, 11138-60-6, and 68130-53-0)". The Registrant has provided a new basis for adaptation according to Annex XI, 1.5, in both the comments and in the updated dossier, and these new justifications are addressed below. This original waiving statement is considered to be replaced by the justification currently present in the dossier and is not further addressed.

In the updated technical dossier (submission number [redacted]), as Appendix I of the CSR and in a separate attachment in section 13 the Registrant has provided a "*Justification for read-across*". This document presents a category of 11 substances and their physicochemical, toxicological and environmental fate and ecotoxicological properties. The following conclusion is made "*Based upon the data reviewed for this category of chemicals, the physicochemical, ecotoxicological and toxicological properties of the category members are similar and follow a regular pattern as a result of their structural similarity. Therefore, the definition of a chemical category has been met, and read across is considered appropriate for this category of chemicals.*
The substances are polyol esters (with pentaerythritol or trimethylolpropane). The fatty acid components contain chains from C5 to C18, including C16 to C18 (including unsaturated). Although the range of carbon atom chain lengths is broad, the physico-chemical properties of the substances are similar. They are liquids, characterised by low (below -20 °C) melting and high (above 150 °C) boiling temperatures. The calculated vapour pressures are very low. Polyol esters are insoluble in water (< 1 mg/L) and their calculated octanol-water partition coefficients are generally high (log Kow > 2.7 or much higher). These substances are generally readily biodegradable and are not associated with toxic effects on aquatic and terrestrial organisms.
Polyol esters of low toxicity are metabolised via hydrolysis to their respective fatty acids and polyols – this process is likely to be catalysed by esterases present in most tissues and by gastrointestinal lipases, therefore only limited exposure to the parent compound is expected. Straight-chain fatty acids are normal dietary constituents and substrates for energy production via physiological pathways such as the Krebs Cycle, electron transport chain, sugar synthesis, and lipid synthesis. The polyols do not accumulate in the body but are readily excreted via urine". ECHA understands that the arguments used to predict the properties of the registered substance are (in summary): structural, physicochemical, ecotoxicological and toxicological similarity, and additionally that the substances are hydrolysed to normal dietary constituents and polyols that do not accumulate. For this read-across justification, ECHA considers the above as the hypothesis whereby the properties of the registered substance are predicted from the read-across (analogue or source) substances.

However, in his comments to the Draft Decision the Registrant proposed a substantially different "*category based, weight of evidence approach"* using only 3 analogous substances (compared to eleven analogous substances presented in the justification in the updated technical dossier). The Registrant states that these "*3 substances are closely comparable to this UVCB substance subject to this draft decision. Utilisation of these substances allows for assessment as follows:*
Smallest possible structure of EC 268-596-7: Equivalent to EC 201-089-0
Largest possible structure of EC 268-596-7: Equivalent to EC 293-036-3
Variable structures of EC 268-596-7: Equivalent to EC 293-036-3 and EC 234-392-1".

ECHA understands that the arguments used to predict the properties of the registered substance are that these substances represent components of the registered substance, and contain the extremes of structural diversity/ variability seen in the registered substance. Thus if information is provided on all three source substances, this would adequately cover all the structural variation present in the registered substance. For this read-across justification, ECHA considers the above as the hypothesis whereby the properties of the registered substance are predicted from the read-across (analogue or source) substances.

ECHA's evaluation of the read-across adaptation
ECHA addresses these two different justifications for adaptation below.

Justification present in the updated technical dossier (submission number [redacted])

Structural similarity is a prerequisite for applying the grouping and read-across approach, but ECHA does not accept in general or this specific case that structural similarity per se is sufficient to enable the prediction of human health properties of a substance, since structural similarity does not always lead to predictable or similar human health properties. Hence, further elements are needed such as a well-founded hypothesis of (bio)transformation to a common compound(s), or that different compounds have the same type of effect(s), to allow a prediction of human health properties that does not underestimate risks.

Similarly, it is argued that the physicochemical properties of the substances are similar and follow a regular pattern. Similarity or a regular pattern of physicochemical properties are a prerequisite for applying the grouping and read-across approach, but ECHA does not accept in general or this specific case that physicochemical similarity or regular properties per se are sufficient to enable the prediction of human health or environmental properties of a substance, since physicochemical similarity or regular properties does not always lead to predictable or similar human health or environmental properties.

It is proposed that the ecotoxicological/ toxicological properties of the substances are similar and follow a regular pattern. Similarity or a regular pattern of ecotoxicological/ toxicological properties are a prerequisite for applying the grouping and read-across approach, but ECHA does not accept in general or this specific case that ecotoxicological/ toxicological similarity or regular properties per se are sufficient to enable the prediction of human health or environmental properties of a substance, since ecotoxicological/ toxicological similarity or regular properties does not always lead to predictable or similar human health or environmental properties for a different endpoint. ECHA considers that similarity of the ecotoxicological and toxicological properties has not been demonstrated, as the toxicological database is too sparse; in the "Justification For Read Across", there is a table for "Toxicological endpoints" which contains nine listed substances. There is data for one substance for a 28-day study, two substances for a 90-day study and one substance for a prenatal developmental toxicity study. ECHA considers that this data density is insufficient to sustain a claim that the substances are similar.

The ecotoxicological database is similarly sparse. There is no aquatic toxicity and no terrestrial toxicity data on the registered substance. ECHA notes that there are a total of four short term aquatic studies (three on fish and one on Daphnia) and one long term aquatic study on Daphnia for the eleven substances in the category. As regards terrestrial toxicity information there is one long term test on earthworm and one short term toxicity to plants study available in total for the category.

As described above, any structural similarity and similarity in physicochemical, ecotoxicological or toxicological properties are only useful, if they are supplemented by a justification of why they would allow a prediction of similar properties on human health and the environment. To justify the predictability of the human health and environmental properties, the Registrant has proposed that rapid (and similar) metabolism of the substance enables prediction of the properties of the registered substance, since the hydrolysis products do not accumulate or are normal dietary products. Firstly, ECHA considers that similar metabolism of the substances is not in itself sufficient to predict the toxicological or ecotoxicological properties of the substance, since there are structural

differences between the substances which could lead to different toxicodynamic properties. Secondly, ECHA considers that the Registrant has not demonstrated that there is no systemic availability of the parent substance, and so it is not possible to argue that the properties of the hydrolysis products are entirely predictive of the parent substance.

Additionally, ECHA has taken into account the weight of all of the Registrant's arguments together. ECHA firstly notes that the Registrant has not provided a reasoning as to why these arguments add to one another to provide sufficient weight. Secondly, ECHA considers that the arguments when taken all together do not provide a basis for predicting the properties of the registered substance. ECHA considers that this grouping and read-across approach does not comply with the general rules of adaptation as set out in Annex XI, 1.5. of the REACH Regulation. ECHA notes that there are specific considerations for the individual endpoints which also result in a failure to meet the requirement of Annex XI, 1.5, and these are set out under the endpoint concerned.

Justification present in the comments to the draft decision

The Registrant has provided a justification for read-across in his comments. ECHA notes that this read-across justification is different from the read-across justification in the registration dossier on many points. For example, the read-across justification in the dossier uses a grouping of eleven substances, whereas the read-across justification in the comment uses a grouping of four substances with a markedly different structural basis. The hypothesis whereby the properties of the registered substance are predicted is markedly different between the comments and the dossier. Nonetheless, ECHA has taken into account the approach to read-across justification present in the comments. ECHA notes that the approach in the comments does not contain all the necessary information that would have to be present in the dossier, and so ECHA is only able to provide a preliminary examination of this approach. ECHA considers that the proposed approach of providing information for each endpoint on all three source substances (i.e. EC 201-089-0, on EC 293-036-3 and EC 234-392-1) is plausible. However, this approach would require detailed analysis of the substance identity and impurity profile of each substance to show that there is a basis for predicting the properties of the registered substance, and this has not been performed.

This justification for read-across in your comments is not an adequate basis for justifying the adaptation currently present in the dossier, since there is not information on all three source substances for any of the endpoints in this draft decision, and consequently it is not possible to account for the structural variation and variability of the source substance. Consequently, there is not currently a reliable basis for predicting the properties of the registered substance from the source substances currently present in the dossier, and the proposed adaptation fails to meet the requirements of Annex XI, 1.5.

Conclusion on the grouping and read-across approach

ECHA has examined your justification for read-across. For the reasons as set out above, and taking into account all of your arguments, ECHA considers that this grouping and read-across approach does not comply with the general rules of adaptation as set out in Annex XI, 1.5. of the REACH Regulation. Therefore, this adaptation cannot be accepted and there is a data gap for the endpoints covered by this read-across approach. ECHA notes that there are specific considerations for the individual endpoints which also result in a failure to meet the requirement of Annex XI, 1.5, and these are set out under the endpoint concerned.

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

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. Adequate information on this endpoint needs to be present in the technical dossier for the registered substance to meet this information requirement.

The Registrant has not provided any study record of a sub-chronic toxicity study (90 day) in the dossier that would meet the information requirement of Annex IX, Section 8.6.2. Instead the Registrant sought to adapt this information requirement by means of a read-across approach.

As explained under section III.A.0 above, ECHA concludes that the read-across as provided by the Registrant cannot be accepted as a valid adaptation to the information requirements.

Additionally, ECHA has assessed the provided studies. The Registrant has provided an adequate 90-day oral study on EC 609-825-6. The Registrant has provided a 28-day oral study on EC 270-291-9, and this study fails to meet the requirement of Annex XI, 1.5 that it cover an exposure duration comparable to or longer than the corresponding test method referred to in Article 13(3) if exposure duration is a relevant parameter, i.e. 90 days. The Registrant has provided a 90-day inhalation study on EC 267-022-2. However ECHA considers that the inhalation route is not appropriate, i.e. that exposure of humans via inhalation is not likely taking into account the vapour pressure of the substance and/or the possibility of exposure to aerosols, particles or droplets of an inhalable size. Specifically the substance is a liquid with low vapour pressure, and although spraying is mentioned as a use, there is no exposure assessment or other information to show that this results in any appreciable human exposure. Since this inhalation study is not appropriate, it cannot fulfil the criteria of Annex IX, 8.6.2. Finally the Registrant provides a 90-day dermal study with EC 267-022-2. ECHA considers that the dermal route is not appropriate according to column 2 of Annex IX, 8.6.2, since none of the following conditions are met: toxicity is observed in the acute dermal toxicity test at lower doses than in the oral toxicity test, or systemic effects or other evidence of absorption is observed in skin and/or eye irritation studies, or in vitro tests indicate significant dermal absorption, or significant dermal toxicity or dermal penetration is recognised for structurally-related substances.
ECHA concludes that the read-across cannot be accepted for the endpoint sub-chronic toxicity study (90-day), oral route (Annex IX, 8.6.2.).

Consequently there is an information gap and it is necessary to provide information for this endpoint.

In light of the physical-chemical properties of the substance, which is a liquid with low vapour pressure and the information provided on the uses and human exposure, ECHA considers that testing by the oral route is most appropriate.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, the Registrant is requested to submit the following information derived with the registered substance subject to the present decision: Repeated dose 90-day oral toxicity study (test method: EU B.26./OECD 408) in rats.

2. Pre-natal developmental toxicity study (Annex IX, 8.7.2.)

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. Adequate

information on this endpoint needs to be present in the technical dossier for the registered substance to meet this information requirement.

The Registrant has not provided any study record of a pre-natal developmental toxicity study in the dossier that would meet the information requirement of Annex IX, Section 8.7.2. Instead, the Registrant has sought to adapt this information requirement by means of a read-across approach. As explained under section III.A.0 above, the read-across justification as provided by the Registrant cannot be accepted as a valid adaptation to the information requirements.

The updated technical dossier contains one endpoint study record for an OECD 414 study using the test material CAS number 11138-60-6/ EC 234-392-1, conducted by the dermal route, and ECHA has additionally assessed this study. ECHA considers that the dermal route is not an appropriate route. ECHA notes that in section 7.1. of the IUCLID dossier for the registered substance, the Registrant states that "[...] there is no evidence that decanoic acid, mixed esters with heptanoic acid, octanoic acid and trimethylolpropane is significantly absorbed via the dermal route or the inhalation route." ECHA considers that dermal exposure is not an adequate route of administration for the registered substance as well as the source substance due to the expected lack of systemic bioavailability and, therefore, the provided dermal OECD 414 study using the source substance CAS number 11138-60-6 fails to meet the column 1 requirement of Annex IX, 8.7.2 for most appropriate route of administration, having regard to the likely route of human exposure.

ECHA therefore concludes that the read-across cannot be accepted for the endpoint pre-natal developmental toxicity study (Annex IX, 8.7.2.). Consequently there is an information gap and it is necessary to provide information for this endpoint.

According to the test method EU B.31/OECD 414, the rat is the preferred rodent species, the rabbit the preferred non-rodent species and the test substance is usually administered orally. ECHA considers these default parameters appropriate and testing should be performed by the oral route with the rat or the rabbit as a first species to be used.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, the Registrant is requested to submit the following information derived with the registered substance subject to the present decision: Pre-natal developmental toxicity study (test method: EU B.31./OECD 414) in rats or rabbits by the oral route.

Notes for consideration by the Registrant

In addition, a pre-natal developmental toxicity study on a second species is part of the standard information requirements as laid down in Annex X, Section 8.7.2. for substances registered for 1000 tonnes or more per year (see sentence 2 of introductory paragraph 2 of Annex X).

The Registrant should firstly take into account the outcome of the pre-natal developmental toxicity on a first species and all other relevant available data to determine if the conditions are met for adaptations according to Annex X, 8.7. column 2, or according to Annex XI; for example if the substance meets the criteria for classification as toxic for reproduction Category 1B: May damage the unborn child (H360D), and the available data are adequate to support a robust risk assessment, or alternatively, if weight of evidence assessment of all relevant available data provides scientific justification that the study in a second species is not needed. If the Registrant considers that testing is necessary to fulfill this information requirement, he should include in the update of his dossier a testing proposal for a pre-natal developmental toxicity study on a second species.

If the Registrant comes to the conclusion that no study on a second species is required, he should update his technical dossier by clearly stating the reasons for adapting the standard information requirement of Annex X, 8.7.2.

3. Long-term toxicity to aquatic organisms (Annex IX, 9.1)

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

"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. Adequate information on this endpoint needs to be present in the technical dossier for the registered substance to meet this information requirement.

The Registrant has sought to adapt this information requirement according to Annex XI, Section 1.5. of the REACH Regulation by providing a study record for an OECD guideline 202 "Daphnia sp. Acute Immobilization Test and Reproduction Test", Part 2 (1993) with the analogue substance Decanoic acid, ester with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol octanoate (CAS no 11138-60-6).

In addition to the above OECD guideline 202 study, the technical dossier contains endpoint study records for acute toxicity to fish studies on three analogues (CAS 11138-60-6; CAS 78-16-0; CAS 91050-89-4) and one acute toxicity to Daphnia study on the analogue CAS no 11138-60-6. The Registrant proposes that both the acute and chronic toxicity of the registered substance could be predicted based on the results of these analogue substances listed above concluding that *"the physicochemical, ecotoxicological and toxicological properties of the category members are similar and follow a regular pattern as a result of their structural similarity"* and *"Acute studies with aquatic organisms did not result in any toxic effects in the range of water solubility. For long term toxicity to aquatic invertebrates, an experimental study with CAS 11138-60-60 showed no adverse effects"*.

As outlined in Appendix 1, section 0 of this decision, structural similarity and physicochemical similarity are alone insufficient to enable the prediction of eco-toxicological properties of a substance, since structural and physicochemical similarity do not always lead to predictable or similar environmental properties. ECHA notes that there are no studies on aquatic toxicity, acute or chronic, available for the registered substance. As outlined above, a single long term endpoint study record has been provided using the source substance CAS number 11138-60-6. However as described Appendix 1, section 0 of this decision, data from one analogue substance is not considered sufficient to enable a prediction which would account for the structural variability of the whole target UVCB substance. This source substance with CAS number 11138-60-6 contains C8 and C10 chains only, in contrast to the registered substance which contains C7, C8 and C10 chains.

Furthermore, ECHA considers the result of the provided OECD 202 study of low reliability given that it does not fulfil the criteria set in the OECD 211 technical guideline for the duration of the test.

For the reasons described above and those in Appendix 1, section 0 of this decision, ECHA considers that adaptation of the information requirement cannot be accepted.

ECHA concludes that there is a data gap for Long-term toxicity testing on aquatic invertebrates (Annex IX, 9.1.5.).

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, the Registrant is requested to submit the following information derived with the registered substance subject

to the present decision: *Daphnia magna* reproduction test (test method: EU C.20./OECD 211).

b) Long-term toxicity testing on fish (Annex IX, 9.1.6.)

"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. Adequate information on Fish, early-life stage (FELS) toxicity test (Annex IX, 9.1.6.1.), or Fish, short-term toxicity test on embryo and sac-fry stages (Annex IX, 9.1.6.2.), or Fish, juvenile growth test (Annex IX, 9.1.6.3.) needs to be present in the technical dossier for the registered substance to meet this information requirement.

In the updated dossier the Registrant have not explicitly claimed an adaptation, but have provided information that could be interpreted as an attempt to adapt the information requirement according to Annex XI, Section 1.5 stating that *"No adverse effects were observed in a 15 day-long-term study in Daphnia magna (Low, 1996) with read-across substance, decanoic acid, ester with 2-ethyl-2-(hydroxymethyl) -1,3-propanediol octanoate (11138-60-6) and, based on read across acute toxicity data, fish are not expected to be more sensitive than aquatic invertebrates. For both fish and Daphnia magna, no toxicity was observed in the read across short-term tests. As such, in accordance with Annex IX, Section 9.1), conducting a chronic test with fish is not considered to provide any additional information that would support the Chemical Safety Assessment, given that the substance is not classified Thus, for animal welfare and to avoid unnecessary vertebrate testing, a long-term test with fish is considered to be unjustified."*

ECHA understand that the Registrant's proposal is to use the result of a long term study on Daphnia (OECD 202) with the analogue substance Decanoic acid, ester with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol octanoate (CAS no 11138-60-6) to cover the long term aquatic toxicity requirements. The Registrant argues that this is possible given the available short term toxicity data on fish and Daphnia for which *"no toxicity was observed in the read across short-term tests. As such, in accordance with Annex IX, Section 9.1), conducting a chronic test with fish is not considered to provide any additional information that would support the Chemical Safety Assessment"* and *"based on read across acute toxicity data, fish are not expected to be more sensitive than aquatic invertebrates".*

ECHA notes that the read across adaptation cannot be accepted as explained in Appendix 1, sections 0 and 3 and of this decision so the OECD 202 long term Daphnia study is not sufficient to cover the long term aquatic toxicity requirements.

In the updated dossier, the Registrant has also included information on short term toxicity to fish: OECD 203 (LL50 < 1000 mg/L WAF nominal) with CAS 11138-60-6; ISO 7346-1/OECD 203 (LC50 < 1000 mg/L WAF nominal) with CAS 91050-89-4; OECD 203 (LC50 < 1000 mg/L nominal) CAS 78-16-0.

ECHA has evaluated the short term aquatic toxicity studies and considers them as valid and sufficient to fulfil the information requirement for short term aquatic toxicity. ECHA concludes that the structural variability of the target substance is sufficiently covered by the proposed source substances for the short term aquatic toxicity requirement.

However, ECHA notes that when no toxicity is observed is short term studies, the sensitivity difference between aquatic invertebrates and fish cannot be established. ECHA further notes that it is not possible to obtain adequate information on the toxicity to fish based on short term testing given that the registered substance is poorly water soluble and adsorptive. In

accordance with Annex VIII section 9.1.3 long-term testing shall be considered when the substance is poorly water soluble.

Currently there is no information in the technical dossier on the long term toxicity to fish.

ECHA notes that the information available on this endpoint for the registered substance in the technical dossier does not meet the information requirement. ECHA therefore concludes that there is a data gap for Long-term toxicity testing on fish (Annex IX, 9.1.6).

Regarding the long-term toxicity testing on fish pursuant to Annex IX, section 9.1.6.1, ECHA considers that the 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 3.0, February 2016), Chapter R7b, Figure R.7.8-4). The test method OECD TG 210 is also the only suitable test currently available for examining the potential toxic effects of bioaccumulation (ECHA Guidance Chapter R7b, version 3.0, February 2016). For these reasons, ECHA considers the FELS toxicity test using the test method OECD TG 210 as most appropriate and suitable.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, the Registrant is requested to submit the following information derived with the registered substance subject to the present decision:

Fish, early-life stage (FELS) toxicity test (test method: OECD 210).
Notes for consideration by the Registrant:

Before conducting any of the tests mentioned above in points a) and b) the Registrant shall consult the ECHA *Guidance on information requirements and chemical safety assessment (version 1.2., November 2012)*, Chapter R7b, Section R.7.8.5 to determine the sequence in which the aquatic long-term toxicity tests are to be conducted and the necessity to conduct long-term toxicity testing on fish.

According to ECHA *Guidance on information requirements and chemical safety assessment* (version 1.2., November 2012), Chapter R7b (Section R.7.8.5., pages 32-57, including Figure R.7.8-4 on page 56)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. According to the integrated testing strategy, the Daphnia study is to be conducted first. If based on the results of the long-term Daphnia study and the application of a relevant assessment factor, no risks are observed (PEC/PNEC<1), no long-term fish testing may need to be conducted. However, if a risk is indicated, the long-term fish study needs to be conducted.

4. Effects on terrestrial organisms (Annex IX and X, 9.4.)

"Effects on terrestrial organisms" is a standard information requirement as laid down in Annexes IX and X, section 9.4., of the REACH Regulation. Adequate information on effects on soil micro-organisms (Annex IX, section 9.4.2.), 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.) needs to be present in the technical dossier for the registered substance to meet the information requirements.
Originally the registration dossier did not contain data for these endpoints. Instead, the Registrant proposed to adapt these standard information requirements by waiving the

studies: "*In accordance with column 2 of REACH Annex IX, the soil macro-organisms test does not need to be conducted as direct and/or indirect exposure of soil is unlikely to occur. The substance is not expected to be released to the environment via waste-water treatment plants or landfills, but is incinerated.*" The same arguments were used to waive the studies on plants and invertebratesThe Registrant provided comments to the draft decision and updated the dossier with additional information. ECHA acknowledges the comments by the Registrant and the information in the updated dossier on 25 March 2014 ([redacted]). In his comments he refers to three analogues (CAS 11138-60-6; CAS 78-16-0; CAS 91050-89-4). End point specific considerations on the newly available information is provided below under subsections a), b) and c).

a) Terrestrial Invertebrates (Annex IX, 9.4.1. and Annex X, 9.4.4.)

In the updated dossier the Registrant has not explicitly claimed an adaptation, but has provided information that could be interpreted as an attempt to adapt the information requirement according to Annex XI, Section 1.5 by updating the dossier by including a study record on long-term earthworm reproduction (OECD Guideline 222, NOEC 28 days). This study was conducted with read-across substance, CAS 78-16-0. The NOEC =/> 1000 mg/kg soil dw in 28 days).

In addition, in his comments (Appendix 1) the Registrant refer to available additional information on toxicity to soil invertabrates for CAS 11138-60-6 and CAS 91050-89-4. ECHA cannot assess whether the conditions laid down in Annex XI, Section 1.5 are met by this information because no endpoint study records were provided in the technical dossier. ECHA concludes that the currently available information on CAS 78-16-0 is not adequate to fulfill the information requirement for long term toxicity to invertebrates as the source substance covers only partially the structural variability of the target substance e.g., in contrast to the registered substance which contains C7, C8 and C10 chains the source substance CAS number 78-16-0 contains only C7 chains.

The earthworm reproduction test (OECD 222), Enchytraeid reproduction test (OECD 220), and Collembolan reproduction test (OECD 232) are each considered capable of generating information appropriate for the fulfilment of the information requirements for long-term toxicity testing to terrestrial invertebrates. ECHA is not in a position to determine the most appropriate test protocol, since this decision is dependent upon species sensitivity and substance properties.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, the Registrant is required to carry out one of the following studies: Long-term toxicity to terrestrial invertebrates (Annex IX, 9.4.1., column 2); test method: Earthworm reproduction test (*Eisenia fetida/Eisenia andrei*) OECD 222, or Enchytraeid reproduction test OECD 220, or Collembolan reproduction test in soil OECD 232) using the registered substance.

b) Soil microorganisms (Annex IX, section 9.4.2.)

In the updated dossier the Registrant has not explicitly claimed an adaptation, but have provided information that could be interpreted as an attempt to adapt the information requirement according to Annex XI, Section 1.5 by the following:

- In his comments the Registrant refers to an intention to update the dossier with a read across to CAS 91050-89-4; EC 293-036-3. This information is not included in the technical dossier and therefore cannot be assessed.

- The Registrant has updated the dossier by including three study records on soil microorganisms on three different source substances:

- Methyl oleate
  - No test guideline ([redacted]), degradation of an oil additive in soil half –life 7 days (120 days), metabolites reported, soil type not reported, no toxicity control
  - Justification for read across; *Like CAS 68130-53-0, methyl oleate is a fatty acid ester; it is an ester of methanol and oleic acid ((9Z)-octadec-9-enoic acid) therefore it is expected to be metabolised in a similiar way to CAS 68130-53-0.*
- Fatty acids of different chain length (C4 to C18)
  - No test guideline ([redacted]), ability of Streptomyces to utilize different chain length fatty acids as sole carbon and energy sources
  - Justification for read across: *CAS 68130-53-0 is a fatty ester therefore it will be metabolised to fatty acids (C7 to C10) and trimethylolpropane. Consequently, a published study that has evaluated the metabolism of fatty acids (fatty acids (C4 to C18) by soil microorganisms is considered to be relevant.*
- CAS 555-43-1, tristearin
  - The degradation of the model molecule (pure tristearin) was investigated in three different soil types, to determine the behavior of fatty wastes.
  - CAS 555-43-1 has a similar structure to CAS 68130-53-0; it is a fatty acid ester with 3 carboxylate ester groups and three C18 fatty acid chains therefore it is predicted that it will be metabolised in a similar way.

Firstly, ECHA notes that the reported studies indicate degradation in soil but do not provide adequate information on the toxicity to soil microorganisms. The robust study summaries lack detailed information on e.g. the test environment, test setup, and results.

In relation to the read-across hypothesis, the Registrant states that the source substances metabolise in the same manner as the registered substance, but this is not substantiated in the dossier. Furthermore, the Registrant did not prove similar lack of toxicity due to the presumed similar metabolism.
Consequently and regardless of structural similarity, the provided information on the read across cannot be accepted.

ECHA therefore concludes that there is a data gap for this endpoint and the effects on soil microorganisms need to be ascertained by performing a relevant test (test method: EU C.21 or OECD 216).

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, the Registrant is required to carry out the following additional study: Effects on soil micro-organisms (Annex IX, 9.4.2.; test method: Soil microorganisms: nitrogen transformation test, EU C.21/OECD 216), using the registered substance.

c) Terrestrial Plants (Annex IX, 9.4.3. and Annex X, 9.4.6.)

In the updated technical dossier, a disregarded study on toxicity to terrestrial plants (short-term, OECD 208, Klimisch 4) with the read-across substance, fatty acids, C14-18 and C16-18 unsatd., triesters with trimethylolpropane (CAS-No. 68002-79-9), was provided. Result of this study were (NOEC = 300-1000 mg/kg soil dw, LOECs = 1000 mg/kg soil dw).

The Registrant referred to this study in the updated dossier with a justification for data waiving for this endpoint*: No studies on long-term terrestrial toxicity are available for this substance, however, the substance is predicted to be readily biodegradable. Therefore, no chronic exposure of terrestrial organisms is expected. In addition, a short-term terrestrial plant toxicity test (OECD 208) with the read-across substance Fatty acids, C14-18 and C16-18 unsatd., triesters with trimethylolpropane (CAS-No. 68002-79-9) is available, which*

indicates no toxicity (NOEC = 300-1000 mg/kg soil dw, LOECs = 1000 mg/kg soil dw). Also, fatty acid esters are readily metabolised to fatty acids and alcohols, which naturally occur in sediment and soils and re part of physiological pathways. In conclusion, toxic effects to terrestrial organisms can be excluded therefore a long-term test is not considered to be justified.

ECHA notes that the information provided for the toxicity to terrestrial plants is not considered reliable by the Registrant himself, the substance is adsorptive and poorly water soluble and there is no valid PNEC aquatic. Therefore, the provided waiver does not fulfill the conditions set in column 2 of the Annex IX, 9.4.3. and Annex X, 9.4.6.
In his comments the Registrant refers to available additional information on toxicity to terrestrial plants for source substances CAS 11138-60-6 and CAS 91050-89-4. ECHA cannot assess whether the conditions laid down in Annex XI, Section 1.5 are met by this information because no endpoint study records were provided in the technical dossier for these analogues.

Both the Terrestrial plants, growth test (OECD 208, in the configuration as explained below) and the Soil Quality – Biological Methods – Chronic toxicity in higher plants (ISO 22030) are considered capable of generating information appropriate for the fulfilment of the information requirement for long-term toxicity testing on plants. Each of these tests is suitable to also address the information requirement of Annex IX, section 9.4.3 and Annex X, section 9.4.6. ECHA is not in a position to determine the most appropriate test protocol, since this decision is dependent upon species sensitivity and substance properties.

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. The long-term toxicity 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 208 guideline. The Registrant should consider if testing on additional species is required to cover the information requirement.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, the Registrant is required to carry out one of the following studies: Long-term toxicity testing on plants (Annex X, 9.4.6.); test method: Terrestrial plants, growth test (OECD 208), with at least six species tested (with as a minimum two monocotyledonous species and four dicotyledonous species) or test method: Soil Quality – Biological Methods – Chronic toxicity in higher plants (ISO 22030), using the registered substance.

Considerations on integrated testing strategies

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. ECHA notes that in this case, the EPM approach is not applicable as no effects are observed in the short term aquatic studies and real PNECwater cannot be derived (ECHA Guidance on information requirements and chemical safety assessment (version 3.0, February 2016), Chapter R.7b). Therefore, ECHA considers that accurate allocation of an appropriate soil hazard category according to table R7.11-2 of the above mentioned 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.

If the results of the requested toxicity tests on fish and aquatic invertebrates allow the subsequent derivation of a PNECwater, the Registrant may consider the ITS as recommended in section R.7.11.6., of the above-mentioned *Guidance* and determine the need for further testing on terrestrial organisms. If the Registrant concludes that no further investigation of effects on terrestrial organisms is required, the Registrant should update his technical dossier by clearly stating the reasons for adapting the information requirements of section 9.4. of Annex IX, of the REACH Regulation.

Notes for consideration by the Registrant

ECHA notes that additonal toxicity testing on fish and aquatic invertebrates is being requested as part of the present Decision and the results of these tests may subsequently allow the derivation of PNECwater. If the results allow the subsequent derivation of a PNECwater, the Registrant 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* (May 2008), and determine the need for further testing on terrestrial organisms. In this case it may be possible to waive the corresponding terrestrial toxicity tests by including a justified argument for adaptation of Annex IX, 9.4.3. and Annex X, 9.4.6. or of Annex IX, 9.4.1. and Annex X, 9.4.4. in the registration dossier.

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. does not apply for the present endpoint.

B. Deadline for submitting the required information

In the draft decision communicated to the Registrant the time indicated to provide the requested information was 36 months from the date of adoption of the decision. This period of time took into account the fact that the draft decision also contained a request for a two-generation reproductive toxicity study (EU B.35, OECD TG 416) or an extended one-generation reproductive toxicity study (EU B.56, OECD TG 443) (Annex X, 8.7.3.), as well as requests for information on name or other identifier of the substance (Annex VI, 2.1), water solubility (Annex VII, 7.8), partition coefficient n-octanol/water (Annex VII, 7.8), viscosity (Annex IX, 7.17), *in vivo* skin irritation (Annex VIII, 8.1.1), In vivo eye irritation (Annex VIII, 8.2.1), skin sensitisation (Annex VII, 8.3), *in vitro* gene mutation in bacteria (Annex VII, 8.4.1), *in vitro* cytogenicity study in mammalian cells (Annex VIII, 8.4.2) or in vitro micronucleus study (Annex VIII, 8.4.2), hydrolysis as a function of pH (Annex VIII, 9.2.2.1), simulation testing on ultimate degradation in surface water (Annex IX, 9.2.1.2), soil simulation testing (Annex IX, 9.2.1.3), sediment simulation testing (Annex IX, 9.2.1.4), identification of degradation products (Annex IX, 9.2.3), Bioaccumulation in aquatic species (Annex IX, 9.2.3), and activated sludge respiration inhibition testing (Annex VIII, 9.1.4) As this information is not addressed in the present decision, ECHA Secretariat considers that a reasonable time period for providing the required information in the form of an updated registration is 24 months from the date of the adoption of the decision. The decision was therefore modified accordingly.

IV. Adequate identification of the composition of the tested material

In carrying out the studies 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. If the registration of the substance covers different grades, the sample used for the new studies 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 studies to be assessed.

V. Information on right to appeal

An appeal may be brought against this decision to the Board of Appeal of ECHA under Article 51(8) of the REACH Regulation. Such an appeal shall be lodged within three months of receiving notification of this decision. Further information on the appeal procedure can be found on ECHA's internet page at http://echa.europa.eu/appeals/app_procedure_en.asp. The notice of appeal will be deemed to be filed only when the appeal fee has been paid.

Authorised[2] by Ofelia BERCARU, Head of Unit, Evaluation E3.

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