



Great Lakes
Chemical Corporation

ORIGINAL

P.O. BOX 2200 • ONE GREAT LAKES BOULEVARD • WEST LAFAYETTE, IN 47906 • PHONE: 317-497-6100 • FAX: 317-497-6234 • TELEX: 27-9428 • CABLE: GLAKCHEM LAFAYETTE



INIT 09/27/94

(A)

19 September 1994

Contains No CBI

Document Control Center (TS-790)
Office of Toxic Substances
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460



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94 SEP 27 AM 11:23

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OPPT/CMC

Attention: Section 8(e) Coordinator

RE: Bromine TSCA 8(e) Notice
(When responding, please refer to JAB-94-196)

Gentlemen:

Great Lakes Chemical Corporation is submitting a TSCA Section 8(e) substantial risk notification concerning genotoxicity data on bromine. The CAS Registry Number for this halogen is 7726-95-6. The studies, which are identified below, were performed at SITEK Research Laboratories, Rockville, Maryland. The following information was obtained from incomplete draft reports.

L5178Y TK+/- Mouse Lymphoma Mutagenesis Assay: Bromine was evaluated for its potential to induce mutations at the thymidine kinase locus of L5178Y TK+/- mouse lymphoma cells both in the presence and absence of exogenous metabolic activation. Cultures treated with and without S-9 indicated a positive dose-dependent response. In the absence of activation, cultures exhibited mutant frequencies that were approximately two to four times greater than the average mutant frequency of the solvent control. In the presence of S-9, the cultures had mutant frequencies that were greater than two times that of the solvent control.

The results of the assays performed with bromine indicate that under the test conditions, bromine produced a positive dose-dependent result in cultures treated either in the absence or presence of S-9.

Salmonella typhimurium/Escherichia coli Plate Incorporation Mutation Assay: Bromine was evaluated for its potential to cause mutations at the histidine operon of Salmonella typhimurium strains TA98, TA100, TA1535, TA1537, and TA1538 and at the triptophan operon of Escherichia coli strain WP2uvrA. Two separate assays were performed with the five Salmonella typhimurium tester strains and the Escherichia coli strain. The

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Page Two

results of both mutation assays indicated that the test article induced a slightly positive increase in the number of revertant colonies for the tester strain TA1537 in the absence of Aroclor 1254-induced rat liver S-9. The increase was dose-dependent.

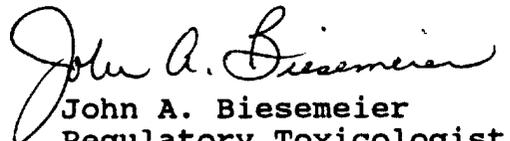
Under the conditions of this study bromine was determined to be positive in the Salmonella typhimurium/Escherichia coli Plate Incorporation Mutation Assay.

In Vivo Micronucleated Polychromatic Erythrocytes in Mouse Bone Marrow Cells: Bromine was tested for its potential to induce micronucleated polychromatic erythrocytes (MPCE) in the bone marrow cells of mice. There was no statistically significant increase in the number of MPCE in the bromine treated groups at 24, 48, or 72 hours post-dose administration when compared to the concurrent vehicle control groups.

The results of the assay indicated that, under the conditions of the test and according to the criteria set for evaluating the test results, bromine was found to be negative in the mouse micronucleus assay.

If you have any questions, please contact me at (317) 497-6223.

Sincerely,


John A. Bieseimer
Regulatory Toxicologist
Regulatory Affairs

JAB/clw



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

J. Biesemeier, Regulatory Toxicologist
Great Lakes Chemical Company
P.O. Box 2200
One Great Lakes Boulevard
West Lafayette, Indiana 47906

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MAR 15 1995

EPA acknowledges the receipt of information submitted by your organization under Section 8(e) of the Toxic Substances Control Act (TSCA). For your reference, copies of the first page(s) of your submission(s) are enclosed and display the TSCA §8(e) Document Control Number (e.g., 8EHQ-00-0000) assigned by EPA to your submission(s). Please cite the assigned 8(e) number when submitting follow-up or supplemental information and refer to the reverse side of this page for "EPA Information Requests".

All TSCA 8(e) submissions are placed in the public files unless confidentiality is claimed according to the procedures outlined in Part X of EPA's TSCA §8(e) policy statement (43 FR 11110, March 16, 1978). Confidential submissions received pursuant to the TSCA §8(e) Compliance Audit Program (CAP) should already contain information supporting confidentiality claims. This information is required and should be submitted if not done so previously. To substantiate claims, submit responses to the questions in the enclosure "Support Information for Confidentiality Claims". This same enclosure is used to support confidentiality claims for non-CAP submissions.

Please address any further correspondence with the Agency related to this TSCA 8(e) submission to:

Document Processing Center (7407)
Attn: TSCA Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Washington, D.C. 20460-0001

EPA looks forward to continued cooperation with your organization in its ongoing efforts to evaluate and manage potential risks posed by chemicals to health and the environment.

Sincerely,

Terry R. O'Bryan

Terry R. O'Bryan
Risk Analysis Branch

Enclosure

13207 A



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contains at least 50% recycled fiber

EPA INFORMATION REQUESTS

Submitter assigned #

Document ID: *PEHQ-94-13207*

(JAB-94-196)

EPA requests:

1. No additional information at this time.
2. Additional information or clarification on

3. A full copy of the final report ^P (including the actual experimental protocol, applicable results of gross or histopathologic examinations, data, results of any statistical analyses, etc.) from each study mentioned in your submission.
4. A description of all voluntary actions taken by your company in response to the findings indicated in your submission.
5. A complete copy of the current and/or revised Material Safety Data Sheets and labels for the following chemical(s) listed in your submission:

6.

Please direct questions regarding these requests to Mr. Terry O'Bryan (202-260-3483) or Mr. John Myers (202-260-3543) of the OPPT Risk Analysis Branch.

CECATS TRIAGE TRACKING DBASE ENTRY FORM

CECATS DATA: Submission # BEHQ: 0994-13207 SEQ: A

TYPE: (INT) SUPP FLWP

SUBMITTER NAME: Great Lakes Chemical Corporation

SUR. DATE: 09/19/94 09/27/94 CSRAD DATE: 11/16/94

CHEMICAL NAME: _____

CAS# 7726-95-6

INFORMATION REQUESTED: FLWP DATE: _____
 0501 NO INFO REQUESTED
 0502 INFO REQUESTED (TECH)
 0503 INFO REQUESTED (VOL ACTIONS)
 0504 INFO REQUESTED (REPORTING RATIONALE)
 DISPOSITION:
0539 REFER TO CHEMICAL SCREENING
 0678 CAP NOTICE

OPTIONAL ACTIONS:
 0401 NO ACTION REPORTED
 0402 STUDIES PLANNED (IN HUMAN)
 0403 NOTIFICATION IN WORKING ORDER
 0404 LABELING (HUMAN)
 0405 PROFESSIONAL (HUMAN)
 0406 APP/USE DISCONTINUED
 0407 PRODUCTION DISCONTINUED
 0408 CONFIDENTIAL

INFORMATION TYPE:	P F C	INFORMATION TYPE:	P F C	INFORMATION TYPE:	P F C
0201 ONCO (HUMAN)	01 02 04	0216 EPICLIN	01 02 04	0241 IMMUNO (ANIMAL)	01 02 04
0202 ONCO (ANIMAL)	01 02 04	0217 HUMAN EXPOS (PROD CONTAM)	01 02 04	0242 IMMUNO (HUMAN)	01 02 04
0203 CELL TRANS (IN VITRO)	01 02 04	0218 HUMAN EXPOS (ACCIDENTAL)	01 02 04	0243 CHEM/PHYS PROP	01 02 04
0204 MUTA (IN VITRO)	01 02 04	0219 HUMAN EXPOS (MONITORING)	01 02 04	0244 CLASTO (IN VITRO)	01 02 04
0205 MUTA (IN VIVO)	01 02 04	0220 BIOAQUA TOX	01 02 04	0245 CLASTO (ANIMAL)	01 02 04
0206 REPRO/TERATO (HUMAN)	01 02 04	0221 ENV. OCCUREL/FATE	01 02 04	0246 CLASTO (HUMAN)	01 02 04
0207 REPRO/TERATO (ANIMAL)	01 02 04	0222 EMER INCI OF ENV CONTAM	01 02 04	0247 DNA DAMAGE/REPAIR	01 02 04
0208 NEURO (HUMAN)	01 02 04	0223 RESPONSE REQEST DELAY	01 02 04	0248 PRODUCE/PROC	01 02 04
0209 NEURO (ANIMAL)	01 02 04	0224 PRODCOMP/CHEM ID	01 02 04	0251 MSDS	01 02 04
0210 ACUTE TOX. (HUMAN)	01 02 04	0225 REPORTING RATIONALE	01 02 04	0259 OTHER	01 02 04
0211 CHR. TOX. (HUMAN)	01 02 04	CONFIDENTIAL	01 02 04		
0212 ACUTE TOX. (ANIMAL)	01 02 04	0226 ALLERG (HUMAN)	01 02 04		
0213 SUB ACUTE TOX (ANIMAL)	01 02 04	0227 ALLERG (ANIMAL)	01 02 04		
0214 SUB CHRONIC TOX (ANIMAL)	01 02 04	0228 METAB/PHARMACO (ANIMAL)	01 02 04		
0215 CHRONIC TOX (ANIMAL)	01 02 04	0229 METAB/PHARMACO (HUMAN)	01 02 04		

TRIAL DATA: YES NON-CELL INVENTORY: YES ONGOING REVIEW: YES (DROP/REFER) NO (CONTINUE) REF:R
 SPECIES: In Vitro TOXICOLOGICAL CONCERN: LOW
MUS MED HIGH
 CAS SR: _____
 IN HUMAN: _____
 USE: _____
 PRODUCTION: _____

CLASSIFICATION: Non-Cap

6) 8EHQ-0994-13207: Rank - medium.

Chemical: bromine (CAS# 7726-5-6).

Letter from Great lakes Chemical Corp., West Lafayette IN, dated 19 September 1994: Positive ("slight") for gene mutations, with a dose response, in the Salmonella/Ames assay in strain TA1537 without but not with metabolic activation, negative in strains TA98, TA100, TA1535 and TA1538 without and with activation.

Negative for gene mutations in Escherichia coli strain WP2uvrA both without and with metabolic activation.

Positive for gene mutations, with dose responses, in L5178Y TK^{+/+} mouse lymphoma gene mutation assay in vitro both without and with activation.

Negative for chromosome mutations (micronuclei) in the bone marrow of mice exposed in vivo.