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July 26, 2007

07 AUG -2 PM 6:14 VIA OVERNIGHT COURIER

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Attention: TSCA Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1201 Pennsylvania Avenue, N.W.
Washington, DC 20460-0001

COMPANY SANITIZED



**Re: Toxic Substances Control Act (TSCA)
Section 8(e) – Notification of Substantial Risk
1-Propene, 1,1,2,3-tetrachloro-
CAS No. 10436-39-2**

Dear Sir/Madam:

This notification is being submitted in accordance with the Toxic Substances Control Act (TSCA) provisions for reporting substantial risk (§8(e)) information. As the study sponsor, [] hereby submits preliminary results regarding the sensitization potential of 1-Propene, 1,1,2,3-tetrachloro- (CAS No. 10436-39-2). The study was conducted to determine whether the subject chemical is a skin sensitizer.

A summary of the study is presented in the following table:

Name of Study	"Skin Sensitization: Local Lymph Node Assay in Mice"
Chemical Studied	1-Propene, 1,1,2,3-tetrachloro-
Chemical Abstract Service (CAS) Registry Number	CAS No. 10436-39-2
Testing Protocol	EPA Health Effects Test Guideline OPPTS 870.2600 Skin Sensitization, and OECD Test Guideline 429
Summary of Effects	
Animals' exposure concentration	2.5, 5 and 10% 1-Propene, 1,1,2,3-tetrachloro- in 80% acetone:20% olive oil vehicle
Exposure period	3 days
Study results	Stimulation Index (SI) ≥ 3 in the 5% and 10% test groups; therefore considered a sensitizer

A complete copy of the final report and the confidential substantiation submittal are included as attachments. Redacted versions of this letter, the final laboratory report and the confidential substantiation submittal are attached for inclusion in the public files. If you should have any questions concerning this submittal, please contact []

Sincerely,



[]
[]
[]

Attachments

306222

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VOLUME ___ OF ___ OF SUBMISSION

1,1,2,3-tetrachloropropene; CAS# 10436-39-2

FINAL REPORT

SKIN SENSITIZATION: LOCAL LYMPH NODE ASSAY IN MICE

OPPTS 870.2600 AND OECD 429

AUTHOR:

~~CONFIDENTIAL~~

STUDY INITIATION DATE: 27 April 2007
STUDY COMPLETION DATE: 16 July 2007

CONDUCTED BY:

LABORATORY STUDY NUMBER:

VOLUME 1 OF 1 OF STUDY

PAGE 1 OF 11

SUBMITTED TO:

GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT

This study was designed and performed at _____ and was conducted in compliance with United States Environmental Protection Agency TSCA 40 CFR 792 with exception of:
Section 792.12 (c) It is not known if the provided analysis for characterization was conducted according to Good Laboratory Practice Standards.
Section 792.31 (d) and 792.105 (b)(e) Stability information was not provided to the testing facility.
Section 792.113 (a) Mixture analysis was not performed.

This study was designed and performed at _____ and was conducted in compliance with Organization for Economic Cooperation & Development Principles of GLP, Annex 2, C(98)17 with exception of:
Section I, 1 It is not known if the provided analysis for characterization was conducted according to Good Laboratory Practice Standards.
Section II, 6.2 (4) Stability information was not provided to the testing facility.
Section II, 6.2 (5) Mixture analysis was not performed.

Date

Signature of Agent of Sponsor Date

Agent Name
Sponsor:

Signature of Agent of Submitter Date

Agent Name
Submitter:



QUALITY ASSURANCE STATEMENT

Test Substance: 1,1,2,3-tetrachloropropene; CAS# 10436-39-2
Study Title: Skin Sensitization: Local Lymph Node Assay in Mice

The study report and data have been audited in accordance with Good Laboratory Practice Standards and Standard Operating Procedures (SOPs). The final report accurately reflects the study data. The Quality Assurance Unit has not been involved in the actual conduct of this study.

The Quality Assurance Unit performed a recent facility inspection on 17 Apr 07. All findings were reported to Management, and the report and responses are kept in the Quality Assurance files.

The findings from any study inspections and audits were reported to the Study Director and Management as follows:

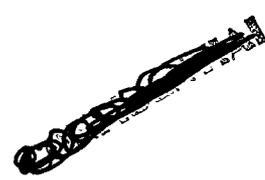
Critical Phase Inspected	Date Inspected	Reported to Study Director	Reported to Management
Protocol Review	21 Mar 07	21 Mar 07	21 Mar 07
Dosing, Observations	31 May 07	31 May 07	31 May 07
Report/Data Audit	26 Jun 07	26 Jun 07	26 Jun 07

Date



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SUMMARY

A skin sensitization study was conducted on 3 groups of 5 female mice to determine if test substance 1,1,2,3-tetrachloropropene; CAS# 10436-39-2 possesses a significant potential to cause skin sensitization. Five females were assigned to each of three groups, designated Groups I - III. The test groups were treated with an appropriate dilution (2.5, 5 and 10%) in 80% acetone:20% olive oil vehicle. Each animal received 25 μ L to the dorsum of each ear. The animals were treated once daily for three days. After a two-day rest period, all animals were injected with tritiated methyl-thymidine in the tail vein. Five hours later, the animals were sacrificed, and the draining auricular lymph nodes removed and prepared for cell suspension and scintillation counting. A vehicle control group of five females was run concurrently, treated in the same manner with vehicle only instead of test substance or dilution. A positive control group of five females was also run concurrently, treated with 90% alpha-hexylcinnamaldehyde in acetone:olive oil.

The test substance produced a stimulation index of ≥ 3 in two groups of test animals, and is therefore considered a sensitizer (defined as producing a positive response).

INTRODUCTION

The objective of this study was to determine the sensitizing potential, if any, of the test substance to mice, using a regimen based on Kimber, I., Hilton, J., Dearman, R.J., Gerberick, G.F., Ryan, C.A., Basketter, D.A., Lea, L., House, R.V., Ladics, G.S., Loveless, S.E., and Hastings, K.L. Assessment of skin sensitization potential of topical medicaments using the local lymph node assay: an interlaboratory exercise (Journal of Toxicology & Environmental Health, 53 563-79 (1998)). This study was conducted for in accordance with EPA Health Effects Test Guideline OPPTS 870.2600 Skin Sensitization, OECD 429, the approved protocol and SOPs. There were no deviations from the protocol that affected the quality or outcome of the study. All procedures in this study are in compliance with Animal Welfare Act Regulations. The protocol, raw data, this report and a sample of test substance are archived at The experimental range-finding test began on 16 May 07. The dosing schedule was as follows, and the study terminated on 05 Jun 07:

Topical Test Substance Dose to Ears			Tail Vein Injection
Day 1: 30 May 07	Day 2: 31 May 07	Day 3: 01 Jun 07	Day 6: 04 Jun 07

TEST SUBSTANCE

Label Identification: 1,1,2,3-tetrachloropropene (Tech)
 Synonym / CAS#: / 10436-39-2
 Quantity & Date Received: 26 Apr 07; 239.8 g
 Physical Description: Clear liquid
 Storage: Room temperature
 Purity: 99.52% 1,1,2,3-tetrachloropropene as per provided information
 Stability: Not provided to testing facility
 Concentrations Administered: 2.5%, 5% and 10% v/v in 80% acetone:20% olive oil

Data generated for characterization and stability is the responsibility of the sponsor. Records pertaining to identity, synthesis methods and location of documentation are the responsibility of the sponsor. A copy of the Certificate of Analysis is included in report Appendix A.

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POSITIVE CONTROL MATERIAL

Label: Alpha-Hexylcinnamaldehyde Lot No. 13102MO
 Manufacturer: Aldrich Chemical Co. Inc.
 Physical Description: Clear liquid
 Storage: Room temperature
 Purity, Composition & Stability: Certificate of Analysis available from manufacturer
 Concentration Administered: 90% v/v in 80% acetone:20% olive oil
 Results: The positive control test substance produced a stimulation index of ≥ 3 , and is therefore considered a sensitizer.

VEHICLES

Label: Acetone
 Exp: Jan 2017
 Manufacturer: Kleanstrip

Label: Olive oil
 Exp: Sep 2012
 Manufacturer: Pompeii

TEST SYSTEM

Experimental Animals

Species & Strain: Mouse; CBA/JCr
 Justification of Species: The mouse is the species of choice for a local lymph node assay to provide information on which human hazard can be judged.
 Source: Harlan Sprague-Dawley; Indianapolis, IN
 Quantity & Sex: 5 females per each dose group and 5 females in each control group (definitive test); 9 females in pretest portion (all nulliparous and non-pregnant)
 Acclimation Period: At least 5 days
 Date Born/Date Received: 16 Mar 07 / 08 May 07
 Animal Identification: Tail marking and cage cards
 Weight on Initial Dose Day: 18.7 - 24.9 g

Animal Husbandry

Cage Type: Stainless steel, suspended, wire bottom
 Housing: Individually
 Environmental Controls
 Set to Maintain: · Temperature Range 21° ± 3° C · Humidity Range 30-70%
 · 12-hour light/dark cycle · 10-12 air changes/hour
 Actual Temp/Rel. Humidity: 16-23° C / 20-79%
 Protocol deviation: temperature and humidity were outside protocol range but did not affect study outcome.
 Food: PMI Feeds Inc.™ Formulab #5008; available *ad libitum*
 Water: Municipal water supply analyzed by available *ad libitum* from automatic water system.

Animal husbandry and housing at comply with standards outlined in the "Guide for the Care and Use of Laboratory Animals" (NRC Publ.). No contaminants were expected to have been present in the feed or water that would have interfered with or affected the results of the study.

PROCEDURES

Pretest Range-Finding

Healthy mice were released from quarantine prior to testing. Several females were selected for irritation screening to determine the three consecutive concentrations for the main test. Tested were 5, 10 and 25% solutions in 80% acetone:20% olive oil. Based on this preliminary study, the top dose selected was the highest achieved without excessive systemic toxicity or local irritation. Weight loss in all three screen groups (average body weight loss of 15%, 12.5% and 5.9% for respective dose concentrations of 25%, 10% and 5%) indicated toxicity, and it was deemed prudent not to use the highest concentration of 25% in the main test.

Test Substance Preparation and Administration

Healthy mice were released from quarantine prior to testing. Five females were selected for each of three treatment groups (Groups I - III). On Days 1, 2 and 3, each test animal in its group received an open application of 25 μ L of an appropriate dilution (2.5, 5 or 10%) of the test substance, to the dorsum of both ears. The vehicle control group (5 females) was treated in the same way as test animals, but with vehicle alone (80% acetone:20% olive oil) instead of test substance. The positive control group (5 females) was treated with 90% alpha-hexylcinnamaldehyde in acetone:olive oil vehicle.

All test and control animals were given a two-day rest period on Days 4 and 5.

Injection of Tritiated Methyl-Thymidine

On Day 6 of the study, all test and control animals were injected in the tail vein with 250 μ L of 0.01 M phosphate-buffered saline (PBS; Sigma, Lot 045K8210, Exp Jul 15), pH 7.4, containing 20 μ Ci of [methyl, 1^1 , 2^{1-3} H] Thymidine (Amersham Biosciences, Lot B105, Exp Feb 08). Five hours after the injection, the animals were sacrificed, the draining auricular lymph nodes were excised and pairs from each individual animal were processed.

Suspension Preparation and DPM Determination

A single cell suspension was prepared by gentle mechanical disintegration through 200-mesh stainless steel gauze. The cells were washed twice with an excess of PBS and precipitated with 5% trichloroacetic acid (TCA; Ricca Chemical, Lot 1604610, Exp Apr 08) at 4° C for 18 hours. The pellets were resuspended in 1 mL of TCA and transferred to 10 mL of scintillation fluid. Incorporation of tritiated thymidine was measured by liquid scintillation counting as disintegrations per minute (DPM) from the paired lymph nodes of each animal, and mean DPM/animal was calculated for each group.

Body Weights and Observations

Individual body weights were recorded on Day 1 prior to dosing, and Day 6, prior to injection. All test and control animals were observed daily for clinical signs of toxicity and any signs of excessive irritation at the test site.

RESULTS AND DISCUSSION

Body weights are presented in Table 1. There was no effect on body weight gain in surviving test group animals. One animal in Test Group I (2.5%) was found dead on Day 6. Signs of clinical toxicity are presented in Table 2. All surviving animals appeared normal for the duration of the study.

Individual DPM counts are presented in Table 1. The Stimulation Index (SI) or Test/Vehicle Control Ratio derived for each test group based on the group mean DPM is as follows:

Animal Group	Test Substance Concentration	Average Count per Mouse	Num. of Mice in Group	Test/Vehicle Control Ratio
Vehicle Control	NA	407	5	NA
Test Group I	2.5%	773	4	1.9
Test Group II	5.0%	1217	5	3.0
Test Group III	10.0%	3434	5	8.4
Positive Control	NA	12633	5	31.0*

NA - Not applicable

* - Positive Control used to confirm animal sensitization potential and validate procedures.

The SI increased with the dose and met or exceeded the value of 3 for the two higher doses, indicating a sensitization response.

CONCLUSION

1,1,2,3-tetrachloropropene; CAS# 10436-39-2 produced a stimulation index of ≥ 3 in two groups of test animals, and is therefore considered a sensitizer (defined as producing a positive response).

Study Director: _____

_____ Date

STUDY PERSONNEL

Technical Staff:

Data Services:

TABLE 1
SKIN SENSITIZATION: LOCAL LYMPH NODE ASSAY IN MICE
 Body Weights (grams) and DPM Counts
 Test Substance: 1,1,2,3-tetrachloropropene; CAS# 10436-39-2

Animal Tail-tip Color Code	Day of Study		DPM Count
	Day 1 Wts.	Day 6 Wts.	
Vehicle Control			
Purple	22.8	22.1	278.62
Orange	24.9	25.6	348.72
Blue	22.7	23.9	371.33
Green	21.1	22.3	642.67
Black	22.1	23.1	395.47
Test Group I - 2.5% conc.			
Purple	23.2	24.3	1070.84
Orange	23.6	23.8	742.41
Blue	23.5	23.6	663.12
Green	21.4	22.2	614.59
Black	21.3	19.0	NA
Test Group II - 5.0% conc.			
Purple	22.6	23.0	506.34
Orange	22.7	23.4	433.63
Blue	22.3	22.9	1142.56
Green	18.7	21.6	1876.43
Black	22.9	23.5	2127.40
Test Group III - 10.0% conc.			
Purple	23.0	24.2	720.96
Orange	24.0	24.7	911.70
Blue	23.2	24.4	4749.02
Green	23.5	25.0	5734.23
Black	23.3	24.7	5052.06
Positive Control			
Purple	22.9	23.3	6809.01
Orange	21.8	22.7	7775.21
Blue	24.2	26.3	12234.90
Green	23.6	23.8	21819.20
Black	21.8	23.8	14524.90

NA - not applicable, animal found dead on Day 6

TABLE 2
SKIN SENSITIZATION: LOCAL LYMPH NODE ASSAY IN MICE
 Observations of Clinical Signs
 Test Substance: 1,1,2,3-tetrachloropropene; CAS# 10436-39-2

Reaction and severity	Day of Study					
	1	2	3	4	5	6
Vehicle Control Group NOA						
Test Group I - 2.5% Death	0	0	0	0	0	1
Test Group II - 5.0% NOA						
Test Group III - 10% NOA						
Positive Control Group NOA						

NOA - no observable abnormalities; v - very slight; s - slight; m - moderate; e - extreme
 Note: Digits indicate the number of animals exhibiting reaction.

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APPENDIX A

~~CONFIDENTIAL~~

July 26, 2007

Document Processing Center (7407M)
Attention: TSCA Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1201 Pennsylvania Avenue, N.W.
Washington, DC 20460-0001

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**Re: Support Information for Confidentiality Claims – TSCA §14(c)
Toxic Substances Control Act (TSCA)
Section 8(e) – Notification of Substantial Risk
1-Propene, 1,1,2,3-tetrachloro-
CAS No. 10436-39-2**

The following Confidential Business Information is in support of confidentiality claims in regards to 1-Propene, 1,1,2,3-tetrachloro- (CAS No. 10436-39-2) and [] as the study sponsor for a skin sensitization test.

Substantiation Questions

1. Is your company asserting this confidential business information (CBI) claim on its own behalf? *Yes*
2. For what period do you assert your claim(s) of confidentiality? If the claim is to extend until a certain event or point in time, please indicate that event or time period. Explain why such information should remain confidential until such point. *[*

3. Has the information that you are claiming as confidential been disclosed to any other governmental agency, or to this Agency at any other time? *No*
Identify the Agency to which the information was disclosed and provide the date and circumstances of the same. *N/A*
Was the disclosure accompanied by a claim of confidentiality? If yes, attach a copy of said document reflecting the confidentiality agreement. *N/A*
4. Briefly describe any physical or procedural restrictions within your company relating to the use and storage of the information you are claiming CBI. *[*

5. If anyone outside your company has access to any of the information claimed CBI, are they restricted by confidentiality agreement(s). *Yes*
If so, explain the content of the agreement(s). *[*

6. Does the information claimed as confidential appear or is it referred to in any of the following:
 - a. Advertising or promotional material for the chemical substance or the resulting and product; *No*
 - b. Material safety data sheets or other similar materials (such as technical data sheets) for the substance or resulting end product (include copies of this information as it appears when accompanying the substance and/or product at the time of transfer or sale); *Yes*

~~CONFIDENTIAL BUSINESS INFORMATION~~

Support Information for Confidentiality Claims – TSCA §14(c)
 Toxic Substances Control Act (TSCA)
 Section 8(e) – Notification of Substantial Risk
 1-Propene, 1,1,2,3-tetrachloro-
 CAS No. 10436-39-2

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~~CONFIDENTIAL BUSINESS INFORMATION~~

c. Professional or trade publications; *No*
 d. Any other media or publications available to the public or to your competitors. *No*
 If you answered yes to any of the above, indicate where the information appears, include copies, and explain why it should nonetheless be treated as confidential. [

-]
7. Has EPA, another federal agency, or court made any confidentiality determination regarding information associated with this substance? *No* If so, provide copies of such determinations.
8. Describe the substantial harmful effects that would result to your competitive position if the CBI information is made available to the public? In your answer, explain the causal relationship between disclosure and any resulting substantial harmful effects. Consider in your answer such constraints as capital and marketing cost, specialized technical expertise, or unusual processes and your competitors access to your customers. Address each piece of information claimed CBI separately. [

-]
9. Has the substance been patented in the U.S. or elsewhere? *Yes, there are expired patents on the preparation of 1-Propene, 1,1,2,3-tetrachloro-*. [

] Is a patent for the substance currently pending?

[] *is not aware if a patent is pending on 1-Propene, 1,1,2,3-tetrachloro-*. [] *may be submitting patents in the near future for Intellectual Property protection.*

10. Is this substance/product commercially available and if so, for how long has it been available on the commercial market? *Yes. 1-Propene, 1,1,2,3-tetrachloro- has been on the market for at least 22 years.*
- a. If on the commercial market, are your competitors aware that the substance is commercially available in the U.S.? *Yes*
- b. If not already commercially available, describe what stage of research and development (R&D) the substance is in, and estimate how soon a market will be established. *N/A*
- c. What is the substance used for and what type of product(s) does it appear in. *Its current primary use is as a feedstock in the herbicide business to produce Triallate.* [

-]
11. Describe whether a competitor could employ reverse engineering to identically recreate the substance? *Yes,* [

-]
12. Do you assert that disclosure of this information you are claiming CBI would reveal:

a. confidential processes used in manufacturing the substance; *No*
 b. if a mixture, the actual portions of the substance in the mixture; or *No*
 c. information unrelated to the effects of the substance on human health or the environment? []

If your answer to any of the above questions is yes, explain how such information would be revealed. [

~~CONFIDENTIAL BUSINESS INFORMATION~~

Support Information for Confidentiality Claims – TSCA §14(c)
Toxic Substances Control Act (TSCA)
Section 8(e) – Notification of Substantial Risk
1-Propene, 1,1,2,3-tetrachloro-
CAS No. 10436-39-2

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13. Provide the Chemical Abstract Service Registry Number for the product, if known. Is your company applying for a CAS number now or in the near future? *CAS No. 10436-39-2* If you have applied for a CAS number, include a copy of the contract with CAS. *N/A*
14. Is the substance or any information claimed CBI the subject of FIFRA regulation or reporting? If so, explain. *No*

~~CONFIDENTIAL BUSINESS INFORMATION~~

MATERIAL SAFETY DATA SHEET

1,1,2,3 - TETRACHLOROPROPENE

Print date:

Revision date:

MSDS No.:

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:

24 Hour Emergency Telephone
Number:



Customer Service:

MSDS No.:

Product Name: 1,1,2,3 - TETRACHLOROPROPENE

Synonyms:

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Signal word:	DANGER
Color:	Clear
Physical State:	Liquid
Odor:	Strong, Characteristic Odor

MAJOR HEALTH HAZARDS (OSHA):

Eye:	Acute Eye Effect: Severe Irritant/Corrosive
Skin:	Acute Skin Effect: Severe Irritant/Corrosive
Respiratory:	Acute Respiratory Effect: Moderate Irritation
Delayed Health Effects on Organs/Systems:	Liver Toxin (Hepatotoxin)
Sensitizer:	Sensitizer: Skin
Skin Absorbent:	Skin Absorbent: Yes
Suspect Carcinogen:	Suspect Carcinogen: Yes

PHYSICAL HAZARDS (OSHA): None Known
