

8EHQ-0495-13420



RECEIVED

The Dow Chemical Company
Midland, Michigan 48674

2030 DOW CENTER
April 12, 1995

95 APR 17 PM 2:45

(A)

ORIGINAL



8EHQ-95-13420
INIT 04/17/95

CONTAINS NO CONFIDENTIAL
BUSINESS INFORMATION

Contains No CBI

CERTIFIED MAIL--RETURN RECEIPT
REQUESTED

Document Processing Center (TS-790)
Office of Toxic Substances
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460
Attn: 8(e) Coordinator



88950000204

Re: Glycolic Acid (a.k.a. Acetic Acid, hydroxy-)
CAS # 79-14-1

Dear Sir/Madam:

Although The Dow Chemical Company (Dow) is not a manufacturer, processor, or distributor of the test material, the following information is being submitted by Dow pursuant to current guidance issued by EPA indicating EPA's interpretation of Section 8(e) of the Toxic Substance Control Act. The information may be useful to EPA in the Agency review of information submitted previously which relates to ethylene glycol and related compounds. Glycolic Acid is known to be a metabolite of ethylene glycol. Dow has made no determination as to whether a significant risk of injury to health or the environment is actually presented by the findings presented here.

In an in vitro embryo culture study, rat embryos were removed from the uterus and allowed to develop in a culture medium. Embryos were removed on day 10.5 of gestation and were cultured for 46 hours in medium containing 0, 2.5, 12.5, 25.0, or 50.0 mmol/liter of ethylene glycol or glycolic acid. Ethylene glycol essentially had no effect on embryos. However, glycolic acid at a concentration of 12.5 mmol/liter inhibited embryo growth, protein content and developmental score. Also, 70% of the embryos directly exposed to 12.5 mmol/liter of glycolic acid exhibited structural abnormalities, mainly involving the craniofacial region. Higher concentrations caused embryo lethality. Embryo development was not affected by glycolic acid at 2.5 mmol/liter.

5/9/95

U.S. Environmental Protection Agency
April 12, 1995
Page 2

In the second phase of the experiment, 12.5 mmol/liter sodium glycolate at pH 7.4 caused similar effects as 12.5 mmol/liter glycolic acid as pH 6.7, suggesting that pH is not a major factor in glycolic acid toxicity. However, in vivo studies would be necessary to determine the importance of pH and other maternal physiological changes in causing developmental toxicity. The in vitro study presented here does not provide data sufficient to conduct a risk assessment.

No written report of these results is yet available.

Sincerely,



Paul A. Wright
Senior Attorney
Legal Department
517/636-1853

Triage of 8(e) Submissions

Date sent to triage: 2/5/96

NON-CAP

CAP

Submission number: 13420A

TSCA Inventory:

Y

N

D

Study type (circle appropriate):

Group 1 Dick Clements (1 copy total)

ECO

AQUATO

Group 2 - Ernie Falke (1 copy total)

ATOX

SBTOX

SEN

w/NEUR

Group 3 - Elizabeth Margosches (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; PLEASE REFILE AFTER TRIAGE DATABASE ENTRY

For Contractor Use Only

entire document: **0** 1 2 pages 1-2 pages 1-2

Notes:

Contractor reviewer: JEA Date: 5/22/95

ECATS DATA
 Revision of SEHO: 0495 -13420 SEQ: A
 TYPE: INT-SLIPP FLWP

INITIATOR NAME: Dow Chemical
Compass

JOB DATE: 04/12/95 ORG DATE: 04/17/95 GRAD DATE: 05/02/95

1) Glycolic Acid
Ethylene glycol

79-14-1
 107-21-1 (ethylene glycol)
 Glycolic acid is a metabolite of EG

INFORMATION REQUESTED: FLWP DATE:
 0001 NO INFO REQUESTED
 0002 INFO REQUESTED (TEC'D)
 0003 INFO REQUESTED (VOL ACTIONS)
 0004 INFO REQUESTED (REPORTING NATIONALS)
 0005 REFER TO CHEMICAL SCREENING
 0006 CAP NOTICE

UNCLASSIFIED ACTIONS:
 0001 NOT A TRIM RI PRIORITY
 0002 STRIKE PLANNING (SINCE 0001)
 0003 INTERVENTION IN WORK RELATIONS
 0004 LABOR PAINS (SIAM) S
 0005 PROSECUTING (SIAM) S
 0006 APF ASE DISCONTINUED
 0007 PRODUCTION DISCONTINUED
 0008 CONFIDENTIAL

INFORMATION TITLE	P.L.C.	INFORMATION TITLE	P.L.C.
0201 ONCO (HUMAN)	01 02 04	0216 BRCLIN	01 02 04
0202 ONCO (ANIMAL)	01 02 04	0217 HUMAN EXPOS (PROD CONTACT)	01 02 04
0203 CELL TRANS (IN VITRO)	01 02 04	0218 HUMAN EXPOS (ACCIDENTAL)	01 02 04
0204 MUTA (IN VITRO)	01 02 04	0219 HUMAN EXPOS (PROTOTYPING)	01 02 04
0205 MUTA (IN VIVO)	01 02 04	0220 BOWENIA TOX	01 02 04
0206 REPROVIBRATO (HUMAN)	01 02 04	0221 ENV. OCCURRENCE/FAIR	01 02 04
0207 REPROVIBRATO (ANIMAL)	01 02 04	0222 BAYER INC OF ENV CONTACT	01 02 04
0208 NEURO (HUMAN)	01 02 04	0223 RESPONSE REPORT DELAY	01 02 04
0209 NEURO (ANIMAL)	01 02 04	0224 PRODOXOPHIM ID	01 02 04
0210 ACUTE TOX. (HUMAN)	01 02 04	0225 REPORTING NATIONALS	01 02 04
0211 CHR. TOX. (HUMAN)	01 02 04	0226 CONFIDENTIAL	01 02 04
0212 ACUTE TOX. (ANIMAL)	01 02 04	0227 ALLERG (HUMAN)	01 02 04
0213 SUB ACUTE TOX (ANIMAL)	01 02 04	0228 ALLERG (ANIMAL)	01 02 04
0214 SUB CHRONIC TOX (ANIMAL)	01 02 04	0229 METABOLISM (ANIMAL)	01 02 04
0215 CHRONIC TOX (ANIMAL)	01 02 04	0230 METABOLISM (HUMAN)	01 02 04

INFORMATION TITLE	P.L.C.	INFORMATION TITLE	P.L.C.
0201 BAILING (ANIMAL)	01 02 04	0201 BAILING (ANIMAL)	01 02 04
0202 BAILING (HUMAN)	01 02 04	0202 BAILING (HUMAN)	01 02 04
0203 CHEMISTS PROP	01 02 04	0203 CHEMISTS PROP	01 02 04
0204 CLASTO (IN VITRO)	01 02 04	0204 CLASTO (IN VITRO)	01 02 04
0205 CLASTO (ANIMAL)	01 02 04	0205 CLASTO (ANIMAL)	01 02 04
0206 CLASTO (HUMAN)	01 02 04	0206 CLASTO (HUMAN)	01 02 04
0207 DNA DAMAGE/REP	01 02 04	0207 DNA DAMAGE/REP	01 02 04
0208 PRODUSE/PROC	01 02 04	0208 PRODUSE/PROC	01 02 04
0209 OTHER	01 02 04	0209 OTHER	01 02 04

NON-CAL INVENTORY
 YES (DROPPED)
 NO (CONTINUE)

TOXICOLOGICAL CONCERN
 HIGH
 LOW

USE: Ethylene Glycol
 PRODUCTION: Glycolic acid

CAS SR NO
 IN RANGE
 1110001
 In vitro embryo culture, develop.

colony formation vs. control
 no effect observed.
 at 12.5 mM/L incubated embryo growth, protein content. structural abnormalities in 70% of embryos. 25-50 mM/L lethality.

concentration range: (2.5, 12.5, 25, 50 mmol/L)