Helsinki, 22 November 2016

Addressee: [redacted]

Decision number: CCH-D-2114348335-49-01/F
Substance name: 2,4,6-tris(dimethylaminomethyl)phenol
EC number: 202-013-9
CAS number: 90-72-2
Registration number: [redacted]
Submission number: [redacted]
Submission date: 23.03.2016
Registered tonnage band: 1000+T

DECISION ON A COMPLIANCE CHECK

Based on Article 41 of Regulation (EC) No 1907/2006 (the 'REACH Regulation'), ECHA requests you to submit information on

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

2. **Pre-natal developmental toxicity study (Annex IX, Section 8.7.2.; test method: EU B.31./OECD TG 414) in a first species (rat or rabbit), oral route with the registered substance;**

3. **Pre-natal developmental toxicity study (Annex X, Section 8.7.2.; test method: EU B.31./OECD TG 414) in a second species (rat or rabbit), oral route with the registered substance;**

4. **Extended one-generation reproductive toxicity study (Annex X, Section 8.7.3.; test method: EU B.56./OECD TG 443) in rats, oral route with the registered substance specified as follows:**

    - **Ten weeks premating exposure duration for the parental (P0) generation;**
    - **Dose level setting shall aim to induce some toxicity at the highest dose level;**
    - **Cohort 1A (Reproductive toxicity);**
    - **Cohort 1B (Reproductive toxicity without extension to mate the Cohort 1B animals to produce the F2 generation);**
    - **Cohorts 2A and 2B (Developmental neurotoxicity);**

5. **Revised robust study summary for key study Vryenhoef, H (2004), report number: EXT-04/044, "*Phenol, 2,4,6-tris[(dimethylamino)methyl]: Algal Inhibition Test (OECD 201)*" for the growth inhibition study on aquatic plants (Annex VII, Section 9.1.2. in conjunction with Annex I, Section 3.1.5) using the geometric mean of the measured concentrations;**

6. **Short-term toxicity testing on aquatic invertebrates (Annex VII, Section 9.1.1.; test method: Daphnia sp. Acute immobilisation test, EU C.2./OECD TG 202) with the registered substance;**

7. **Short-term toxicity testing on fish (Annex VIII, Section 9.1.3.; test method: Fish, acute toxicity test, OECD TG 203) with the registered substance;**

8. **Simulation testing on ultimate degradation in surface water (Annex IX, Section 9.2.1.2.; test method: Aerobic mineralisation in surface water – simulation biodegradation test, EU C.25./OECD TG 309) at a temperature of 12 °C with the registered substance;**

9. **Identification of degradation products (Annex IX, 9.2.3.) using an appropriate test method with the registered substance;**

10. **Identification of PNEC and risk characterisation (Annex I, Section 3.3.1. and 6.): derive PNECs for freshwater sediment, marine sediment and soil - using the equilibrium partitioning and assessment factors according to ECHA Guidance R.10 for PNEC derivation and revise the risk characterisation accordingly;**

11. **Identification of DNEL(s) and risk characterisation (Annex I, Sections 1.4. and 6.): derive acute and long-term DNEL(s) for workers and for the general population by the inhalation route for systemic effects using the assessment factors according to ECHA Guidance R.8 for DNEL derivation and revise the risk characterisation accordingly, taking account of the operational conditions and risk management measures determined by the qualitative assessment;**

12. **Exposure assessment and risk characterisation (Annex I, Sections 5. and 6.) for human health: provide the exposure assessment and the risk characterisation demonstrating the likelihood that effects are avoided; provide details of the operational conditions and risk management measures;**

13. **Exposure assessment (Annex I, Section 5.1.1.) for human health: provide documentation for the recommended personal protective equipment, i.e. skin protection (hand and body protection) and respiratory protection;**

14. **Exposure assessment and risk characterisation (Annex I, Sections 5. and 6.): revise the exposure assessment for consumer uses of the substance and revise the risk characterisation accordingly;**

15. **Exposure assessment and risk characterisation (Annex I, Sections 5. and 6.) for environment: revise the environmental exposure estimation;- use default release factors and other recommendations of ECHA Guidance R.16 and revise the risk characterisation accordingly *or* provide a detailed justification for not using the default release factors and other recommendations of ECHA Guidance R.16 for estimation of environmental exposure for Exposure Scenarios 1, 2 and 3.**

You are required to submit the requested information in an updated registration dossier by **29 May 2020** except for the information requested under point 1 for a sub-chronic toxicity study (90-day) which shall be submitted in an updated registration dossier by **29 November 2017**. You may only commence the extended one-generation reproductive toxicity study as requested under point 4 after **1 March 2018**, unless an indication to the contrary is communicated to you by ECHA before that date. You shall also update the chemical safety report, where relevant. The timeline has been set to allow for sequential testing.

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

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

Appeal

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

Authorised[1] by Claudio Carlon, Head of Unit, Evaluation E2

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

Appendix 1: Reasons

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

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

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.

In the technical dossier you have provided a study record for a "combined repeated dose toxicity study with the reproduction/developmental toxicity screening test" (test method: OECD TG 422). However, this study does not provide the information required by Annex IX, Section 8.6.2., because exposure duration is less than 90 days.

Hence, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirement. Consequently there is an information gap and it is necessary to provide information for this endpoint.

ECHA has evaluated the most appropriate route of administration for the study. Based on the information provided in the technical dossier and/or in the chemical safety report, ECHA considers that the oral route - which is the preferred one as indicated in ECHA *Guidance on information requirements and chemical safety assessment* (version 4.1, October 2015) Chapter R.7a, section R.7.5.4.3 - is the most appropriate route of administration. More specifically, even though the information indicates that human exposure to the registered substance by the inhalation route is likely, the available oral study indicates a concern for systemic toxicity in the liver, spleen and brain that requires further information on repeated dose toxicity by the oral route. Hence, the test shall be performed by the oral route using the test method EU B.26./OECD TG 408.

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

ECHA acknowledges that in the comments on the draft decision, you agreed to perform the requested study within Tier 2 of your proposed testing strategy subsequent to the findings of Tier 1. ECHA notes that test method EU B.26./OECD TG 408 provides the Registrant with some discretion to choose additional investigations, and the basis for this is set out in the test method. ECHA notes that it is at your discretion to perform the intended additional examinations, within the confines of test method EU B.26./OECD TG 408, during the testing program and to use the results to ensure the safe use of the substance.

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

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

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

A "pre-natal developmental toxicity study" (test method EU B.31./OECD TG 414) 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.

You have 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.

However, you have sought to adapt this information requirement according to Annex IX, Section 8.7.3., columns 1 and 2. You provided the following justification for the adaptation:

> *"According to Regulation (EC) No.1907/2006, Annex IX, 8.7.3, Column 1, a two-generation reproductive toxicity study is required if the 28-day or 90-day study indicates adverse effects on reproductive organs or tissues. The Annex further states, in Column 2, that the decision on the need to perform a study at this tonnage level or higher should be based on the outcome of existing test data and all other relevant available data. Existing subchronic, chronic and reproductive toxicity data exists on this substance, and it is determined that the substance is not a reproductive toxicant (as only minor effects were observed in reproductive and developmental parameters at doses characterized by adult systemic toxicity). There is insufficient scientific evidence to rationalize the conduct of an in vivo two-generation reproductive toxicity study on this substance, and so the criterion for adaptation is met and this requirement is waived."*

However, ECHA notes that your adaptation chiefly refers to information requirements under Annex IX, Section 8.7.3. of the REACH Regulation, and not to Annex IX, Section 8.7.2. Furthermore your adaptation does not meet the specific rules for adaptation of Annex IX, Section 8.7 nor the general rule for adaptation of Annex XI; Section 1.2., because it is based on a study record for a "combined repeated dose toxicity study with the reproduction/developmental toxicity screening test" (test method: OECD TG 422). This study does not provide the information required by Annex IX, Section 8.7.2. or a sufficient basis to adapt this information requirement because it does not cover key parameters of a pre-natal developmental toxicity study like examinations of foetuses for skeletal and visceral alterations. Therefore, your adaptation of the information requirement is rejected.

As explained above, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirement. Consequently there is an information gap and it is necessary to provide information for this endpoint.

According to the test method EU B.31./OECD TG 414, the rat is the preferred rodent species and the rabbit the preferred non-rodent species. On the basis of this default assumption ECHA considers testing should be performed with rat or rabbit as a first species.

ECHA considers that the oral route is the most appropriate route of administration for substances except gases to focus on the detection of hazardous properties on reproduction as indicated in ECHA *Guidance on information requirements and chemical safety assessment* (version 4.1, October 2015) R.7a, chapter R.7.6.2.3.2. Since the substance to be tested is a liquid, ECHA concludes that testing should be performed by the oral route.

ECHA acknowledges that in the comments on the draft decision, you agreed to perform the requested study within Tier 2 of your proposed testing strategy subsequent to the findings of Tier 1.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to submit the following information derived with the registered substance subject to the present decision: Pre-natal developmental toxicity study (test method: EU B.31./OECD TG 414) in a first species (rat or rabbit) by the oral route.

3. Pre-natal developmental toxicity study (Annex X, Section 8.7.2.) in a second species

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

Pre-natal developmental toxicity studies (test method EU B.31./OECD TG 414) on two species are part of the standard information requirements for a substance registered for 1000 tonnes or more per year (Annex IX, Section 8.7.2., column 1, Annex X, Section 8.7.2., column 1, and sentence 2 of introductory paragraph 2 of Annex X of the REACH Regulation).

The technical dossier does not contain information on a pre-natal developmental toxicity study with the registered substance.

You have sought to adapt this information requirement according to Annex IX, Section 8.7.3., column 1 and 2. You provided the following justification for the adaptation:

> *"According to Regulation (EC) No.1907/2006, Annex IX, 8.7.3, Column 1, a two-generation reproductive toxicity study is required if the 28-day or 90-day study indicates adverse effects on reproductive organs or tissues. The Annex further states, in Column 2, that the decision on the need to perform a study at this tonnage level or higher should be based on the outcome of existing test data and all other relevant available data. Existing subchronic, chronic and reproductive toxicity data exists on this substance, and it is determined that the substance is not a reproductive toxicant (as only minor effects were observed in reproductive and developmental parameters at doses characterized by adult systemic toxicity). There is insufficient scientific evidence to rationalize the conduct of an in vivo two-generation reproductive toxicity study on this substance, and so the criterion for adaptation is met and this requirement is waived."*

However, ECHA notes that your adaptation refers to information requirements under Annex IX, Section 8.7.3. of the REACH Regulation, and not to Annex X, Section 8.7.2. Furthermore your adaptation does not meet the specific rules for adaptation of Annex IX, Section 8.7 nor the general rule for adaptation of Annex XI; Section 1.2. because it is based on a study record for a "combined repeated dose toxicity study with the reproduction/developmental toxicity screening test" (test method: OECD TG 422). This study does not provide the information required by Annex X, Section 8.7.2. or a sufficient basis to adapt this information requirement because it does not cover key parameters of a pre-natal developmental toxicity study like examinations of foetuses for skeletal and visceral alterations. Therefore, your adaptation of the information requirement is rejected.

As explained above, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirement. Consequently there is an information gap and it is necessary to provide information for this endpoint.
According to the test method EU B.31./OECD TG 414, the rat is the preferred rodent species and the rabbit the preferred non-rodent species. On the basis of this default consideration, ECHA considers testing should be performed with rabbit or rat as a second species, depending on the species tested in the first pre-natal developmental toxicity study.

ECHA considers that the oral route is the most appropriate route of administration for substances except gases to focus on the detection of hazardous properties on reproduction as indicated in ECHA *Guidance on information requirements and chemical safety assessment* (version 4.1, October 2015) R.7a, chapter R.7.6.2.3.2. Since the substance to be tested is a liquid, ECHA concludes that testing should be performed by the oral route.

In your comments on the draft decision, you indicated that based on the results of the Tier 1 and Tier 2 studies, an evaluation would be made regarding the suitability of additional tests and/or possible adaptations to testing. ECHA notes that you may adapt the requested test according to the specific rules outlined in Annex X, Section 8.7., column 2 and/or according to the general rules contained in Annex XI of the REACH Regulation. In order to ensure compliance with the respective information requirement, any such adaptation will need to have a scientific justification, referring and conforming to the appropriate rules in the respective Annex, and an adequate and reliable documentation.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to submit the following information derived with the registered substance subject to the present decision: Pre-natal developmental toxicity study (test method: EU B.31./OECD TG 414) in a second species (rabbit or rat) by the oral route.

Notes for your consideration

You are reminded that before performing a pre-natal developmental toxicity study in a second species you must consider the specific adaptation possibilities of Annex X, Section 8.7.2., column 2 and general adaptation possibilities of Annex XI. If the results of the test in the first species enable such adaptation, testing in the second species should be omitted and the registration dossier should be updated containing the corresponding adaptation statement.

4. Extended one-generation reproductive toxicity study (Annex X, Section 8.7.3.)

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

The basic test design of an extended one-generation reproductive toxicity study (test method EU B.56./OECD TG 443 with Cohorts 1A and 1B, without extension of Cohort 1B to include a F2 generation, and without Cohorts 2A, 2B and 3) is a standard information requirement as laid down in column 1 of 8.7.3., Annex X. If the conditions described in column 2 of Annex X are met, the study design needs to be expanded to include the extension of Cohort 1B, Cohorts 2A/2B, and/or Cohort 3. Further detailed guidance on study design and triggers is provided in the ECHA *Guidance on information requirements and chemical safety assessment* R.7a, chapter R.7.6 (version 4.1, October 2015).

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

a) The information requirement

In the technical dossier you have provided a study record for a "combined repeated dose toxicity study with the reproduction/developmental toxicity screening test" (test method: OECD TG 422). However, this study does not provide the information required by Annex X, Section 8.7.3., because it does not cover key elements, such as exposure duration, life stages and statistical power of an extended one-generation reproductive toxicity study. More specifically, the main missing key elements are: 10 weeks pre-mating exposure duration, at least 20 pregnant females per group, and an extensive postnatal evaluation of the F1 generation. In addition, there is a particular concern for developmental neurotoxicity according to column 2 of Annex X, Section 8.7.3. and information for those properties are missing (see below). Therefore, your adaptation of the information requirement is rejected.

You have furthermore sought to adapt this information requirement according to Annex IX, Section 8.7.3, column 1 and 2. You provided the following justification for the adaptation:

> *"According to Regulation (EC) No.1907/2006, Annex IX, 8.7.3, Column 1, a two-generation reproductive toxicity study is required if the 28-day or 90-day study indicates adverse effects on reproductive organs or tissues. The Annex further states, in Column 2, that the decision on the need to perform a study at this tonnage level or higher should be based on the outcome of existing test data and all other relevant available data. Existing subchronic, chronic and reproductive toxicity data exists on this substance, and it is determined that the substance is not a reproductive toxicant (as only minor effects were observed in reproductive and developmental parameters at doses characterized by adult systemic toxicity). There is insufficient scientific evidence to rationalize the conduct of an in vivo two-generation reproductive toxicity study on this substance, and so the criterion for adaptation is met and this requirement is waived."*

However, ECHA notes that your adaptation does not meet the requirements of Annex X, Section 8.7.3., columns 1 and 2 which need to be met as your registration is made for more than 1000 tons per year. You adaptation also does not meet the specific rules for adaptation of Annex X, Section 8.7., column 2 and 8.7.3., column 2. Furthermore your adaptation does not meet the general rule for adaptation of Annex XI, Section 1.2., "weight of evidence" because you did not provide sufficient evidence from several independent sources of information leading to the assumption or conclusion that the substance does not have a particular dangerous property, i.e. properties that can be detected in an extended one-generation reproductive toxicity study. Existing sub-chronic and chronic studies may provide information on morphological effects on reproductive organs when adequately investigated but they do not provide information on functional fertility, e.g. ability to get pregnant, maintenance of pregnancy and ability to produce and nurse live offspring. The only relevant information you provided is a "combined repeated dose toxicity study with the reproduction/developmental toxicity screening test". As explained above, this study does not provide sufficient information to conclude on the aspects of reproductive toxicity specified in Annex X, Section 8.7.3. Therefore, your adaptation of the information requirement is rejected.

In your comments on the draft decision, you indicated that based on the results of the Tier 1 and Tier 2 studies, an evaluation would be made regarding the suitability of additional tests and/or possible adaptations to testing. ECHA notes that you may adapt the requested test according to the specific rules outlined in Annex X, Section 8.7., column 2 and/or according to the general rules contained in Annex XI of the REACH Regulation. In order to ensure compliance with the respective information requirement, any such adaptation will need to have a scientific justification, referring and conforming to the appropriate rules in the respective Annex, and an adequate and reliable documentation.

Hence, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirement. Consequently there is an information gap and it is necessary to provide information for this endpoint. Thus, an extended one-generation reproductive toxicity study according Annex X, Section 8.7.3. is required. The following refers to the specifications of this required study.

b) The specifications for the study design

Information from studies to be conducted before the extended one-generation reproductive toxicity study

The sub-chronic toxicity study shall be conducted before the extended one-generation reproductive toxicity study and the results from that study shall be used, among other relevant information, to decide on the study design of the extended one-generation reproductive toxicity study following ECHA *Guidance on information requirements and chemical safety assessment* R.7a, chapter R.7.6 (version 4.1, October 2015). The sub-chronic toxicity study may provide information on effects that is relevant for triggers (e.g. weight changes and histopathological observations of organs as indication(s) of one or more modes of action related to endocrine disruption which may meet the toxicity-trigger for extension of Cohort 1B or as evidence of specific mechanism/modes of action and/or neurotoxicity and/or immunotoxicity which may meet the particular concern criteria for developmental neurotoxicity and/or developmental immunotoxicity cohorts).

Premating exposure duration and dose-level setting

To ensure that the study design adequately addresses the fertility endpoint, the duration of the premating exposure period and the selection of the highest dose level are key aspects to be considered. According to ECHA Guidance, the starting point for deciding on the length of premating exposure period should be ten weeks to cover the full spermatogenesis and folliculogenesis before the mating, allowing meaningful assessment of the effects on fertility.

Ten weeks premating exposure duration is required because there is no substance specific information in the dossier supporting shorter premating exposure duration as advised in the ECHA *Guidance on information requirements and chemical safety assessment* R.7a, chapter R.7.6 (version 4.1, October 2015).

The highest dose level shall aim to induce some toxicity to allow comparison of effect levels and effects of reproductive toxicity with those of other systemic toxicity. The dose level selection should be based upon the fertility effects with the other cohorts being tested at the same dose levels.

If there is no existing relevant data to be used for dose level setting, it is recommended that results from a conducted range-finding study (or range finding studies) for the extended one-generation reproductive toxicity study are reported with the main study. This will support the justifications of the dose level selections and interpretation of the results.

Cohorts 2A and 2B

The developmental neurotoxicity Cohorts 2A and 2B need to be conducted in case of a particular concern on (developmental) neurotoxicity as described in column 2 of 8.7.3., Annex X. When there are triggers for developmental neurotoxicity, both the Cohorts 2A and 2B are to be conducted as they provide complementary information.

ECHA notes that existing information on the registered substance derived from an available *in vivo* study ("Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test" (test method: OECD TG 422)) show evidence of neurotoxicity. As reported in your technical dossier:

"...microscopic examination revealed histopathological changes, involving minimal to moderate vacuolation of cells, for the liver, spleen and brain (ventricular choroids plexus) in 5/10 males and 6/10 females at 150 mg/kg/day. No similar histopathological changes in the liver and spleen were apparent at 50 mg/kg/day, however, 3/5 males did show minimal vacuolation of the ventricular choroid plexus of the brain."

ECHA concludes that the developmental neurotoxicity Cohorts 2A and 2B need to be conducted because there is a particular concern on (developmental) neurotoxicity based on the results from the above-identified *in vivo* study.

The study design must be justified in the dossier and, thus, the existence/non-existence of the conditions/triggers must be documented.

Species and route selection

According to the test method EU B.56./OECD TG 443, the rat is the preferred species. On the basis of this default assumption, ECHA considers that testing should be performed in rats.

ECHA considers that the oral route is the most appropriate route of administration for substances except gases to focus on the detection of hazardous properties on reproduction as indicated in ECHA *Guidance on information requirements and chemical safety assessment* (version 4.1, October 2015) R.7a, chapter R.7.6.2.3.2. Since the substance to be tested is a liquid, ECHA concludes that testing should be performed by the oral route.

c) Outcome

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to submit the following information derived with the registered substance subject to the present decision: Extended one-generation reproductive toxicity study (test method EU B.56./OECD TG 443), in rats, oral route, according to the following study-design specifications:

- Ten weeks premating exposure duration for the parental (P0) generation;
- Dose level setting shall aim to induce some toxicity at the highest dose level;
- Cohort 1A (Reproductive toxicity);
- Cohort 1B (Reproductive toxicity) without extension to mate the Cohort 1B animals to produce the F2 generation;
- Cohorts 2A and 2B (Developmental neurotoxicity).

Currently, the extension of Cohort 1B and the inclusion of Cohort 3 (developmental immunotoxicity) are not requested. However, the sub-chronic toxicity study (90-day) requested in this decision (request 1) and/or any other relevant information may trigger changes in the study design. Therefore, the sub-chronic toxicity study (90-day) is to be conducted first and the study results submitted to ECHA in a dossier update by **29 November 2017**. If, on the basis of this update and/or other relevant information, a need for changes to the study design is identified, ECHA will inform you by **1 March 2018** (i.e. within three months after expiry of the 12-month deadline to provide the sub-chronic toxicity study (90-day)) of its intention to initiate a new decision making procedure under Articles 41, 50 and 51 of the REACH Regulation to address the design of the extended one-generation reproductive toxicity study. If you do not receive a communication from ECHA by **1 March 2018**, the request of the present decision for the extended one-generation reproductive toxicity study remains effective and you may commence the conduct of the study and the results will need to be submitted by the deadline given in this decision **20 May 2020** .

Notes for your consideration

When submitting the study results of the sub-chronic toxicity study (90-day) you are invited to also include in the registration update your considerations whether changes in the study design are needed (see also *ECHA Guidance on information requirements and chemical safety assessment R.7a, chapter R.7.6 (version 4.1, October 2015)*).

Furthermore, after having commenced the extended one-generation reproduction toxicity study in accordance with the ECHA decision, you may also expand this study to address a concern identified during the conduct of it and also due to other scientific reasons in order to avoid a conduct of a new study. The justification for the changes in the study design must be documented. The study design must be justified in the dossier and, thus, the existence/non-existence of the conditions/ triggers must be documented.

5. Revised robust study summary for growth inhibition study aquatic plants (Annex VII, Section 9.1.2.)

Pursuant to Articles 10(a)(vi) and 12(1)(e) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

Pursuant to Articles 10(a)(vii) of the REACH Regulation, the information set out in Annex VII to XI must be provided in the form of a robust study summary, if required under Annex I. Article 3(28) defines a robust study summary as a detailed summary of the objectives, methods, results and conclusions of a full study report providing sufficient information to make an independent assessment of the study minimising the need to consult the full study report. Guidance on the preparation of the robust study summaries is provided in the ECHA Practical Guide 3: 'How to report robust study summaries' (Version 2.0, November 2012).

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

OECD test guideline 201 (Freshwater Alga and Cyanobacteria, Growth Inhibition Test) or EU method C.3 (Freshwater algae and cyanobacteria, growth inhibition test) indicates that "*if the deviation from the nominal or measured initial concentration is not within the range of ± 20 %, analysis of the results should be based on geometric mean concentration during exposure or on models describing the decline of the concentration of the test substance*". In your technical dossier, the provided EC50 and NOEC values for the algae growth inhibition study you have provided are based on nominal concentrations whereas a marked decline in measured test concentrations was observed at the end of the test period, i.e. after 72 hours. The measured concentration were in the range of [redacted]% to [redacted]% of nominal with the exception of the 6.25 and 100 mg/L test concentrations, which showed measured concentrations of less than the limit of quantitation (LOQ) of the analytical method.

As a justification for using the nominal concentrations for calculating the EC50 and NOEC values, you have claimed that this decline was due to adsorption of the substance on the actively growing algal cells and that the algal cells were thus exposed to the nominal concentrations of the test material throughout the test period. Based on the log Koc (1.3218) and the log Kow (-0.66) values provided in your dossier, the adsorption potential of the registered substance is deemed to be low. You have not provided evidence that the substance was actually adsorbed on the algal cells.

Overall, the quality criteria regarding the EU C.3 method or the OECD test guideline 201 is not fulfilled and the reporting is not adequate. ECHA considers this lack of information undermines the reliability of the test results on algal growth inhibition.

Therefore, ECHA notes that, contrary to Article 3(28) of the REACH Regulation the documentation of this study is insufficient and does not allow an independent assessment of the adequacy of this study, its results and its use for hazard assessment. In particular, the above mentioned elements regarding the quality criteria are missing.

Therefore, pursuant to 41(1) and (3) of the REACH Regulation you are requested to submit a revised robust study summary for growth inhibition study aquatic plants (Annex VII, 9.1.2; test method: Freshwater alga and cyanobacteria, growth inhibition test, EU C.3/OECD 201) with calculated EC50 and EC10 or NOEC values based on the geometric mean of the measured concentrations. You shall update your chemical safety assessment accordingly.

6. Short-term toxicity testing on aquatic invertebrates (Annex VII, Section 9.1.1.)

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

"Short-term toxicity testing on aquatic invertebrates" is a standard information requirement as laid down in Annex VII, Section 9.1.1. of the REACH Regulation. Adequate information on this endpoint needs to be present in the technical dossier for the registered substance to meet this information requirement.

You have sought to adapt this information requirement according to Annex XI, Section 1.2. (weight of evidence). While you have not explicitly claimed an adaptation, you have provided information that could be interpreted as an attempt to adapt the information requirement according Annex XI, Section 1.2. In the technical dossier you have provided a Weight of Evidence approach based on two study records for short-term toxicity to aquatic invertebrates that both refer to the same study: *'Acute Toxicity of DMP-30 to Carp (Cyprinus carpio), Rainbow Trout (Salmo gairdneri), Mud Crab (Neopanope texana), and Grass Shrimp (Palaemonetes vulgaris).'* . However, ECHA notes that your adaptation does not meet the general rule for adaptation of Annex XI, Section 1.2., because both study records are based on the same study while the weight of evidence approach requires the information to come from several independent sources, each single source alone being regarded to be insufficient. Moreover, ECHA notes that the test was conducted according to non-standard guideline and non-standard test organisms were tested. This means that the test does not meet the requirements of Article 13(3) of the REACH Regulation. It is also not clear if the test concentrations were maintained during the study as the study on algae notes a marked decline in measured test concentrations after 72 hours, which would not allow drawing any assumption or conclusion that the registered substance has or has not a particular dangerous property, as required under Annex XI, Section 1.2.

Therefore, your adaptation of the information requirement cannot be accepted.

As explained above, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirement. Consequently there is an information gap and it is necessary to provide information for this endpoint.

According to ECHA *Guidance on information requirements and chemical safety assessment, Chapter R.7b* (version 3.0, February 2016) Daphnia sp. acute immobilisation test (test method EU C.2. / OECD TG 202) is the preferred test to cover the standard information requirement of Annex VII, Section 9.1.1.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to submit the following information derived with the registered substance subject to the present decision: *Daphnia* sp. Acute immobilisation test, EU C.2./OECD TG 202).

7. Short-term toxicity testing on fish (Annex VIII, Section 9.1.3.)

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

"Short-term toxicity testing on fish" is a standard information requirement as laid down in Annex VIII, Section 9.1.3. of the REACH Regulation. Adequate information on this endpoint needs to be present in the technical dossier for the registered substance to meet this information requirement.

You have sought to adapt this information requirement according to Annex XI, Section 1.2. (weight of evidence). While you have not explicitly claimed an adaptation, you have provided information that could be interpreted as an attempt to adapt the information requirement according Annex XI, Section 1.2. In the technical dossier you have provided a Weight of Evidence approach using two study records for short-term toxicity to aquatic invertebrates that both refer to the same study: *'Acute Toxicity of DMP-30 to Carp (Cyprinus carpio), Rainbow Trout (Salmo gairdneri), Mud Crab (Neopanope texana), and Grass Shrimp (Palaemonetes vulgaris).'* However, ECHA notes that your adaptation does not meet the general rule for adaptation of Annex XI, Section 1.2., because both study records are based on the same study while the weight of evidence approach requires the information to come from several independent sources, each single source alone being regarded to be insufficient. Moreover, ECHA notes that the test was conducted according to non-standard guideline and non-standard test organisms were tested. This means that the test does not meet the requirements of Article 13(3) of the REACH Regulation. It is also not clear if the test concentrations were maintained during the study as from the study on algae notes marked decline in measured test concentrations after 72 hours, which would not allow to draw any assumption or conclusion that the registered substance has or has not a particular dangerous property, as required under Annex XI, Section 1.2.

Therefore, your adaptation of the information requirement cannot be accepted.

As explained above, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirement. Consequently there is an information gap and it is necessary to provide information for this endpoint.

According to ECHA *Guidance on information requirements and chemical safety assessment, Chapter R.7b* (version 3.0, February 2016) fish acute toxicity test (test method EU C.1. / OECD TG 203) is the preferred test to cover the standard information requirement of Annex VIII, Section 9.1.3.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to submit the following information derived with the registered substance subject to the present decision: Fish, acute toxicity test (test method: EU C.1./OECD TG 203).

8. Simulation testing on ultimate degradation in surface water (Annex IX, Section 9.2.1.2.)

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

"Simulation testing on ultimate degradation in water" is a standard information requirement as laid down in Annex IX, section 9.2.1.2. of the REACH Regulation. Adequate information on this endpoint needs to be present in the technical dossier for the registered substance to meet this information requirement.

You have sought to adapt this information requirement according to Annex IX, Section 9.2.1.2., column 2. You provided the following justification for the adaptation *"In accordance with Regulation (EC) No.1907/2006, Annex IX, Section 9.2.1.4, Column 2, sediment simulation testing of K54 in sediment is not required, since K54 does not have a high potential for adsorption sediment. A log Koc or log Kow value ≥ 3 is used as a trigger value for sediments effects assessment (Section R.7.8.7, Guidance on information requirements and chemical safety assessment, Chapter R.7B, Endpoint-specific guidance, May 2008). Both the log Koc (1.3218) and the log Kow (-0.66) for K54 are below the level of concern for potential adsorption to sediment."*

However, ECHA notes that your adaptation refers to Annex IX, Section 9.2.1.4 on sediment simulation testing but does not meet the specific rules for adaptation of Annex IX, Section 9.2.1.2., column 2 because column 2 allows the simulation test in water only to be adapted if the substance is highly insoluble in water or if the substance is readily biodegradable. Both of those requirements are not met as the substance is not considered readily biodegradable (4% degradation in 28days, OECD 301 D) nor highly insoluble in water (water solubility > 850 mg/l).

Therefore, your adaptation of the information requirement cannot be accepted.

As explained above, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirements. Consequently there is an information gap and it is necessary to provide information for this endpoint.

According to ECHA *Guidance on information requirements and chemical safety assessment, Chapter R.7b* (version 3.0, February 2016) Aerobic mineralisation in surface water – simulation biodegradation (test method EU C.25. / OECD TG 309) is the preferred test to cover the standard information requirement of Annex IX, Section 9.2.1.2.

One of the purposes of the simulation test is to provide the information that must be considered for assessing the P/vP properties of the registered substance in accordance with Annex XIII of the REACH Regulation to decide whether it is persistent in the environment. Annex XIII also indicates that "*the information used for the purposes of assessment of the PBT/vPvB properties shall be based on data obtained under relevant conditions*". The Guidance on information requirements and chemical safety assessment R.7b (version 3.0, February 2016) specifies that simulation tests "attempt to simulate degradation in a specific environment by use of indigenous biomass, media, relevant solids [...], and a typical temperature that represents the particular environment". The Guidance on information requirements and chemical safety assessment Chapter R.16 on Environmental Exposure Estimation, Table R.16-9 (version 2.1 October 2012) indicates 12°C (285K) as the average environmental temperature for the EU to be used in the chemical safety assessment. Performing the test at the temperature of 12°C is within the applicable test conditions of the Test Guideline OECD TG 309. Therefore, the test should be performed at the temperature of 12°C.

In your comments to the draft decision according to Article 50(1) you stated that "*We do not believe this study is necessary and we believe exposure based waiving is well justified. The material is produced and formulated with minimal potential for exposure of the environment. Subsequently it is used only as component in epoxy systems. In this use, substance reacts with other components and forms fully reacted polymeric matrix so the substance cannot be released to the environment.*"

ECHA notes that there could be some grounds for the application of exposure based adaptation, in case it could be shown that the substance would be fully reacted before being released to the environment. Similar argumentation should be provided for all the lifecycle stages and use scenarios of the substance.

ECHA notes that there are no risk management measures (RMM's) described in the chemical safety report (CSR) together with their efficiency to allow concluding on zero exposure to environment. ECHA also points out, that to allow concluding on zero exposure, the substance would need to be treated under strictly controlled conditions which are not met.

ECHA additionally notes, that due to the existing request on refinement of exposure assessment (request 15 of the present decision) ECHA cannot evaluate the exposure based adaptation before the environmental exposure assessment is revised.

ECHA hence considers that at this stage due to the request on refinement of exposure assessment the information in the CSR is not complete. On this basis, the CSR cannot be used to justify that there is no need to investigate further the degradation of the substance and its degradation products.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to submit the following information derived with the registered substance subject to the present decision: Aerobic mineralisation in surface water – simulation biodegradation test (test method: EU C.25./OECD TG 309).

Notes for your consideration

Before conducting the requested test you are advised to consult the ECHA Guidance on information requirements and chemical safety assessment, Chapter R7b, Sections R.7.9.4 and R.7.9.6 (version 3.0, February 2016) and Chapter R.11, Section R.11.4.1.1 (version 2.0, November 2014) on PBT assessment. In accordance with Annex I, Section 4, of the REACH Regulation you should revise the PBT assessment when results of the test detailed above is available. You are also advised to consult the ECHA Guidance on information requirements and chemical safety assessment (version 2.0, November 2014), Chapter R.11, Section R.11.4.1.1. and Figure R. 11-3 on PBT assessment for the integrated testing strategy for persistency assessment in particular taking into account the degradation products of the registered substance.

9. Identification of degradation products (Annex IX, 9.2.3.)

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

The identification of the degradation products is a standard information requirement according to column 1, Section 9.2.3. of Annex IX of the REACH Regulation. Column 2 of Section 9.2.3. of Annex IX further states that the information does not need to be provided if the substance is readily biodegradable.

ECHA notes that the registration dossier does not contain information on the degradation products or an acceptable adaptation for this standard information requirement pursuant to the specific adaptation rules of Column 2 of Annex IX, Section 9.2.3, or the general adaptation rules of Annex XI.

As explained fully in section (8) above, ECHA considers that due to the request on refinement of exposure assessment the CSR cannot be used to justify that there is no need to investigate further the degradation of the substance and its degradation products.

Therefore, the information provided on this endpoint for the registered substance in the technical dossier does not meet the information requirements. Consequently there is an information gap and it is necessary to provide information for this endpoint.

Regarding appropriate and suitable test method, ECHA notes that the methods will have to be substance specific. When analytically possible, identification, stability, behaviour, molar quantity of metabolites relative to the parent compound should be evaluated. In addition degradation half-life, log Kow and potential toxicity of the metabolite may be investigated. You may obtain this information from the simulation study also requested in this decision, or by some other measure. You will need to provide a scientifically valid justification for the chosen method.

In your comments to the draft decision according to Article 50(1) you stated that "*We do not believe this study is necessary and we believe exposure based waiving is well justified. The material is produced and formulated with minimal potential for exposure of the environment. Subsequently it is used only as component in epoxy systems. In this use, substance reacts with other components and forms fully reacted polymeric matrix so the substance cannot be released to the environment.*"

ECHA notes that there could be some grounds for the application of exposure based adaptation, in case it could be shown that the substance would be fully reacted before being released to the environment. Similar argumentation should be provided for all the lifecycle stages and use scenarios of the substance.
ECHA notes that there are no RMM's described in the CSR together with their efficiency to allow concluding on zero exposure to environment. ECHA also points out, that to allow concluding on zero exposure, the substance would need to be treated under strictly controlled conditions which are not met.

ECHA additionally notes, that due to the existing request on refinement of exposure assessment ECHA cannot evaluate the exposure based adaptation before the environmental exposure assessment is revised.

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

Identification of the degradation products (Annex IX, Section 9.2.3.) by using an appropriate and suitable test method, as explained above in this section.

Notes for your consideration

Before providing the above information you are advised to consult the ECHA *Guidance on information requirements and chemical safety assessment* (version 3.0, February 2016), Chapter R.7b., Sections R.7.9.2.3 and R.7.9.4. These guidance documents explain that the data on degradation products is only required if information on the degradation products following primary degradation is required in order to complete the chemical safety assessment. Section R.7.9.4. further states that when substance is not fully degraded or mineralised, degradation products may be determined by chemical analysis.

10. Identification of PNEC and risk characterisation (Annex I, Sections 3.3.1. and 6.)

Pursuant to Articles 10(a) and 12(1) of the REACH Regulation, a technical dossier registered at more than 1000 tonnes per year shall contain as a minimum the information specified in Annexes VII to X of the REACH Regulation. The information to be generated for the dossier must fulfil the criteria in Article 13(4) of the same regulation.

Pursuant to Articles 10(b) and 14(1) of the REACH Regulation, the registration shall contain a chemical safety report (CSR) which shall document the chemical safety assessment (CSA) conducted in accordance with Article 14(2) to (7) and with Annex I of the REACH Regulation.

Annex I, Section 3.3.1. of the REACH Regulation requires to establish a PNEC for each environmental sphere based on the available information and to use an appropriate assessment factor to the effect values.

The ECHA *Guidance on information requirements and chemical safety assessment,* Chapter R.10 (May 2008), provides further details and specifically provides default factors which should be applied to derive PNECs.

Further, according to Annex I, Section 3.3.2., if it is not possible to derive the PNEC, then this shall be clearly stated and fully justified.

You have not established the PNECs freshwater sediment, marine sediment and soil using the following justification: *"No exposure of sediment expected. In reference to the available ecological data, the substance is practically nontoxic to fish and aquatic invertebrates, but it is harmful to algae. However the NOEC is still below the criteria for classification as T/vT. The substance degraded approximately 4% in 28 days in the Closed Bottle test (OECD 301D). The substance is therefore not readily biodegradable. However, the substance has a very high solubility and a low lipophilic potential, and is thus very unlikely to bioaccumulate. The high solubility mitigates against partitioning to sediments and soil. The substance is susceptible to rapid photolysis, and this may be the key removal mechanism. STP sludges are not used for agricultural purposes. Concerning the exposure of "humans via the environment" no risk management measures are normally needed for irritant, corrosive and moderate skin sensitising substances, because when the substances are released to the environment they are diluted and the risk is thereby efficiently reduced (ECHA 2008). No environmental risks identified for downstream uses. At the point of curing, the substance in no longer available for environmental exposures."*

ECHA notes that Annex I does not foresee the adaptation possibilities based on the arguments you provided. According Annex 1, Section 3.3.2, not having a PNEC may be justified if it is not possible to derive one, which is not the case. On the contrary, you have provided sufficient information to be able to calculate the missing PNECs. Moreover, ECHA points out that in the CSR you submitted in the IUCLID dossier in Section 13 you have provided predicted environmental concentrations (PECs) for all the compartments, including soil and sediment (marine and freshwater), indicating that there actually is a substantial exposure to those compartments and, hence, there is a need to derive PNEC values to be able to calculate the RCR values for these compartments.

As explained above, the information provided on PNEC for the registered substance in the chemical safety report does not meet the general requirements for preparing a chemical safety report as described in Annex I, Section 3.3.1. Consequently, it is necessary to derive the PNECs.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to derive PNECs for freshwater sediment, marine sediment and soil using the equilibrium partitioning and default assessment factors and other recommendations of ECHA Guidance R.10 and revise the risk characterisation accordingly *or* provide a detailed justification on how the chosen approach meets the general requirements for identification of the PNEC as described in Section 3.3. of Annex I if not using the recommendations of ECHA Guidance R.10 for PNEC derivation.

11. Identification of DNEL(s) and risk characterisation (Annex I, Sections 1.4. and 6.): derive acute and long-term DNEL(s) for workers and for the general population by the inhalation route for systemic effects using the assessment factors according to ECHA Guidance R.8 for DNEL derivation and revise the risk characterisation accordingly, taking account of the operational conditions and risk management measures determined by the qualitative assessment

Pursuant to Articles 10(b) and 14(1) of the REACH Regulation, the registration shall contain a chemical safety report (CSR) which shall document the chemical safety assessment (CSA) conducted in accordance with Article 14(2) to (7) and with Annex I of the REACH Regulation.

Annex I, Section 1.4.1. of the REACH Regulation requires you to establish DNEL(s) "*reflecting the likely route(s), duration and frequency of exposure.*" It is also required that "*taking into account the available information and the exposure scenario(s) in Section 9 of the Chemical Safety Report it may be necessary to identify different DNELs for each relevant human population (e.g. workers, consumers and humans liable to exposure indirectly via the environment) and possibly for certain vulnerable sub-populations (e.g. children, pregnant women) and for different routes of exposure.*"

Further, Annex I, Section 1.4.1 of the REACH Regulation requires that the following factors shall, among others, be taken into account when deriving DNELs:

a) the uncertainty arising, among other factors, from the variability in the experimental information and from intra- and inter-species variation;
b) the nature and severity of the effect;
c) the sensitivity of the human (sub-)population to which the quantitative and/or qualitative information on exposure applies;
d) and that the DNELs reflect the likely route(s), duration and frequency of exposure.

The ECHA *Guidance on information requirements and chemical safety assessment* Chapter R.8 provides further details and specifically provides default factors that should be applied to derive DNELs in the absence of substance specific information to fulfil the REACH obligations.

You have concluded in the CSR that "*The primary endpoint of concern is corrosion/irritation of skin/eye and respiratory tract. No dose-response threshold has been identified for the corrosion/irritation to skin. Inhalation exposure to vapours or mists is reasonably expected to cause moderate-severe irritation. Further, the substance is shown to have a mild skin sensitizing potential. Therefore a qualitative assessment has been performed in the CSR for the endpoint in workers and consumers. Results from a repeat-dose study in rats indicate systemic effects consistent with stress from long-term ingestion of a corrosive substance. No threshold could be determined for these effects. A NOEL (15 mg/kg/day) for systemic effects was reported based on the lowest dose administered. In reality, there is little likelihood of chronic systemic effects manifesting.*"

You also claim that "*the exposure by inhalation of vapours is unlikely as the substance exhibits a very low vapour pressure (0.075 Pa at 25C).*

You have disregarded the DNEL derivation for the inhalation route since based on risks assessed on irritating/corrosive and sensitizing properties, phys-chem properties and exposure information, you do not consider the inhalation pathway a relevant route of exposure. However, ECHA notes that your conclusion is not supported by the data provided by you:

- you have reported an NOEL for the registered substance from an oral repeated dose study and the effects observed after exposure can be defined as systemic effects;
- process categories in the workers' exposure scenarios indicate exposure via the inhalation route during activities such as spraying, roller and brushing application, loading and transfer (e.g. PROCs 7, 11, 5, 8a, 8b) and the consequent risk for workers cannot be excluded;
- also consumer uses indicate exposure via the inhalation route during activities like spraying and coating.

Thus, ECHA notes that the inhalation route is a relevant route of exposure in some exposure scenarios and a risk assessment of the substance including the inhalation route needs to be performed to demonstrate that the registered substance is used safely. ECHA notes also, that according to the ECHA *Guidance on information requirements and chemical safety assessment*, Chapter E, section E.3.4, pages 18 to 32, when data are available that allow the derivation of a DNEL/DMEL for an endpoint (including irritation/corrosive, sensitization, acute toxicity, carcinogenicity and mutagenicity), the quantitative or semi-quantitative approach should be followed. Consequently, you need to derive DNEL(s) for the exposure via the inhalation route.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to derive acute and long-term DNEL(s) for workers and for the general population by the inhalation route for systemic effects using the default assessment factors and other recommendations of ECHA Guidance R.8 for DNEL derivation and to revise the risk characterisation accordingly.

Notes for your consideration

The results of the studies requested with this decision shall be taken into account when revising the DNELs.

12. **Exposure assessment and risk characterisation (Annex I, Sections 5. and 6.) for human health:**
    - **provide the exposure assessment demonstrating the likelihood that effects are avoided;**
    - **provide details of the operational conditions and risk management measures and**
    - **revise the risk characterisation accordingly**

Pursuant to Articles 10(b) and 14(1) of the REACH Regulation, the registration shall contain a CSR which shall document the chemical safety assessment (CSA) conducted in accordance with Article 14(2) to (7) and with Annex I of the REACH Regulation.

Annex I, Section 5. of the REACH Regulation indicates that the objective of the exposure assessment shall be to make a quantitative or qualitative estimate of the dose/concentration of the substance at which humans are or may be exposed. The exposure assessment shall consider all stages of the life-cycle of the substance resulting from the manufacture and identified uses and shall cover any exposures that may relate to the identified hazards. Annex I, Section 5 of the REACH Regulation requires the Registrant to generate exposure scenarios and exposure estimations for the relevant uses of the registered substance.

Annex I, Section 6 of the REACH Regulation requires the Registrant to characterise the risk for each exposure scenario and to consider the human population (exposed as workers, consumer or indirectly via the environment and if relevant a combination thereof) and the environmental spheres for which exposure to the substance is known or reasonable foreseeable, under the assumption that the risk management measures described under exposure scenario in Section 5 of the same Annex have been implemented.

According to Article 14(4), the CSR must include an exposure assessment and risk characterisation in the chemical safety assessment if the substance fulfils the criteria for any of the hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008 or is assessed to be a PBT or vPvB. The registered substance has harmonised classifications: acute toxicity class 4, eye irritation class 2 and skin irritation class 2. You have classified the substance in the CSR as acute toxicity class 5, skin corrosive class 1B, skin sensitising class 1B and aquatic chronic class 3. The IUCLID file classifies as skin corrosive class 1C, skin sensitising class 1B and eye damage class 1. Although there are inconsistencies in the reporting, which you should remove, nevertheless because of this classification, an exposure assessment and a risk characterisation need to be included in the CSR.

In the Chapter 9 of the CSR, you have used a semi-qualitative approach. You have concluded in the CSR that the primary endpoint of concern is corrosion/irritation of skin/eye/respiratory tract and that the substance also has a mild skin sensitising potential. Therefore no dose-response threshold has been identified and you have performed a qualitative assessment in the CSR for workers and consumers. You indicate that exposure by inhalation of vapours is unlikely as the substance exhibits a very low vapour pressure (0.075 Pa at 25C). You also propose that the focus of occupational health initiatives will be on preventing direct contact with the liquid (spray mists for example), and thus provide sufficient protection against chronic exposure and thus possible systemic effects. You state further exposure mitigation is provided by the multipack packaging systems used and, as the substance begins to cure immediately upon mixing, exposure risks decrease over time. You suggest that, after curing, the substance is chemically bound in a matrix and poses no downstream exposure risk.

You have provided both a quantitative (e.g. PROC 4, 8a, 11 and 15) and qualitative (e.g. PROC 7, 10 and 13) exposure assessment. The model used by you to predict quantitative exposure levels is ECETOC TRA version 3. ECHA notes that the quantitative exposure assessment contains the following deficiencies:

1. You have applied the ECETOC TRA model, which, according to ECETOC's own guidance, should be used with caution for CMR and sensitising substances. ECHA notes that the registered substance is classified as a skin sensitizer (Skin Sens. 1B). The exposure duration, frequency and magnitude will need to be controlled due to the identified sensitising, corrosive and irritant properties. The potential for inhalation exposure in some uses is predicted to be high and in some professional uses even higher (e.g. PROC 8a and PROC 11 outdoor).

2. You have used the local exhaust ventilation (LEV) modifier within the ECETOC TRA model when predicting dermal exposure. ECHA notes that *ECHA Guidance on information requirements and chemical safety assessmen*t (Version 2.1, November 2012) Chapter R.14, Occupational exposure estimation, Section R.14.4.8, pages 20 to 25, outlines that the dermal exposure may be underestimated. Therefore, to compensate for this limitation, the LEV should be set to "0" to predict a more conservative estimate for dermal exposure. ECHA notes that the substance is a liquid with a very low vapour pressure and application of LEV will, in many cases, have little or no effect on reducing exposure of skin which will more often result from contact with contaminated equipment and surfaces.

3. For spraying PROC 7 and PROC 11, inhalation exposure is mostly due to aerosol generation and the ECETOC TRA model does not predict this.

4. Operational conditions and exposure assessments are totally missing in many contributing scenarios (e.g. ES 1: PROC 2, 4 and 5; ES 4: PROCs 10 and 13; ES 5: PROC 7).

ECHA notes that the qualitative approach, which you have provided within the conclusion on risk characterisation within Chapter 9 of the CSR, contains the following deficiencies:

1. The quantitative exposure estimations currently predict high exposure through inhalation and underestimate the exposure to the skin. As a consequence, it is not clear if the proposed risk management measures are adequate and describe safe use. There should be consistency between the quantitative exposure estimations and the proposals for risk management measures that are required by the qualitative risk characterisation, which are intended to demonstrate avoidance of effects.

2. You state the maximum possible vapour concentration was [redacted] mg/m^3 corresponding to the saturated vapour concentration of the substance. In your estimates of exposure from the TRA you quote values as high as [redacted] mg/m^3 for up to 4 hour exposures and [redacted] mg/m^3 for acute exposures (e.g. ES 8 PROC 8a). Although highly conservative, these vapour concentrations may not be relevant in determining the correct strategy for use of engineering controls and personal protective equipment if your statement on saturated vapour concentration is correct. However you propose LEV and monitoring. LEV is unlikely to be a practicable option in some exposure scenarios and particularly ineffective as a control for dermal exposure as indicated above.
   As an example for PROC 11 you use an efficiency of LEV of 80% when the substance is applied in the crawl space of a house – this is unlikely to be possible. ECHA also notes you have not derived any DNELs or given any other OEL for monitoring purposes. Therefore, you are requested to derive DNELs for inhalation exposure (see section 10 above for the details).

3. You propose personal protective equipment (PPE) for workers' protection and that there is some undefined exposure reduction due to the enclosed packaging systems. However, you provide no indication of the effectiveness of risk management measures required to achieve the outcome of "avoidance of effects". At such high currently predicted levels of exposure, comprehensive advice is required for the use of respiratory protective equipment and personal protective clothing and gloves but this is not present beyond brief generic statements. Therefore, the specification of the PPE is requested (see section 12 below for the details).

ECHA notes, that the qualitative assessment should be carried out according to ECHA's *Guidance on information requirements and chemical safety assessment* (version 2.0, November 2012), Chapter E, Risk characterisation, section E.3.4, pages 18 to 32. Further advice is provided in Practical Guide 15 (November 2012), How to undertake a qualitative human health assessment and document it in a chemical safety report. In a qualitative assessment it is essential to define operational conditions and risk management measures which lead to a conclusion the likelihood of effects is avoided.

ECHA notes, that the qualitative assessment you provided is missing essential information and is therefore insufficient. Provided exposure scenarios should include a sufficiently detailed description of the operational conditions and risk management measures that are currently applied for the manufacture and identified uses of the substance through the supply chain. The quantitative exposure estimations should be consistent with the qualitative risk characterisation and based on your knowledge of likely vapour and aerosol levels. For predicting exposure levels and assessing risk, ECHA recommends use of more appropriate exposure models such as ART, Stoffenmanager and Riskofderm and, where available, supplemented by measured data. However for dermal exposure and control of risk to the necessary level, the qualitative approach to propose suitable and adequate measures to prevent exposure is preferred. For spraying tasks, there is a need to consider adequate control of exposure to aerosol for both the inhalation and dermal routes. You should provide sufficiently detailed descriptions of risk management measures which should be implemented for controlling inhalation and dermal exposure in all relevant contributing scenarios.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to revise the exposure assessment and risk characterisation demonstrating the likelihood that effects for irritation, corrosion and skin sensitisation are avoided for all identified uses and to document in appropriate detail the operational conditions and risk management measures in the CSR.

13. Exposure assessment and risk characterisation (Annex I, Section 5.1.1.) for human health: provide documentation for the recommended personal protective equipment, i.e. skin protection (hand and body protection) and respiratory protection;
- **specify the type of glove material, and breakthrough times;**
- **specify the filter type/class for the respiratory protective equipment;**
- **specify the type and quality of protective clothing.**

Pursuant to Articles 10(b) and 14(1) of the REACH Regulation the registration shall contain a chemical safety report which shall document the chemical safety assessment conducted in accordance with Article 14(2) to (7) and with Annex I of the REACH Regulation.

Article 14(6) as well as Annex I, 0.1., 5.1.1., 5.2.4. and 6.2. of the REACH Regulation require registrants to identify and apply appropriate measures to adequately control the risks identified in a CSR. The exposure shall be estimated and risks shall be characterised in the CSR under the assumption that relevant risk management measures have been implemented.

According to Annex I, 0.3., 0.5. and 5.1.1. the applied Risk Management Measures (RMM) have to be described in the CSR. The CSR needs to contain sufficient information to allow ECHA to gain assurance that the risks are adequately controlled and that appropriate RMMs can be prescribed by actors in the supply chain.

Accordingly, the supplier is required to describe the relevant RMM in detail in the Safety Data Sheet in order to minimise the exposure for workers handling the registered substance (e.g. the type of gloves to be worn, protection equipment for parts of the body other than the hand or respiratory protection shall be clearly specified based on the hazard of the substance or mixture and potential for contact and with regard to the amount and duration of exposure in accordance with Annex II, section *8.2.2.2.(b)(i), (ii) and 8.2.2.2.(c) respectively).* The information provided in the Safety Data Sheet (SDS) shall be consistent with information in the Chemical Safety Report (Annex II, section 0.1.2. of the REACH Regulation).

In the CSR, you have provided non-specific advice about personal protective equipment. For instance you state that *"workers must wear suitable PPE when handling the substance and it's mixtures. Depending on the use situation this includes suitable gloves and, where appropriate, respiratory protection, face shield and impervious clothing. Spray applications (e.g. outside spraying of structures) provide a particularly high chance of exposure to mists of the formulated product. Respiratory protection is mandatory. Workers should receive specific training and advice on the prevention of skin and eye exposure. Chemical goggles with face shield are recommended. Impervious coveralls must be used, and it is recommended that gloves are taped at the wrists to prevent any skin surface exposure."*

You have also provided some information of RMMs in the Section 11 (Guidance on safe use) in the technical dossier (IUCLID): *"Hand protection: butyl-rubber, nitrile rubber, neoprene gloves, impervious gloves. The breakthrough time of the selected glove(s) must be greater* than the intended use period. Eye protection: full face shield with goggles underneath. Skin and body protection: impervious clothing, full rubber suit (rain gear), rubber or plastic boots."
ECHA notes that specific detailed information on the recommended personal protective equipment is missing both from the CSR and from the information on safe use within the IUCLID dossier.

To ensure the safe use of a substance, Annex I, Section 5.1.1. requires a description of the risk management measures to reduce or avoid direct and indirect exposure of humans.

Gloves are reported in the CSR and IUCLID Section 11 as required personal protective equipment to prevent dermal exposure to the substance. Generally, gloves that are capable of preventing exposure to the skin for a pre-determined duration shall be specified. Typically, this information, as a minimum, has to specify the glove material and, depending on the exposure scenarios, may also need to include the breakthrough time and thickness of the glove material. Gloves need to be tested according to CEN standard EN 374:2003 – Gloves giving protection from chemicals and micro-organisms.

Respiratory protection is reported in the CSR and IUCLID Section 11 as required personal protective equipment to prevent inhalation exposure to the substance. Typically, this information, as a minimum, has to specify the type/class of filters that are capable of preventing inhalation exposure for a pre-determined duration and delivering the assessment protection factor specified by you.

Where protective clothing is specified as a means to reduce exposure to the registered substance it has to be capable of providing the required barrier properties. This can only be assured through provision of clothing that has been tested to ensure a minimum performance against splash/spray/jet challenge. The minimum standard for liquid chemicals is "Type 6" protective clothing that meets the standard of EN 13034:2005 – Chemical protective clothing offering limited protection against liquid chemicals (type 6 and type PB [6] equipment), typically disposable coveralls. Unspecified workwear - such as "rain gear" - that has not been tested according to the appropriate standards for permeation and penetration resistance is not chemical protective clothing, as defined, and is unlikely to provide any reliable protection. It may even act as a longer-term source of exposure.

Therefore, pursuant to Article 41(1) you are requested to provide documentation for the recommended personal protective equipment, i.e. skin protection (hand and body protection) and respiratory protection:

- further specify the type of glove material and breakthrough times;
- further specify the filter type/class for the respiratory protective equipment;
- further specify the type and quality of protective clothing.

14. Exposure assessment and risk characterisation (Annex I, Sections 5. and 6.): revise the exposure assessment for consumer uses of the substance and revise the risk characterisation accordingly

Pursuant to Articles 10(b) and 14(1) of the REACH Regulation the registration shall contain a chemical safety report which shall document the chemical safety assessment conducted in accordance with Article 14(2) to (7) and with Annex I of the REACH Regulation.

Annex I, Section 5 of the REACH Regulation requires the Registrant to generate exposure scenarios and exposure estimations for the registered substance. The exposure assessment shall consider all stages of the life-cycle of the substance resulting from the manufacture and identified uses and shall cover any exposures that may relate to the identified hazards. The exposure assessment shall entail the following two steps, which shall be clearly identified as such in the Chemical Safety Report:

Step 1. The generation of exposure scenario(s) or the generation of relevant use and exposure categories.
Step 2. Exposure estimation.

The generation of exposure scenarios should include, where relevant, a description of operational conditions such as the activities of consumers and the duration and frequency of their exposure to the substance, and risk management measures to reduce or avoid direct and indirect exposure of humans including workers and consumers. An estimation of the exposure levels shall be performed for all human populations including consumers.

Annex I, Section 6 of the REACH Regulation requires the Registrant to characterise the risk for each exposure scenario and to consider the human population (exposed as workers, consumer or indirectly via the environment and if relevant a combination thereof) and the environmental spheres for which exposure to the substance is known or reasonable foreseeable, under the assumption that the risk management measures described under exposure scenario in Section 5 of the same Annex have been implemented.

You have provided four consumer uses for the registered substance: consumer use in adhesives/sealants (PC1), in coatings/paints (non-spray application) (PC9a), in coatings/paints (spray application) (PC9a) and in fillers/putties (PC9b).

ECHA notes some deficiencies with the consumer uses.

1. You have not defined any kind of conditions of consumer use in any of the four identified uses. For three of the four uses, you have provided a qualitative exposure assessment and risk characterisation, where the conclusion on risk characterisation is as follows: *"This Chemical Safety Assessment is driven by the corrosive and mild sensitising potential of the substance. The primary endpoints of concern are corrosion/irritation of skin/eye and respiratory tract. No dose-response threshold has been identified for the corrosion/irritation to skin. Inhalation exposure to vapours or mists is reasonably expected to cause moderate-severe irritation. Further, the substance is shown to have a mild skin sensitizing potential. Therefore a qualitative assessment has been performed in the CSR for the endpoint in workers and consumers. It should be noted that the substance has a low vapour pressure, and this mitigates against exposure by vapour inhalation. The vapour pressure of K54 at 25 °C is reported as 0.075 Pa. This corresponds to a saturated vapour concentration of [redacted] g/m3 or [redacted] mg/m3. It is noted that, even for large volatilisation sources (e.g. a painted wall), the exposure concentration cannot exceed the saturated vapour concentration (ECETOC 2009, HSE 2012). Nevertheless,* ***LEV is recommended, and monitoring of vapour concentrations is advised[2].***

   Due to the corrosive nature of the substance, exposure even to small diluted amounts would be expected to produce immediate skin/eye/respiratory irritation, leading to awareness and voluntary removal from exposure. Risk management measures for corrosive or sensitising substances in consumer preparations are limited. Compliance in the implementation of technical controls and PPE is usually impossible to determine in a consumer population, therefore product-integrated measures (such as the maximum volume of the bottle, concentrations used, high viscosity of the product, child resistant fastening) are often the only appropriate RMMs that can be applied. Diluted preparations, child-resistant fastenings and product formulation, which prevent splashes (e.g. viscous or paste-like formulation) as well as labelling and correct use instructions are commonly recognized RMMs for consumer products (ECHA 2010). Risks are controlled."
2. You have referred to unspecified ECHA guidance (ECHA 2010) that states product-integrated measures should be used to reduce/prevent the exposure; however, you have not specified the conditions of use for the consumer assessment. For example, you have not provided any information about e.g. substance concentration in the product, the volume of the bottle or the frequency of the use.
3. The exposure and risk assessment for the identified consumer use (ES11-C1, "Consumer use in Coatings and Paints (Spray application)) is missing in the CSR and is required to be added.

2 Emphasis added by ECHA.

ECHA notes that you have not provide any conditions for consumer uses. While the risk management measures for consumer use have to be practical solutions, you have recommended the use of LEV and monitoring as risk management measures for consumers. ECHA notes that the registered substance is an irritating, sensitising and corrosive substance. The outcome of the risk characterisation should be used to decide whether safe use can be demonstrated or not (through comparison with DNELs or by the likelihood of effects being avoided). Currently, safe use has not been demonstrated.

Therefore, pursuant to Article 41(1) and (3) of the REACH Regulation, you are requested to revise the exposure assessment for consumer uses of the registered substance and revise the risk characterisation accordingly.

15. Exposure assessment and risk characterisation (Annex I, Sections 5. and 6.) for environment: revise the environmental exposure estimation for ES1, ES2 and ES3

Pursuant to Articles 10(b) and 14(1) of the REACH Regulation the registration shall contain a chemical safety report which shall document the chemical safety assessment conducted in accordance with Article 14(2) to (7) and with Annex I of the REACH Regulation.

Pursuant to Annex I, Section 5.2.1 of the REACH Regulation the exposure estimation entails three elements: emission estimation, assessment of chemical fate and pathways and estimation of exposure levels. Emission estimation shall be performed under the assumption that the risk management measures (RMMs) and operational conditions (OCs) described in the exposure scenario (ES) have been implemented. These RMMs and OCs should be included in the ESs provided in a CSR.

According to the ECHA *Guidance on information requirements and chemical safety assessment* Chapter R.16 (version: 2.1, 2012) the exposure scenario should contain information about operational conditions and risk management measures based on which the assumed release factors and daily use rates can be justified.

Operational conditions consist of a set of actions, tools, parameters such as amount of substance, process temperature and pH, duration and frequency of release, type of use (e.g. indoor or outdoor), containment of process (open or closed), continuous or batch process (leading to an intermittent release), capacity of surroundings, etc. having, as a side effect, an impact on the release and the exposure. Risk management measures consist of technologies and procedures aimed at either reducing the releases and/or preventing a release pathway. Examples of risk management measures intended to reduce release are filters, scrubbers, biological or physico-chemical wastewater treatment plants etc. Both OCs and RMMs have an impact on the type and amount of release and the resulting exposure. ECHA guidance R.16 specifically provides default release factors associated with different Environmental Release Categories (ERCs). These default release factors can be used for a first tier assessment of the emissions. However, better information may be available that could then be used instead. In particular, release factors can be refined by taking into account RMMs and OCs. In this case, it is important to explicitly link such RMMs and OCs to the release factors and communicate them properly to the downstream users in the exposure scenarios. For example, sector specific environmental release categories (spERCs) developed by industrial sector organisations can be used in place of the conservative default ERCs of ECHA's guidance R.16. However, spERCs have to be linked to the applied RMMs and OCs driving the release estimation and that shall be described in the exposure scenarios.

In the present case, in the CSR you have provided 11 ESs. For the first Exposure Scenario (ES1: Manufacture – Chemical Manufacture) you have claimed that the substance has to be handled under strict conditions and is after use chemically bound in a matrix. Under normal conditions of use, no releases to the environment are anticipated. To facilitate a quantitative assessment, a maximum release factor of 0.1% was used to demonstrate a worst-case scenario. You claim that in no case should this release factor be exceeded.
However, you have not described further the conditions nor have you provided details of OC's and RMM's to achieve the release factor that should not be exceeded.

ECHA considers that an adequate and detailed justification (e.g. based on RMMs and/or OCs and/or substance properties) of release factors used in exposure estimation, other than the default ERC release factors, is not provided in the CSR. Where internal measurements of releases are available, the summary of results of these measurements is needed. This summary should be detailed enough to understand whether or not it covers relevant scenarios for possible releases from the substance processing according to the relevant ES.

For exposure scenarios 2 (formulation of preparations for industrial uses) and 3 (formulation of preparations for professional uses) the release factor to air you have applied, i.e. 0.024%, is not justified. You are referring to SpERC FEICA 2.1b.v2 (Formulation of Solvent Borne Adhesives – Volatiles (Large Scale, > 1000 t/a)), however this SpERC is set for large scale facilities (>1000 t/a) whereas the annual tonnages reported for exposure scenario 2 and 3 are <1000 t/a. ECHA notes that the release factor to air recommended in SpERC FEICA 2.1c.v2 (Formulation of Solvent Borne Adhesives – Volatiles (Small Scale, < 1000 t/a)) is 3.6%. The release factor to air recommended in the OECD Emission Scenario Document for organic solvent-borne coatings, from which FEICA SpERCs are based, is 0.13-3.6%. The release factor to air recommended in the ECHA Guidance R.16 for formulation into a mixture (ERC2) is 2.5%.

Therefore, pursuant to Article 41(1) and 41(3) of the REACH Regulation you are requested to use default release factors and other recommendations of ECHA Guidance R.16 and revise the risk characterisation accordingly *or* provide a detailed justification (e.g. based on RMMs and/or OCs and/or substance properties) for not using the default release factors and other recommendations as recommended in ECHA Guidance R.16 for estimation of environmental exposure.

Notes for your consideration

The revised PNECs requested with this decision shall be taken into account when assessing the related risks.

Appendix 2: Procedural history

For the purpose of the decision-making, this decision does not take into account any updates of your registration after the date when the draft decision was notified to you under Article 50(1) of the REACH Regulation.

The compliance check was initiated on 29 March 2016.

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

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

In your comments to the requests number 5, 6, 9-14 you agreed to the draft decision. ECHA took your comments on other requests into account and did not amend the requests.

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

ECHA received proposal(s) for amendment and modified the draft decision.

ECHA invited you to comment on the proposed amendment(s).

ECHA referred the draft decision to the Member State Committee.

You did not provide any comments on the proposed amendment(s).

The Member State Committee reached a unanimous agreement on the draft decision in its MSC-50 written procedure and ECHA took the decision according to Article 51(6) of the REACH Regulation.

Appendix 3: Further information, observations and technical guidance

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

2. 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 your Member State.

3. In relation to the information required by the present decision, the sample of the substance used for the new test(s) must be suitable for use by all the joint registrants. Hence, the sample should have a composition that is suitable to fulfil the information requirement for the range of substance compositions manufactured or imported by the joint registrants. It is the responsibility of all joint registrants who manufacture or import the same substance to agree on the appropriate composition of the test material and to document the necessary information on their substance composition. In addition, it is important to ensure that the particular sample of the substance tested in the new test(s) is appropriate to assess the properties of the registered substance, taking into account any variation in the composition of the technical grade of the substance as actually manufactured or imported by each registrant. If the registration of the substance by any registrant covers different grades, the sample used for the new test(s) 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 test(s) to be assessed.