~~CONFIDENTIAL~~

ECHA
European Chemicals Agency

For final decision: TPE-D-0000001243-85-04/F Helsinki, 5 October 2010

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

For *4-((Triethoxysilyl)methyl) morpholine*, CAS 21743-27-1 (EC No 480-370-1), Registration Number: [redacted]

ADDRESSEE: [redacted]

I. Procedure

Pursuant to Article 40(1) of Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (the REACH Regulation), the European Chemicals Agency (ECHA) has examined testing proposals set out in the registration dossier for ***4-((triethoxysilyl)methyl) morpholine, CAS 21743-27-1 (EC No 480-370-1)*** submitted by [redacted] (the "Registrant"), latest submission number [redacted] for 100-1000 tonnes per year.

In accordance with Article 12(1)(d) of the REACH Regulation, the Registrant submitted the following testing proposals as part of the registration dossier to fulfil the information requirements set out in Annex IX:

- Repeated dose toxicity: oral route according to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents); and
- Pre-natal Developmental Toxicity Study according to OECD Guideline 414.

The Registrant proposes to enhance the set of reproductive parameters assessed in the proposed standard OECD 408 90-day oral toxicity study in rats. With respect to the reproductive toxicity in the male rat, the Registrant suggests to include the following fertility parameters:

- sperm motility, sperm count, testis, epididymis, coagulating gland with seminal vesicle, ventral and dorsal prostate lobes, male mammary glands.

To cover oestrus cycle investigations in female rats, the Registrant suggests to include:

- weights/histopathology of uterus, ovaries (paired), cervix, vagina, oestrus cycle, histopathology of female mammary glands.

Some of these parameters are already included in the standard OECD 408 requirements.

The examination of testing proposals was initiated on 10 September 2009.

ECHA held a public consultation for the testing proposals from 27 November 2009 until 11 January 2010. ECHA received altogether 25 comments covering 9 separate reports (see Section III and the attached document on third party information).

ECHA examined the testing proposals and the information received from third parties and drafted a decision in accordance with Article 40(3) of the REACH Regulation.

On 9 March 2010, ECHA notified the Registrant of its draft decision and invited him pursuant to Article 50(1) of the REACH Regulation to provide comments within 30 days of the receipt of the draft decision.

On 26 March 2010, the Registrant informed ECHA that he approves the draft decision on testing.

On 10 June 2010, ECHA notified the Member State Competent Authorities of its draft decision and invited them to provide proposals for amendment.

After receiving proposals for amendments from the Member State Competent Authorities, ECHA forwarded the proposals for amendment to the Registrant on 13 July 2010 and did not amend its draft decision.

On 26 July 2010, the draft decision was referred to the Member State Committee.

On 3 August 2010, the registrant provided comments on the proposals for amendment.

The Member State Committee took the comments of the Registrant on the proposals for amendment of the Member State Competent Authorities into account. After discussion in the Member State Committee meeting on 14-16 September 2010, a unanimous agreement of the Member State Committee on the draft decision was reached on 15 September 2010.

This decision does not imply that the information provided by the Registrant in his registration dossier is in compliance with the REACH requirements. The decision does not prevent ECHA to initiate a compliance check on the present dossier at a later stage.

II. Testing required

ECHA has taken the following decision in accordance with the procedure set out in Articles 50 and 51 of the REACH Regulation.

Pursuant to Article 40(3)(a) of the REACH Regulation, the Registrant must carry out the following tests:

- Sub-chronic toxicity study (90-day) in rats, oral route (method B.26 of Regulation (EC) No 440/2008; OECD test guideline 408); and
- Developmental toxicity test in rats, oral route (method B.31 of Regulation (EC) No 440/2008; OECD test guideline 414)

Pursuant to Articles 40(4) and 22 of the REACH Regulation, the Registrant must submit to ECHA by 2 years from the date of the decision an update of the registration containing the information required by this decision. Pursuant to Article 40(3)(a), the Registrant's proposal to examine further reproductive toxicity parameters, an addition to the OECD standard test protocol, is accepted.

European Chemicals Agency
Annankatu 18, P.O. Box 400, FI-00121 Helsinki, Finland
Tel.: +358 9 6861 80 | Fax +358 9 6861 8210 | http://echa.europa.eu

III. Statement of reasons

The decision of ECHA is based on the examination of the testing proposals of the Registrant for the registered substance and scientific information submitted by the third parties.

ECHA has examined the scientific information submitted by the third parties, as follows:

Information on the registered substance

1. National Industrial Chemicals Notification and Assessment Scheme (NICNAS) Full public report on Silan 449029 VP; *Comments 1-3 in the attached document*

2. ESIS (European chemical Substances Information System). Report on Silan 449029 and Silan 449029 VP; *Comments 4-6 in the attached document*

Information on other substances, suggested for read-across and adaptation

3. OECD SIDS Initial Assessment Report on 3-aminopropyltriethoxysilane; *Comments 7-9 in the attached document* and

4. ESIS (European chemical Substances Information System) Information on 3-aminopropyltriethoxysilane IUCLID data sheet *Comments 10-12 in the attached document*
   The substance in these reports (points 3-4) is different from the registered substance due to the presence of a primary amine group and the absence of a morpholine group.

5. ESIS (European chemical Substances Information System) Information on Ethanol- IUCLID data sheet; *Comments 13-15 in the attached document*
   Read-across is proposed by the third party since the substance hydrolyses to form ethanol and siloxane polymer (see ECHA conclusions below *summary of third party information*).

6. National Industrial Chemicals Notification and Assessment Scheme (NICNAS) Full Public Report on Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethoxylated propoxylated, polymers with tert-Bu acrylate and methacrylic acid (Luviflex Silk); *Comments 16-18 in the attached document*
   The substances are different from the registered substance due to higher molecular weight, polymeric structure and the absence of a morpholine group.

7. ESIS (European chemical Substances Information System): IUCLID data sheet for Silane, dichlorodimethyl-, reaction products with Silica: *comments 21-23 in the attached document* and
8. EPA Report: Additional Discussion of Reproductive / Developmental Toxicity for Silane, dichlorodimethyl-, reaction products with Silica: *comments 19-20 in the attached document*
   The substances in these reports (points 7-8) are different from the registered substance due to higher molecular weight, polymeric structure, the absence of a morpholine group and presence of halogen atoms.

European Chemicals Agency
Annankatu 18, P.O. Box 400, FI-00121 Helsinki, Finland
Tel.: +358 9 6861 80 | Fax +358 9 6861 8210 | http://echa.europa.eu

9. A Japanese report: dra4.nihs.go.jp/mhlw_data/home/pdf/PDF2768-02-7d.pdf on Ethenyltrimethoxy silane,: *comments 24-25 in the attached document*
   The substance is different from the registered substance due to lower molecular weight, the absence of a morpholine group and presence of a double bond.

Summary of the third party information

The information submitted by the third parties on the substance *4-((triethoxysilyl)methyl) morpholine* itself (points 1-2 above, discussing *comments 1-6 in the attached document*) does not meet information requirements of REACH at this tonnage level, as they do not provide data on sub-chronic toxicity (90-day, Annex IX 8.6.2) or pre-natal developmental (Annex IX 8.7.2).

Additional information (points 3-9 above, discussing *comments 7-25 in the attached document*) submitted by the third parties was generated using read-across from other substances that are different from the registered substance. Annex XI, Section 1.5 provides that information based on read-across approach may be used if the physicochemical, toxicological and ecotoxicological properties are likely to be similar to the registered substance. In the present case ECHA concludes that the structural differences between the registered substance and the substances for which the third parties submitted the information are significant, as explained above, and therefore it is unlikely that read-across meeting the criteria of Annex XI, Section 1.5 can be applied to adapt the standard testing regime of Annex IX concerned.

Comments 1-3, 13-15 and 16-18 suggest adaptation according to Annex IX, 8.6.2, Column 2 (substance undergoes immediate disintegration and there are sufficient data on the cleavage products). According to the third party comments, there is sufficient data on breakdown products that are ethanol and siloxane polymer. However, according to the data provided by the Registrant the substance reacts with water to form ethanol and (N-Morpholinomethyl)-silantriol. The adaptation of Annex IX, 8.6.2, Column 2, suggested by the third parties from breakdown products would thus require sufficient data on both ethanol and the other breakdown product, (N-Morpholinomethyl)-silantriol. Therefore, the proposal of *comments 1-3, 13-15 and 16-18* for adaptation based on Annex IX, 8.6.2, Column 2 cannot be applied based on the information provided in the registration.

Comments 1-3, 13-15 and 16-18 mention siloxane polymer as one of the hydrolysis products of 4-((triethoxysilyl)methyl)morpholine and suggest that toxicological testing could be omitted based on the polymer status of the substance under Article 2(9) of the REACH Regulation. While it is true that the provisions of the REACH Regulation concerning evaluation (Title VI) do not apply to polymers, ECHA concludes that the polymer status as such is not a reason for adaptation according to 8.6.2 or 8.7.2 of Annex IX. In addition, the Registrant, contrary to these third party comments describes in the CSR that the hydrolysis products are ethanol and (N-Morpholinomethyl)-silantriol. According to the CSR, the polymerisation takes place at a later stage in the supply chain. The pre-polymerisation of the substance takes place in the formulation of pre-polymers (described in Section 9.4 of the CSR) and the cross-linking of pre-polymers to polymer in the formulation of final sealant (Section 9.5 of the CSR).The proposal of *comments 1-3, 13-15 and 16-18* for omitting testing based on polymer status of the substance cannot therefore be applied.

a) Sub-chronic toxicity test

European Chemicals Agency
Annankatu 18, P.O. Box 400, FI-00121 Helsinki, Finland
Tel.: +358 9 6861 80 | Fax +358 9 6861 8210 | http://echa.europa.eu

Regarding the information provided by the third party (see *Summary of third party information* above) on the registered substance, on the read-across from other substances, on adaptation according to Annex IX, 8.6.2, Column 2 and on adaptation based on suggested polymer status of the substance, ECHA concludes that there is insufficient evidence to adapt the standard testing regime of Annex IX concerned.

The test for sub-chronic toxicity, OECD test guideline 408, proposed by the Registrant is thus necessary to fulfil the information requirement pursuant to Section 8.6.2 of Annex IX to the REACH Regulation.

Pursuant to Article 40(3)(a) of the REACH Regulation, the Registrant is thus requested to carry out the following test: sub-chronic toxicity study (90-day) in rats, oral route (method B.26 of Regulation (EC) No 440/2008; OECD test guideline 408).

The Registrant addresses with his proposal for an extended 90-day study the lacking information of the screening study for reproductive toxicity (Annex VIII). The proposed extended 90-day study addresses partly the information gathered in the screening study. However, as the breeding of the animals and the resulting information on fertility is missing, the proposed extended 90-day study does not meet the information requirements for reproductive toxicity in Annex VIII. As the extended 90-day study shall provide useful information on reproductive toxicity with no additional test animals, ECHA accepts the OECD 408 modification as proposed by the Registrant.

b) Developmental toxicity test

Regarding the information provided by a third party (see *Summary of third party information* above) on the registered substance, on the read-across from other substances, on adaptation according to Annex IX, 8.7.2, Column 2 and on adaptation based on suggested polymer status of the substance, ECHA concludes that there is insufficient evidence to adapt the standard testing regime of Annex IX concerned.

The test for developmental toxicity, OECD test guideline 414, proposed by the Registrant is thus necessary to fulfil the information requirement pursuant to point 8.7.2 of Annex X to the REACH Regulation.

Pursuant to Article 40(3)(a) of the REACH Regulation, the Registrant is thus requested to carry out the following test: Developmental toxicity in rats, oral route (method B.31 of Regulation (EC) No 440/2008; OECD test guideline 414).

IV. General requirements for the generation of information and Good Laboratory Practice

ECHA always reminds registrants of the requirements of Article 13(4) of the REACH Regulation that reads:

> "*Ecotoxicological and toxicological tests and analyses shall be carried out in compliance with the principles of good laboratory practice provided for in Directive 2004/10/EC or other international standards recognised as being equivalent by the Commission or the Agency and with the provisions of Directive 86/609/EEC, if applicable.*"

According to Article 13(3) of the REACH Regulation, tests that are required to generate information on intrinsic properties of substances shall be conducted in accordance with the test methods laid down in a Commission Regulation or in accordance with other

European Chemicals Agency
Annankatu 18, P.O. Box 400, FI-00121 Helsinki, Finland
Tel.: +358 9 6861 80 | Fax +358 9 6861 8210 | http://echa.europa.eu

international test methods recognised by the Commission or the European Chemicals Agency as being appropriate. Thus, the registrant shall refer to Commission Regulation (EC) No 440/2008 laying down test methods pursuant to Regulation (EC) No 1907/2008 adapted to the technical progress by Commission Regulation (EC) No 761/2009 and use the applicable test methods to generate the information on the endpoints indicated above.

National authorities monitoring good laboratory practice (GLP) maintain lists of test facilities indicating the relevant areas of expertise of each facility.

V. Information on right to appeal

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

Done at Helsinki,

[redacted]

Geert Dancet
Executive Director

European Chemicals Agency
Annankatu 18, P.O. Box 400, FI-00121 Helsinki, Finland
Tel.: +358 9 6861 80 | Fax +358 9 6861 8210 | http://echa.europa.eu