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January 20, 1998

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Document Control Office (7407)
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
401 M St., S.W.
Washington, D.C. 20460
Attn: Section 8(e) Coordinator

88980000085

Subject: TSCA Section 8(e) Submission

Dear Sir/Madam:

Elf Atochem North America, Inc. (Elf Atochem) has received technical summaries on two acute toxicity studies in *Daphnia magna* and is submitting them to the Environmental Protection Agency (EPA) pursuant to Toxic Substances Control Act (TSCA) Section 8(e). The technical summaries provide information on n-butyl mercaptan (CAS No. 109-79-5) and n-propyl mercaptan (CAS No. 107-03-9). These studies do not involve effects in humans.

Nothing in this letter or the enclosed technical summaries is considered confidential business information of Elf Atochem.

The summaries indicate 48-hour $EC_{50's}$ to *Daphnia magna* of less than 0.043 mg/l and less than 0.22 mg/l for n-butyl mercaptan and n-propyl mercaptan, respectively. These results will be incorporated into the Elf Atochem Material Safety Data Sheets for these materials.

Further questions regarding this submission may be directed to me at (215) 419-5890.

Best Regards,

Debra Randall

Debra Randall, DABT
Product Safety Manager

Contains No CBI

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Elf Atochem S.A.

DCRD
Centre d'Application de Levallois
Service Analyse Environnement

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ESSAIS
Laboratoire accrédité sous le n°1-0210
Reconnaissance de conformité aux BPL de l'OCDE par le GIPC en date du 8/3/93 reconduite le 22/07/96

Levallois, le 27/11/97

Référence : 97/SAEk/1449/DC
Séquentiel : 031885
Etude numéro : 9082/96/A

RAPPORT D'ETUDE

TITRE :

n-BUTYLMERCAPTAN

TOXICITÉ AIGUË VIS-À-VIS DES DAPHNIES

AUTEUR(S) : H. THIÉBAUD ; Coll. D. CHEDAILLE

RESUME DOCUMENTAIRE :
Détermination de la toxicité aiguë (inhibition de la mobilité) de *Daphnia magna* par le **n-BUTYLMERCAPTAN** sur 24 et 48 heures, en suivant le mode opératoire décrit dans la méthode C2 de l'annexe à la Directive 92/69/CEE de la Commission des Communautés Européennes et la ligne directrice de l'OCDE n°202, partie I. Cette étude est réalisée conformément aux principes de Bonnes Pratiques de Laboratoire de l'OCDE.

MOTS CLES :
n-BUTYLMERCAPTAN, Toxicité aiguë daphnies, 92/69/CEE, C.2

DESTINATAIRES : M. DAM (DTF)
DOC FICHIER TECH

Copies : Chef de Service, Auditeur Qualité, Responsable des Archives, Secrétariat,
Service Écotoxicité et Sûreté des Produits (DSEP)

L'accréditation par la Section Essais du COFRAC atteste uniquement de la compétence technique des laboratoires pour les essais ou analyses couverts par l'accréditation.

Ce rapport comprend 19 pages et 7 feuillets non paginés.

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Elf Atochem S. A.
Centre d'Application de Levallois

TECHNICAL SUMMARY

The acute toxicity (inhibition of mobility) of n-BUTYLMERCAPTAN for *Daphnia magna* was assessed according to the method C2 of the European Directive 92/69/CEE. The study was carried out in compliance with the Principles of OECD Good Laboratory Practice.

Daphnids were exposed in a static test to a concentration range of 0.043 to 44.48 mg/l. The test was performed with 20 daphnids per concentration. The test was performed using closed flasks as test vessels. The flasks were entirely filled with test solutions and closed with butyl rubber caps covered with PTFE.

For each exposure concentration, the percentage of immobilisation after 24 hours and 48 hours was recorded. The test concentrations of n-BUTYLMERCAPTAN were measured by gas chromatography according to the analytical method described in the attached report. Measured concentrations were equivalent to nominal concentration. n-BUTYLMERCAPTAN was soluble at each test concentration.

No correlation has been obtained between the percentages of immobilisation and the test concentrations. Therefore, the linearisation with the log/probit method has not been performed. This observation has been observed at the end of both the range-finding test and the final test. It has also been shown with an other compound belonging to the same chemical family of n-alkyl thiols.

This study shows that percentages of immobilisation of daphnids exposed to n-BUTYLMERCAPTAN for 48 hours were close to or higher than 50 % at each test concentration except at the lowest concentration (25 %) and in the control (5%). The lowest concentration creating an effect higher than 50 % is the initial measured concentration of 0.043 mg/l. Thus, EC_{50}-48h is lower than this concentration.

The method was applied with respect to the quality criteria.

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Laboratoire accrédité sous le n° 0210
Reconnaissance de conformité aux BPL de l'OCDE par le GIPC en date du 8/3/93 reconduite le 22/07/96

Levallois, le 27/11/97

Référence : 97/SAEk/1450/DC
Séquentiel : 031885
Etude numéro : 9083/96/A

RAPPORT D'ETUDE

TITRE :

n-PROPYLMERCAPTAN

TOXICITÉ AIGUË VIS-À-VIS DES DAPHNIES

AUTEUR(S) : H. THIÉBAUD ; Coll. D. CHEDAILLE

RESUME DOCUMENTAIRE :
Détermination de la toxicité aiguë (inhibition de la mobilité) de *Daphnia magna* par le **n-PROPYLMERCAPTAN** sur 24 et 48 heures, en suivant le mode opératoire décrit dans la méthode C2 de l'annexe à la Directive 92/69/CEE de la Commission des Communautés Européennes et la ligne directrice de l'OCDE n°202, partie I. Cette étude est réalisée conformément aux principes de Bonnes Pratiques de Laboratoire de l'OCDE.

MOTS CLES :
n-PROPYLMERCAPTAN, Toxicité aiguë daphnies, 92/69/CEE, C.2

DESTINATAIRES : M. DAM (DTF)
DOC FICHIER TECH

Copies : Chef de Service, Auditeur Qualité, Responsable des Archives, Secrétariat,
Service Écotoxicité et Sûreté des Produits (DSEP)

L'accréditation par la Section Essais du COFRAC atteste uniquement de la compétence technique des laboratoires pour les essais ou analyses couverts par l'accréditation

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TECHNICAL SUMMARY

The acute toxicity (inhibition of mobility) of n-PROPYLMERCAPTAN for *Daphnia magna* was assessed according to the method C2 of the European Directive 92/69/CEE. The study was carried out in compliance with the Principles of OECD Good Laboratory Practices.

Daphnids were exposed in a static test to a concentration range of 0.22 to 32 mg/l. The test was performed with 20 daphnids per concentration. The test was performed using closed flasks as test glassware. The flasks were entirely filled with test solutions and closed with butyl rubber caps covered with PTFE.

For each exposure concentration, the percentage of immobilisation at 24 hours and 48 hours was recorded. The test concentrations of n-PROPYLMERCAPTAN were measured by gas chromatography according to the analytical method described in the attached report.

No correlation has been obtained between the percentages of immobilisation and the test concentrations. Therefore, the linearisation with the log/probit method has not been performed. Therefore, the linearisation with log/probit method has not been performed. This observation has been observed at the end of both the range-finding test and the final test. It has also been shown with an other compound belonging to the same chemical family of n-alkyl thiols.

This study shows that percentages of immobilisation of daphnids exposed to n-PROPYLMERCAPTAN for 48 hours were higher or equal to 50 % at each test concentration. The lowest concentration measured was 0.22 mg/l. At this concentration, 70 % of daphnids were immobilized. Thus, EC_{50}-48h is lower than this concentration.

The method was applied with respect to the quality criteria.

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ENTRY FORM

CAPNUM	LTR	DATE	CBI	CASNO	CONCERN	AI	SOLUBILITY
14116	a	0298		109795	HIGH	NS	NS

CHEMNAME	PHYSTATE
n-Butyl mercaptan	NS

ORGANISM	DURATION	ENDPOINT	CODE	TOXVALUE	UNITS	MELTINGPT
Water flea, Daphnia magna	48h	EC50	<	0.043	mg/l	NS

COMMENTS

ENTRY FORM

CAPNUM	LTR	DATE	CBI	CASNO	CONCERN	AI	SOLUBILITY
14116	a	0298		107039	HIGH	NS	NS

CHEMNAME	PHYSTATE
n-propyl mercaptan	NS

ORGANISM	DURATION	ENDPOINT	CODE	TOXVALUE	UNITS	MELTINGPT
Water flea, Daphnia magna	48h	EC50	<	0.22	mg/l	NS

COMMENTS