ECHA
EUROPEAN CHEMICALS AGENCY

Decision number: TPE-D-2114330168-54-01/F Helsinki, 11 May 2016

**DECISION ON TESTING PROPOSAL SET OUT IN A REGISTRATION PURSUANT TO ARTICLE 40(3) OF REGULATION (EC) NO 1907/2006**

**For (Z)-N-octadecyldocos-13-enamide, CAS No 10094-45-8 (EC No 233-226-5), 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 40(1) of the REACH Regulation, ECHA has examined the following testing proposal submitted as part of the registration dossier in accordance with Articles 10(a)(ix) and 12(1)(d) thereof for (Z)-N-octadecyldocos-13-enamide, CAS No 10094-45-8 (EC No 233-226-5, submitted by [redacted] (Registrant).

- Long-term toxicity to soil macroorganisms using the analogue substance (Z)-N-octadec-9-enylhexadecan-1-amide (oleyl palmitamide, CAS 16260-09-6)

This decision is based on the registration dossier as submitted with submission number [redacted], for the tonnage band of 100 to 1000 tonnes per year. This decision does not take into account any updates after 9 July 2015.

This decision does not imply that the information provided by the Registrant in his 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.

ECHA received the registration dossier containing the above-mentioned testing proposal for further examination pursuant to Article 40(1) on 24 June 2014.

On 23 February 2015 ECHA sent the draft decision to the Registrant and invited him to provide comments within 30 days of the receipt of the draft decision. That draft decision was based on submission number [redacted].

On 30 March 2015 ECHA received comments from the Registrant on the draft decision.

On 11 June 2015 the Registrant updated his registration dossier [redacted].

The ECHA Secretariat considered the Registrant's comments and update.
The information is reflected in the Statement of Reasons (Section III) whereas no amendments to the Information Required (Section II) were made.

ECHA notified the draft decision to the competent authorities of the Member States for proposal(s) for amendment(s) on 03 March 2016.

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

II. Testing required

A. Tests required pursuant to Article 40(3)

The Registrant shall carry out the following proposed test pursuant to Article 40(3)(a) and 13(4) of the REACH Regulation using the indicated test method and the analogous substance:

1. Long-term toxicity on terrestrial invertebrates (Annex IX, Section 9.4.1. and Column 2 of Annex IX, 9.4.; test method: Earthworm reproduction test (*Eisenia fetida/Eisenia andrei*), OECD 222) on the analogous substance (Z)-N-octadec-9-enylhexadecan-1-amide (oleyl palmitamide, CAS 16260-09-6);

The Registrant shall carry out the following additional tests pursuant to Article 40(3)(c) and 13(4) of the REACH Regulation using the indicated test methods and the registered substance (Z)-N-octadecyldocos-13-enamide subject to the present decision:

2. Long-term toxicity testing on plants (Annex IX, Section 9.4.3, column 2; 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) and
3. Effects on soil micro-organisms (Annex IX, Section 9.4.2.; test method: Soil microorganisms: nitrogen transformation test, EU C.21/OECD 216)

Note for consideration by the Registrant:

The Registrant 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 to and conforming with the appropriate rules in the respective Annex, and an adequate and reliable documentation.

Failure to comply with the request(s) in this decision, or to fulfil otherwise the information requirement(s) with a valid and documented adaptation, will result in a notification to the Enforcement Authorities of the Member States.

B. Deadline for submitting the required information

Pursuant to Articles 40(4) and 22(2) of the REACH Regulation, the Registrant shall submit to ECHA by **20 November 2017** an update of the registration dossier containing the information required by this decision, including, where relevant, an update of the Chemical Safety Report. The timeline has been set to allow for sequential testing as appropriate.

III. Statement of reasons

The decision of ECHA is based on the examination of the testing proposal submitted by the Registrant for the registered substance.

A. Tests required pursuant to Article 40(3)

0) Grouping of substances and read-across approach

Article 13(1) and 13(3) of the REACH Regulation allows that information on intrinsic properties of substances may be generated by means other than tests, including information from structurally related substances (grouping or read-across), "provided that the conditions set out in Annex XI are met".

The criteria for read-across are set out in Annex XI, section 1.5.

The Registrant has proposed a testing approach for long-term toxicity to soil macro-organism using an analogue as test (source) substance (Z)-N-octadec-9-enylhexadecan-1-amide (oleyl palmitamide), CAS No 16260-09-6 (EC No 240-367-6). ECHA notes that in the registration dossier the Registrant has provided a rationale and justification for the analogue read-across approach.

According to the Registrant, the read-across hypothesis is based on common origin, structural similarity, similar physico-chemical properties, similar environmental fate pathway, similar metabolic pathways after systemic uptake and similar ecotoxicity profiles and similar (low) toxicity profiles. The Registrant has provided a detailed overview of ecotoxicological, environmental fate and toxicological data and addressed metabolic pathways and toxicokinetics. Due to the properties of the registered (target) substance (Z)-N-octadecyldocos-13-enamide, CAS No 10094-45-8 (EC No 233-226-5), the Registrant assumes a low hazard to soil organism.

In line with the criteria set out Annex XI, section 1.5 of the REACH Regulation, ECHA assessed that the structures and physico-chemical properties of source and target substance are similar, and that both substance can be considered as very adsorptive (logKoc > 3) and not readily biodegradable. ECHA notes that similar (low) ecotoxicity is argued based on short-term toxicity to daphnids and toxicity to algae based on read-across from the source substance (Z)-N-octadec-9-enylhexadecan-1-amide (oleyl palmitamide), CAS No 16260-09-6.

While the above aquatic acute toxicity tests have a limited value to assess low toxicity of substances with poor water solubility, ECHA further notes that the decision process for the selection of the source substance has been detailed and documented. For the assessment whether the standard information requirement for toxicity to soil organism subject to present decision has been fulfilled, an adequate justification has to be presented by the Registrant as to why the hazard is not underestimated by applying read-across from the source substance, as he did in his justifications document on the one to one analogue approach.

In conclusion, although ECHA considers the proposed read-across and grouping approach as plausible, a final decision on the validity of the approach will only be possible when the conditions set out in Annex XI are eventually met for each relevant endpoint. As long as the results of the tests proposed by the Registrants are not available, ECHA considers that the read-across and grouping approach, although plausible, is still under development.

ECHA emphasises that it is the Registrant's responsibility to amend and substantiate the read-across justification according to Annex XI, 1.5. and to use all relevant available data once the new test data becomes available.
Following the update of the dossier based on the present decision, ECHA will determine whether the documentation provided is sufficient to satisfactorily address the information requirement of Annex IX for the registered substance as proposed by the Registrant. If, upon further consideration, the proposed approach does not satisfy the conditions set out in Annex XI, ECHA reserves the right to request the information necessary to fulfil the information requirements.

**1 - 3 Effects on terrestrial organisms**

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

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.). 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.

1) Long-term toxicity to terrestrial invertebrates (Annex IX, 9.4.1. and Column 2 of Annex IX, 9.4.)

The Registrant proposed a long-term toxicity test on terrestrial invertebrates (OECD 222), with the following justification:
*'In accordance with Regulation (EC) No1907/2006, Annex XI, Section 1.5 a read across to the structurally similar analogue substance (Z)-Noctadec-9-enylhexadecan-1-amide (oleyl palmitamide, CAS 16260-09-6) will be conducted to fulfil the data requirements according to Annex IX of (Z)-N-Octadecyldocos-13-enamide (CAS No. 10094-45-8) in regard to long-term toxicity to soil macroorganisms. This read across is justified in detail in the analogue justification in IUCLID Section 13.*

*The study is not yet available since a testing proposal according to OECD 222 was submitted in the 2013 dossier for the read-across substance (Z)-N-octadec-9-enylhexadecan-1-amide (oleyl palmitamide, CAS 16260-09-6). However, no additional test with soil macroorganisms will be proposed for (Z)-N-Octadecyldocos-13-enamide (CAS No. 10094-45-8). The Chemical Safety Assessment according to Annex I of Regulation (EC) No 1907/2006 will be re-evaluated based on the outcome of the proposed study for the suitable read-across substance.'*

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, whereas substances with a half-life >180 days are considered very persistent in soil.

According to the evidence presented within the registration dossier, the substance has a high potential to adsorb to soil ($logK_{ow}$ >5,7) and is likely to be very persistent, which is default setting for not readily biodegradable substances when value of the half-life in soil is not available, alike the analogous substance. Therefore ECHA agrees that long-term testing is indicated within the meaning of Column 2 of Section 9.4. of Annex IX. The proposed test is suitable to address the information requirement of Annex IX, section 9.4.1.

In his comments to the draft decision, the Registrant agreed on the need for further soil toxicity testing as the screening assessment based on EPM is not in this case reliable. He proposed to conduct an OECD 222 earthworm reproduction test. However, as ECHA points out in the DD, there is no valid PNEC aquatic and the soil hazard category table as per Table R.7.11-2 (Chapter R.7c) of the ECHA Guidance on information requirements and chemical safety assessment, version 1.1, November 2012) cannot thus be applied. Moreover, ECHA considers that based on the substance properties, water solubility < 1 mg/L, aquatic acute toxicity information cannot be considered reliable indicator for low toxicity in soil.

Furthermore ECHA notes that the Registrant has not provided valid arguments to adapt the standard information requirements for Annex IX, section 9.4 column 2 and therefore the proposed testing strategy cannot be accepted. Under chapter 2 and 3 of this decision the basis for the need for further testing will be further justified by ECHA.

In the updated dossier [redacted], the Registrant has updated to the endpoint summary or justifications field with adaptations according to their comments.

Outcome

Therefore, pursuant to Article 40(3)(a) of the REACH Regulation, the Registrant is required to carry out the proposed study using the analogue substance (Z)-N-octadec-9-enylhexadecan-1-amide (oleyl palmitamide, CAS 16260-09-6): Earthworm reproduction test (*Eisenia fetida/Eisenia andrei*) OECD 222).

Although ECHA considers that the proposed analogue approach for the testing proposal for long-term toxicity to soil macro-organisms as plausible, a final decision on the validity of the approach will only be possible when the conditions set out in Annex XI are eventually met for each relevant endpoint for terrestrial toxicity. Therefore, due to the uncertainties related to this adaptation use and the data-gap related to the registered substance the further tests are to be considered by the Registrant.

2) Long-term toxicity testing on plants (Annex IX, 9.4.3 and Column 2 of Annex IX, 9.4)

The proposed test on terrestrial invertebrates, which ECHA accepted above, can only address the information requirement of Annex IX, section 9.4.1. It is not sufficient by itself to address the standard information requirement of Annex IX, section 9.4.3. ECHA notes that the registration dossier does not contain data for this endpoint.

The Registrant proposed to adapt the standard information requirement of toxicity to plants by :
*'Experimental data on the toxicity of (Z)-N-Octadecyldocos-13-enamide (CAS No. 10094-45-8) to terrestrial arthropods are not available. In accordance with Regulation (EC) No. 1907/2006, Annex IX, column 2, 9.4 studies on terrestrial organisms do not need to be conducted if there is hazard indicated by the chemical safety assessment. The substance is characterised by a high log Koc (log Koc > 5) indicating a considerable potential for adsorption to the soil particles but as the substance is highly insoluble in water (< 0.01 mg/L), only low concentrations are expected in the pore water. Therefore, tests with soil-dwelling organisms like earthworm which allows potential uptake via surface contact, soil particle ingestion and pore water (ECHA, 2012), are most relevant for the evaluation of soil toxicity. In addition, in the absence of a clear indication of selective toxicity, an invertebrate (earthworm or collembolan) test is preferred, as outlined in ECHA guidance section R.7.11.5.3, page 122. Thus, it can be assumed that earthworms would be highly exposed to toxicants in soil and hence are most sensitive to the potential adverse effects of the substance. The study is not yet available since a testing proposal according to OECD 222 was submitted for the read across substance (Z)-N-octadec-9-enylhexadecan-1-amide*

*(oleyl palmitamide, CAS 16260-09-6). However, no additional test with soil macroorganisms will be proposed for (Z)-N-Octadecyldocos-13-enamide (CAS No. 10094-45-8). The Chemical Safety Assessment according to Annex I of Regulation (EC) No 1907/2006 will be re-evaluated based on the outcome of the proposed study for the suitable read-across substance.'*

ECHA points out, that contrary to the Registrant's argument, Column 2, Section 9.4 of Annex IX, contains no adaptation under which the present standard information requirement could be adapted on the basis of 'no toxicity' and 'low water solubility', as cited above.

ECHA notes that the Registrant has considered that invertebrates soil testing would suffice for the soil testing, while arguing about the non-selective toxicity in order not to perform any plants testing on the analogue substance. However, ECHA notes that there is no valid PNEC aquatic and the soil hazard category table as per Table R.7.11-2 (Chapter R.7c) of the ECHA *Guidance on information requirements and chemical safety assessment* (version 1.1, November 2012) cannot thus be applied. Therefore, it is not possible, within the meaning of column 2, section 9.4 of Annex IX, to waive the standard information requirements for the terrestrial compartment through an initial screening assessment based upon the Equilibrium Partitioning Method (EPM) and PNEC aquatic derivation to obtain a PNEC on soil compartment. Consequently, there is an information gap in the standard information requirement of Annex IX, Section 9.4.3.

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 as discussed under subsection (1) above, there is an indication for high adsorption potential and high persistence of the substance in soil. That indicates the need for long-term testing to be performed.

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 test 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 accepted under subsection (1) above. For all these reasons, ECHA concludes that a long-term toxicity test on plants 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 208 guideline. The Registrant should consider if testing on additional species is required to cover the information requirement.

In his comments to the draft decision and subsequent updated dossier [redacted], under the endpoint justification, the Registrant states that one single long-term test on a suitable species would be adequate to meet the requirements of Annex IX, where there is no toxicity (LC50 in the standard acute toxicity tests > 10 mg/L) and the substance is highly adsorptive (log Kow > 5).

However, ECHA Guidance (R.7.11.5.3) also describes that when water solubility of the substance is < 1 mg/l, the absence of acute toxicity cannot be considered reliable indicator for potential effects on soil organisms. In addition to the acute aquatic toxicity data there is no long term information available on the aquatic toxicity and no PNEC aquatic could be derived. In case where one long term study on soil would be acceptable there is a need for valid information on aquatic toxicity (chronic information on aquatic toxicity would be needed when water solubility is low). In this case, the Registrant has not provided adequate evidence on low aquatic toxicity.

Therefore, the proposed testing strategy based solely on effects on Earthworm reproduction cannot be accepted.

Outcome

Therefore, pursuant to Article 40(3)(c) of the REACH Regulation, the Registrant is 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).

3) Effects on soil microorganisms (Annex IX, 9.4.2.)

The hazard to soil microbial communities is a standard information requirement under Annex IX, section 9.4.2. of the REACH Regulation. ECHA notes that the registration dossier does not contain data for this endpoint.
The Registrant proposed to adapt this standard information requirement by:
*' Experimental data on the toxicity of (Z)-N-Octadecyldocos-13-enamide (CAS No. 10094-45-8) to soil microorganisms are not available. In accordance with Regulation (EC) No. 1907/2006, Annex IX, column 2, 9.4 studies on terrestrial organisms do not need to be conducted when there is no hazard indicated by the chemical safety assessment.*
*The test substance is characterized by a high log Koc (log Koc > 5) indicating a potential for adsorption to the soil particles. Tests with soil-dwelling organisms that feed on soil particles are therefore most relevant for the evaluation of soil toxicity. In the absence of a clear indication of selective toxicity, an invertebrate (earthworm or collembolan) test is preferred, as outlined in ECHA guidance section R.7.11.5.3 (ECHA, 2012). The study is not yet available since a testing proposal according to OECD 222 was submitted for*
*for the suitable read across substance (Z)-N-octadec-9-enylhexadecan-1-amide (oleyl palmitamide, CAS 16260-09-6). However, no additional test with soil microorganisms will be proposed for (Z)-N-Octadecyldocos-13-enamide (CAS No. 10094-45-8).*
*Moreover, (Z)-N-Octadecyldocos-13-enamide (CAS No. 10094-45-8) shows no inhibition to aquatic microorganisms up to a concentration of* [redacted] *mg/L (toxicity control, OECD 301D,* [redacted]*). The applied test concentration is in the range of concentrations that can be expected in the influent of a sewage treatment plant, as the substance is highly insoluble in water (< 0.01 mg/L). The ECHA Guidance Document R.7c (ECHA, 2012) states that a test on soil microbial activity will only be additionally necessary for a valid PNEC derivation if inhibition of sewage sludge microbial activity has occurred.*
*In conclusion, the substance is unlikely to pose a risk for terrestrial microorganisms based on low inhibition to aquatic microorganisms and the lack of effects in aquatic ecotoxicity tests.*

*In accordance with Regulation (EC) No. 1907/2006, Annex X, Column 2, 9.4 further studies on the effects on terrestrial organisms do not have to be conducted since the chemical safety assessment indicates that toxicity to soil microorganisms is not expected to be of concern.'*

ECHA points out and that the proposed test that ECHA accepted under subsection (1) above is not sufficient to address this standard information requirement.

ECHA also states that, as explained under subsection (2) above, testing of toxicity to soil microorganisms cannot be omitted using 'no toxicity' or 'no inhibition' argument. Furthermore, the use of the Biodegradation test with sludge (301 D OECD) cannot be used as a sole evidence for no inhibition effect of soil microorganisms, especially considering the substance's low water solubility, high adsorption and potential persistence. Therefore the adaptation does not fulfill the column 2 of Annex IX 9.4.3.

Furthermore, as explained under subsection (2) above, it is not possible to adapt the standard information requirement through an initial screening assessment based upon EPM. Furthermore, as also described in that subsection, it is not possible to adapt the standard information requirement through an initial screening assessment based upon EPM. Therefore the adaptation does not fulfill the column 2 of Annex IX, section 9.4.

ECHA concludes that the effects on soil microorganisms need to be ascertained by performing a relevant test (test method: EU C.21 or OECD 216).
In his update of 11 June 2015, dossier [redacted] under the robust study summary for the endpoint, the Registrant explained further why he considered that no further terrestrial toxicity testing is needed.

ECHA still considers based on Registrant arguments that the low aquatic toxicity approach based on acute data can not be applied when the water solubility of the substance is below 1 mg/L and furthermore that the WoE on low toxicity on microorganisms does not fulfil the Annex XI section 1.2 information and corresponds to one line of evidence on low potential for microbial toxicity as both tests quoted by the Registrant have been performed with same activated sludge inocula.
ECHA concludes that the effects on soil microorganisms need to be ascertained by performing a relevant test (test method: EU C.21 or OECD 216) as no EPM approach can be used as part of TGD (2003).

Outcome

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

## IV. Adequate identification of the composition of the tested material

The process of examination of testing proposals set out in Article 40 of the REACH Regulation aims at ensuring that the new studies meet real information needs. Within this context, the Registrant's dossier was sufficient to confirm the identity of the substance to the extent necessary for examination of the testing proposal.

In relation to the proposed tests, the sample of substance used for the new studies must be suitable for use by all the joint registrants. Hence, the sample should have a composition that is within the specifications of the substance composition that are given by the joint registrants. It is the responsibility of all joint registrants of the same substance to agree to the tests proposed (as applicable to their tonnage level) and to document the necessary information on their substance composition.

In addition, it is important to ensure that the particular sample of substance tested in the new studies 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 by each registrant. If the registration of the substance by any registrant covers different grades, the sample used for the new studies must be suitable to assess these grades.

Finally 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 appeal shall be lodged within three months of receiving notification of this decision. Further information on the appeal procedure can be found on the ECHA's internet page at http://www.echa.europa.eu/regulations/appeals. The notice of appeal will be deemed to be filed only when the appeal fee has been paid.

Authorised[1] by Ofelia Bercaru, Head of Unit, Evaluation E3

[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.