

Helsinki, 12 October 2022

**Addressees**

Registrants of JS\_115-95-7 as listed in Appendix 3 of this decision

**Date of submission of the dossier subject to this decision**

01/04/2020

**Registered substance subject to this decision ("the Substance")**

Substance name: Linalyl acetate

EC number: 204-116-4

**Decision number:** Please refer to the REACH-IT message which delivered this communication (in format TPE-D-XXXXXXXXXX-XX-XX/F)

**DECISION ON TESTING PROPOSAL(S)**

Based on Article 40 of Regulation (EC) No 1907/2006 (REACH), you must submit the information listed below by **17 August 2026**.

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

**Information required from all the Registrants subject to Annex IX of REACH**

1. Extended one-generation reproductive toxicity study (triggered by Annex IX, Section 8.7.3., column 1), as specified under "2."

**Information required from all the Registrants subject to Annex X of REACH**

2. Extended one-generation reproductive toxicity study (Annex X, Section 8.7.3.; test method: EU B.56./OECD TG 443) by oral route, in rats, specified as follows:
  - Ten weeks pre-mating exposure duration for the parental (P0) generation;
  - The highest dose level in P0 animals must be determined based on clear evidence of an adverse effect on sexual function and fertility without severe suffering or deaths in P0 animals as specified further in Appendix 1, or follow the limit dose concept. The reporting of the study must provide the justification for the setting of the dose levels;
  - Cohort 1A (Reproductive toxicity); and
  - Cohort 1B (Reproductive toxicity) without extension to mate the Cohort 1B animals to produce the F2 generation.

You must report the study performed according to the above specifications. Any expansion of the study must be scientifically justified.

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

**Information required depends on your tonnage band**

You must provide the information listed above for all REACH Annexes applicable to you in accordance with Articles 10(a) and 12(1) of REACH. The addressees of the decision and

their corresponding information requirements based on registered tonnage band are listed in Appendix 3.

In the requests above, the same study has been requested under different Annexes. This is because some information requirements may be triggered at lower tonnage band(s). In such cases, only the reasons why the information requirement is triggered are provided for the lower tonnage band(s). For the highest tonnage band, the reasons why the standard information requirement is not met and the specification of the study design are provided. Only one study is to be conducted; all registrants concerned must make every effort to reach an agreement as to who is to carry out the study on behalf of the others under Article 53 of REACH.

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

### **How to comply with your information requirements**

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

You must follow the general requirements for testing and reporting new tests under REACH, see Appendix 4.

### **Appeal**

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

### **Failure to comply**

If you do not comply with the information required by this decision by the deadline indicated above, ECHA will notify the enforcement authorities of your Member State.

Authorised<sup>1</sup> under the authority of Mike Rasenberg, Director of Hazard Assessment

Appendix 1: Reasons for the decision

Appendix 2: Procedure

Appendix 3: Addressees of the decision and their individual information requirements

Appendix 4: Conducting and reporting new tests under REACH

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<sup>1</sup> As this is an electronic document, it is not physically signed. This communication has been approved according to ECHA's internal decision-approval process.

## **Appendix 1: Reasons for the decision**

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**Reasons for the decision(s) related to the information under Annex IX of REACH****1. Extended one-generation reproductive toxicity study**

- 1 An extended one-generation reproductive toxicity study (EOGRTS; OECD TG 443) is an information requirement under Annex IX to REACH (Section 8.7.3.) if the available repeated dose toxicity studies indicate adverse effects on reproductive organs or tissues or reveal other concerns in relation with reproductive toxicity.
- 2 Your dossier contains a repeated dose toxicity study (Reproductive and developmental toxicity screening test (1989)) conducted with linalool which is the toxicologically relevant metabolite. This study indicates concerns in relation with reproductive toxicity. More specifically, for the highest dose group, the study reports decreased delivered litter sizes, indicating increased resorptions, as well as significant incidences of pup mortality in the first four days postpartum. ECHA notes that while decreased body weight gain was reported for the dams during pre mating, this was compensated by a remarkable increase in the dams' weight gain during gestation. No changes in the pup body weight was reported. Therefore, the increased resorptions and decreased pup survival are not considered to be secondary to maternal toxicity, and the concern for reproductive toxicity must be further investigated.
- 3 In your comments you note that in the reproductive and developmental toxicity screening test, there were findings indicative of maternal toxicity because of *'single animals in this dose group showing clinical signs during gestation (ataxia and/or decreased motor activity).'* According to the information in your dossier, *'1-2 rats in this group showed ataxia and/or decreased motor activity infrequently during the pre mating and/or gestation periods.'* ECHA considers that these infrequent observations in single animals during pre mating and/or gestation are not such maternal toxicity, which would explain increased resorptions, or pup mortality post-partum.
- 4 In your comments you also consider that the above-mentioned study, conducted with coriander oil (containing [REDACTED]), is not robust and sufficient to justify an EOGRT study for the Substance at Annex IX. You refer to planned/ongoing studies with the Substance and linalool which will provide a more robust data set to decide, whether concerns in relation to reproductive toxicity exist to justify an EOGRT study for the Substance at Annex IX.
- 5 As explained above, linalool is a toxicologically relevant metabolite of the Substance. Therefore, a concern observed for linalool is a toxicologically relevant concern also for the Substance. ECHA therefore agrees that an EOGRTS is necessary to address the identified concerns in relation with reproductive toxicity.
- 6 For the assessment of the testing proposal, and of the study design, see the reasons under section "2." below.

**Reasons for the decision(s) related to the information under Annex X of REACH****2. Extended one-generation reproductive toxicity study**

7 The basic test design of an extended one-generation reproductive toxicity study (EOGRTS) is a standard information requirement under Annex X to the REACH Regulation. Furthermore, column 2 of Section 8.7.3. defines when the study design needs to be expanded.

*2.1. Information provided to fulfil the information requirement*

8 You have submitted a testing proposal for an EOGRTS according to OECD TG 443 with the Substance.

9 ECHA requested your considerations for alternative methods to fulfil the information requirement for Toxicity to reproduction. You provided your considerations concluding that there were no alternative methods which could be used to adapt the information requirement(s) for which testing is proposed. ECHA has taken these considerations into account.

10 ECHA agrees that an EOGRTS is necessary.

*2.2. Specification of the study design**2.2.1. Species and route selection*

11 You proposed testing in the rat. ECHA agrees with your proposal because the rat is the species preferred by OECD TG 443.

12 You proposed testing by oral route. ECHA agrees with your proposal.

*2.2.2. Pre-mating exposure duration*

13 The length of the pre-mating exposure period must be ten weeks to cover the full spermatogenesis and folliculogenesis before the mating, allowing meaningful assessment of the effects on fertility.

14 You proposed ten weeks pre-mating exposure duration. ECHA agrees with your proposal.

15 Ten weeks pre-mating exposure duration is required to obtain results adequate for classification and labelling and/or risk assessment. There is no substance specific information in the dossier supporting shorter pre-mating exposure duration (Guidance on IRs & CSA, Appendix R.7.6-3).

16 In your comments you agree with the requested 10-week pre-mating exposure duration.

*2.2.3. Dose-level setting*

17 You state that '*An adequate range finding study is planned to ensure a reliable dose setting*'. ECHA agrees.

18 The aim of the requested test must be to demonstrate whether the classification criteria of the most severe hazard category for sexual function and fertility (Repr. 1B; H360F) and developmental toxicity (Repr. 1B; H360D) under the CLP Regulation apply for the Substance (OECD TG 443, para. 22; OECD GD 151, para. 28; Annex I Section 1.0.1. of REACH and Recital 7, Regulation 2015/282), and whether the Substance meets the criteria for a

Substance of very high concern regarding endocrine disruption according to Art.57(f) of REACH as well as supporting the identification of appropriate risk management measures in the chemical safety assessment.

- 19 To investigate the properties of the Substance for these purposes, the highest dose level must be set on the basis of clear evidence of an adverse effect on sexual function and fertility, but no deaths (i.e., no more than 10% mortality; Section 3.7.2.4.4 of Annex I to the CLP Regulation) or severe suffering such as persistent pain and distress (OECD GD 19, para. 18) in the P0 animals.
- 20 In case there are no clear evidence of an adverse effect on sexual function and fertility, the limit dose of at least 1000 mg/kg bw/day or the highest possible dose level not causing severe suffering or deaths in P0 must be used as the highest dose level. A descending sequence of dose levels should be selected to demonstrate any dose-related effect and aiming to establish the lowest dose level as a NOAEL.
- 21 In summary: Unless limited by the physical/chemical nature of the Substance, the highest dose level in P0 animals must be as follows:
- (1) in case of clear evidence of an adverse effect on sexual function and fertility without severe suffering or deaths in P0 animals, the highest dose level in P0 animals must be determined based on such clear evidence, or
  - (2) in the absence of such clear evidence, the highest dose level in P0 animals must be set to be the highest possible dose not causing severe suffering or death, or
  - (3) if there is such clear evidence but the highest dose level set on that basis would cause severe suffering or death, the highest dose level in P0 animals must be set to be the highest possible dose not causing severe suffering or death, or
  - (4) the highest dose level in P0 animals must follow the limit dose concept.
- 22 You have to provide a justification with your study results demonstrating that the dose level selection meets the conditions described above.
- 23 Numerical results (i.e. incidences and magnitudes) and description of the severity of effects at all dose levels from the dose range-finding study/ies must be reported to facilitate the assessment of the dose level section and interpretation of the results of the main study.
- 24 In your comments you consider that a mortality rate up to 10% would not be acceptable, and you express your aim to avoid test substance-related mortality. ECHA notes that as explained above, severe suffering and death must be avoided, i.e. the dose level selection should not aim to produce severe suffering or mortality. However, should mortality still occur, according to CLP Regulation a study showing 10% mortality in a dose group can still be used for classification purposes.

#### 2.2.4. Cohorts 1A and 1B

- 25 Cohorts 1A and 1B belong to the basic study design and must be included. In your comments, you agree with the requested cohorts.

#### 26 Histopathological investigations in Cohorts 1A and 1B

- 27 In addition to histopathological investigations of cohorts 1A, organs and tissues of Cohort 1B animals processed to block stage, including those of identified target organs, must be subjected to histopathological investigations (according to OECD TG 443, para. 67 and 72) if

- the results from Cohort 1A are equivocal,
- the test substance is a suspected reproductive toxicant or

- the test substance is a suspected endocrine toxicant.

28 Splenic lymphocyte subpopulation analysis

29 Splenic lymphocyte subpopulation analysis must be conducted in Cohort 1A (OECD TG 443, para. 66; OECD GD 151, Annex Table 1.3).

30 Investigations of sexual maturation

31 To improve the ability to detect rare or low-incidence effects, all F1 animals must be maintained until sexual maturation to ensure that sufficient animals (3/sex/litter/dose) are available for evaluation of balano-preputial separation or vaginal patency (OECD GD 151, para. 12 in conjunction with OECD TG 443, para. 47). For statistical analyses, data on sexual maturation from all evaluated animals/sex/dose must be combined to maximise the statistical power of the study.

*2.3. Outcome*

32 Your testing proposal is accepted under Article 40(3)(a) and you are requested to conduct the test, as specified above.

*2.3.1. Further expansion of the study design*

33 The conditions to include the extension of Cohort 1B are currently not met. Furthermore, no triggers for the inclusion of Cohorts 2A and 2B (developmental neurotoxicity) and Cohort 3 (developmental immunotoxicity) were identified. However, you may expand the study by including the extension of Cohort 1B, Cohorts 2A and 2B and/or Cohort 3 if relevant information becomes available from other studies or during conduct of this study. Inclusion is justified if the available information meets the criteria and conditions which are described in Column 2, Section 8.7.3., Annex IX/X. You may also expand the study due to other scientific reasons in order to avoid a conduct of a new study. The study design, including any added expansions, must be fully justified and documented. Further detailed guidance on study design and triggers is provided in Guidance on IRs & CSA, Section R.7.6.

## References

The following documents may have been cited in the decision.

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

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

***Guidance on data-sharing***; ECHA (2017).

All Guidance on REACH is available online: <https://echa.europa.eu/guidance-documents/guidance-on-reach>

### ***Read-across assessment framework (RAAF)***

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

The RAAF and related documents are available online:

<https://echa.europa.eu/support/registration/how-to-avoid-unnecessary-testing-on-animals/grouping-of-substances-and-read-across>

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

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



## Appendix 2: Procedure

ECHA started the testing proposal evaluation in accordance with Article 40(1) on 30 April 2020.

ECHA held a third party consultation for the testing proposal(s) from 17 June 2020 until 3 August 2020. ECHA did not receive information from third parties.

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

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

ECHA took into account your comments and did not amend the request(s) but amended the deadline.

In your comments on the draft decision, you requested an extension of the deadline to provide information from 24 to 43 months from the date of adoption of the decision. You justify your request with limited laboratory capacity, and you provided documentary evidence from a CRO.

On this basis, ECHA has granted the request and extended the deadline to 43 months.

In the comments to the draft decision, you note your intention to develop a testing strategy based on a read-across approach between the Substance and a structurally similar substance, linalool (CAS No. 78-70-6). You indicate an intention to generate supporting information, and request ECHA to do an interim evaluation of your testing strategy when supporting information becomes available.

ECHA notes that the scope of this decision is your testing proposal for OECD TG 443 with the Substance. Therefore, your comment on a testing strategy which relies on data yet to be generated is out of scope of this decision.

You remain responsible for complying with this decision by the set deadline.

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

As no amendments were proposed, ECHA adopted the decision under Article 51(3) of REACH.

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

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

- the information specified in Annexes VII, VIII and IX to REACH, for registration at 100-1000 tpa;
- the information specified in Annexes VII to X to REACH, for registration at more than 1000 tpa.

<b>Registrant Name</b>	<b>Registration number</b>	<b>Highest REACH Annex applicable to you</b>
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

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

## Appendix 4: Conducting and reporting new tests for REACH purposes

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

#### 1.1. Test methods, GLP requirements and reporting

- (1) Under Article 13(3) of REACH, all new data generated as a result of this decision must be conducted according to the test methods laid down in a European Commission Regulation or to international test methods recognised by the Commission or ECHA as being appropriate.
- (2) Under Article 13(4) of REACH, ecotoxicological and toxicological tests and analyses must be carried out according to the GLP principles (Directive 2004/10/EC) or other international standards recognised by the Commission or ECHA.
- (3) Under Article 10(a)(vi) and (vii) of REACH, all new data generated as a result of this decision must be reported as study summaries, or as robust study summaries, if required under Annex I of REACH. See ECHA Practical Guide on How to report robust study summaries<sup>2</sup>.
- (4) Under the introductory part of Annexes VII/VIII/IX/X to REACH, where a test method offers flexibility in the study design, for example in relation to the choice of dose levels or concentrations, the chosen study design must ensure that the data generated are adequate for hazard identification and risk assessment.

#### 1.2. Test material

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

- (1) Selection of the Test material(s)  
The Test Material used to generate the new data must be selected taking into account the following:
  - the variation in compositions reported by all members of the joint submission,
  - the boundary composition(s) of the Substance,
  - the impact of each constituent/ impurity on the test results for the endpoint to be assessed. For example, if a constituent/ impurity of the Substance is known to have an impact on (eco)toxicity, the selected Test Material must contain that constituent/ impurity.
- (2) Information on the Test Material needed in the updated dossier
  - You must report the composition of the Test Material selected for each study, under the "Test material information" section, for each respective endpoint study record in IUCLID.
  - The reported composition must include all constituents of each Test Material and their concentration values and other parameters relevant for the property to be tested.

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

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<sup>2</sup> <https://echa.europa.eu/practical-guides>

Technical instructions on how to report the above is available in the manual on How to prepare registration and PPORD dossiers<sup>3</sup>.

## **2. General recommendations for conducting and reporting new tests**

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

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<sup>3</sup> <https://echa.europa.eu/manuals>