ORIGINAL

8EHQ-0596-13645

Chevron

CERTIFIED MAIL WITH RETURN RECEIPT

Chevron Research and Technology Company
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Risk Assessment
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NON-CONFIDENTIAL INFORMATION

April 29, 1996

8EHQ-96-13645
INIT 05/07/96

RECEIVED
96 MAY -7 PM 2:29

TSCA 8(e) Submission for Tertiary Amyl Methyl Ether (TAME)

Document Processing Center
Attention: TSCA 8(e) Coordinator
Office of Pollution Prevention and Toxics
U. S. Environmental Protection Agency
401 M Street S. W.
Washington, DC 20460

88960000125

Contains No CBI

Dear Sir or Madam:

This notice is submitted pursuant to Section 8(e) of the Toxic Substances Control Act on behalf of Amerada Hess Corporation, Chevron Products Company, CITGO Petroleum, Exxon Company USA, Marathon Oil Company, Sun Refining and Marketing, and Texaco Refining and Marketing. This notice is based on test results obtained under a voluntary testing program for Tertiary Amyl Methyl Ether (CAS No. 994-05-8). The required studies are being coordinated by staff from the American Petroleum Institute.

We are advising the EPA of results from an in vitro study of chromosome aberrations in Chinese Hamster Ovary (CHO) cells. In the S9-activated test system there was a positive response with increasing concentrations of TAME. Considering previous Agency guidance for reporting under Section 8(e), we are notifying the EPA of these statistically significant findings.

This study evaluated concentrations of 0, 625, 1200, 2500, and 5000 micrograms of TAME per milliliter of culture medium. Both non-activated and S-9 activated test conditions were evaluated. At 5000 ug/ml of TAME, toxicity (cell growth inhibition relative to the solvent control) was approximately 43% in the non-activated system and 72% in the S-9 activated system. The percentage of cells with aberrations increased in a dose related manner in the S-9 activated test system and was statistically significant at concentrations above 625 ug/ml. No dose related increase was observed in the non-activated test system.

Previous studies on TAME did not demonstrate any evidence of genotoxicity (Daughtrey and Bird, Journal of Applied Toxicology, Vol. 15(4), 313-319,1995). The Ames bacterial assay and the mouse

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micronucleus assay were both negative. In addition, an HGPRT gene mutation assay in CHO cells has been completed as part of this voluntary testing agreement and was also negative.

A final report for this study will be forwarded to EPA under the conditions of the Enforceable Consent Agreement (54 FR 14910 -- March 21, 1995) Docket Number OPPTS-4205Q - Tertiary Amyl Methyl Ether. If you have any questions about this submission, please contact Dr. Richard Rhoden at the American Petroleum Institute (202) 682-8480.

Very truly yours,

R. D. Cavalli
Manager, Toxicology and Health
Risk Assessment

cc. Mr. Gary Timm
Chemical Control Division
Office of Pollution Prevention and Toxics
U. S. Environmental Protection Agency
401 M Street S. W.
Washington, DC 20460

Triage of 8(e) Submissions

Date sent to triage:_____ NON-CAP CAP

Submission number: 13645 A TSCA Inventory: Y N D

Study type (circle appropriate):

Group 1 - Gordon Cash (1 copy total)

ECO AQUATO

Group 2 - Ernie Falke (1 copy total)

ATOX SBTOX SEN w/NEUR

Group 3 -HERD (1 copy each)

STOX CTOX EPI RTOX GTOX

STOX/ONCO CTOX/ONCO IMMUNO CYTO NEUR

Other (FATE, EXPO, MET, etc.):_____

Notes:

☒ This is the **original** 8(e) submission; refile after triage evaluation.

☐ This **original** submission has been **split**; rejoin after triage evaluation.

☐ Other:

Photocopies Needed for Triage Evaluation

entire document: 0 1 2 3

front section and CECATS: 0 1 2 3

Initials:_____ **Date:**_____

CECATS\TRIAGE TRACKING DBASE ENTRY FORM

CECATS DATA:
Submission # 8EHQ-0596-13645 SEQ. A

TYPE: (INT) SUPP FLWP

SUBMITTER NAME: Chevron Research And Technology Company

SUB. DATE: 04/29/96 OTS DATE: 05/07/96 CSRAD DATE: 07/11/96

INFORMATION REQUESTED: FLWP DATE:
0501 NO INFO REQUESTED
0502 INFO REQUESTED (TECH)
0503 INFO REQUESTED (VOL ACTIONS)
0504 INFO REQUESTED (REPORTING RATIONALE)

DISPOSITION:
(0639) REFER TO CHEMICAL SCREENING
0678 CAP NOTICE

VOLUNTARY ACTIONS:
(0401) NO ACTION REPORTED
0402 STUDIES PLANNED/UNDERWAY
0403 NOTIFICATION OF WORKERS/USERS
0404 LABEL/MSDS CHANGES
0405 PROCESS/HANDLING CHANGES
0406 APP/USE DISCONTINUED
0407 PRODUCTION DISCONTINUED
0408 CONFIDENTIAL

CHEMICAL NAME:
~~[illegible]~~, Tertiary Amyl ~~Ether~~ Methyl Ether
TAME

CAS#
994-05-8
"

INFORMATION TYPE:		P F C
0201	ONCO (HUMAN)	01 02 04
0202	ONCO (ANIMAL)	01 02 04
0203	CELL TRANS (IN VITRO)	01 02 04
(0204)	MUTA (IN VITRO)	01 02 04
0205	MUTA (IN VIVO)	01 02 04
0206	REPRO/TERATO (HUMAN)	01 02 04
0207	REPRO/TERATO (ANIMAL)	01 02 04
0208	NEURO (HUMAN)	01 02 04
0209	NEURO (ANIMAL)	01 02 04
0210	ACUTE TOX. (HUMAN)	01 02 04
0211	CHR. TOX. (HUMAN)	01 02 04
0212	ACUTE TOX. (ANIMAL)	01 02 04
0213	SUB ACUTE TOX (ANIMAL)	01 02 04
0214	SUB CHRONIC TOX (ANIMAL)	01 02 04
0215	CHRONIC TOX (ANIMAL)	01 02 04

INFORMATION TYPE:		P F C
0216	EPI/CLIN	01 02 04
0217	HUMAN EXPOS (PROD CONTAM)	01 02 04
0218	HUMAN EXPOS (ACCIDENTAL)	01 02 04
0219	HUMAN EXPOS (MONITORING)	01 02 04
0220	ECO/AQUA TOX	01 02 04
0221	ENV. OCCC/REL/FATE	01 02 04
0222	EMER INCI OF ENV CONTAM	01 02 04
0223	RESPONSE REQEST DELAY	01 02 04
(0224)	PROD/COMP/CHEM ID	01 02 04
0225	REPORTING RATIONALE	01 02 04
0226	CONFIDENTIAL	01 02 04
0227	ALLERG (HUMAN)	01 02 04
0228	ALLERG (ANIMAL)	01 02 04
0239	METAB/PHARMACO (ANIMAL)	01 02 04
0240	METAB/PHARMACO (HUMAN)	01 02 04

INFORMATION TYPE:		P F C
0241	IMMUNO (ANIMAL)	01 02 04
0242	IMMUNO (HUMAN)	01 02 04
0243	CHEM/PHYS PROP	01 02 04
(0244)	CLASTO (IN VITRO)	01 02 04
0245	CLASTO (ANIMAL)	01 02 04
0246	CLASTO (HUMAN)	01 02 04
0247	DNA DAM/REPAIR	01 02 04
0248	PROD/USE/PROC	01 02 04
0251	MSDS	01 02 04
0299	OTHER	01 02 04

TRIAGE DATA:

CAS SR

NON-CBI INVENTORY
YES
NO
(IN TIMMINI)

ONGOING REVIEW
YES (DROP/REFER)
NO (CONTINUE)
REFER

SPECIES
IN VITRO

TOXICOLOGICAL CONCERN:
LOW
(MED)
HIGH

USE:

PRODUCTION:

COMMENTS

5) 8EHQ-0596-13645: Rank - medium.

Chemical: TAME (tertiary amyl methyl ether; CAS# 994-05-8).

Letter from RD Cavalli of Chevron Research and technology, Richmond CA, dated April 29, 1996: Negative for gene mutations in the Salmonella typhimurium/mammalian microsomal (Ames) assay.

Negative for gene mutations in the HGPRT locus of Chinese hamster ovary (CHO) cells in vitro.

Positive for chromosome mutations, with a dose response, in Chinese hamster ovary (CHO) cells in vitro with but not without activation.

Negative for chromosome mutations (micronuclei) in the mouse.