

8EHQ-0496-13616

8(e)



DuPont Central Research and Development



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8EHQ-96-13616
INIT 03/29/96

ORIGINAL

March 27, 1996

Express Mail - Return Receipt Requested

Document Processing Center (TS-790)
Attention: 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
401 M Street SW
Washington, D.C. 20460



88960000096

Dear 8(e) Coordinator:

Vanadium Hydroxide Oxide, CAS Number 30486-37-4,
(in the Presence of Aluminum Hydroxide)

Four aquatic toxicity studies were conducted using vanadium hydroxide oxide (in the presence of aluminum hydroxide). Using inductively-coupled, plasma-emission spectroscopy (ICP), the vanadium concentrations of test solutions were measured. Since aluminum can be toxic to aquatic species in some circumstances, it should be recognized that the sample tested also contained aluminum hydroxide. The results are described below based upon mean measured vanadium concentrations. Since aluminum was not measured, it may have played an undefined role in the observed toxicity.

Fed Daphnid Acute: A 48-hour, static, acute study was conducted using Daphnia magna which were fed two green-algae species, Selenastrum capricornutum and Ankistrodesmus falcatus, immediately prior to study start. The 48-hour, effective concentration (EC50) was 0.824 mg/L with a 95% fiducial limit of 0.256 to 1.59 mg/L.

Algal Acute: A 96-hour, static, acute study was conducted using Selenastrum capricornutum. The 96-hour EC50 was 0.656 mg/L with a 95% confidence interval of 0.448 to 0.924 mg/L.

Contains No CBI

KS
8/5/96

RECEIVED
EPT/NCIC
55 APR 18 AM 8:44

Fathead Minnow Chronic: A 42-day, early life-stage, flow-through, chronic study was conducted using fathead minnows, Pimephales promelas. The most sensitive biological parameter was fry survival at 42 days. The no-observable, effect concentration (NOEC) was 0.102 mg/L, the maximum-acceptable, toxicant concentration (MATC) was 0.146 mg/L, and the lowest-observed, effect concentration (LOEC) was 0.209 mg/L.

Daphnid Chronic: A 21-day, static-renewal, chronic study was conducted using Daphnia magna. The most sensitive biological parameters were reproduction and the length of first generation adults. The NOEC was 0.091 mg/L, the MATC was 0.134 mg/L, and the LOEC was 0.197 mg/L.

Under these experimental conditions, the above data would appear to be reportable under TSCA Sect. 8(e) criteria.

Sincerely,



Charles F. Reinhardt, M.D.
Director

CFR/KBP:dj
Phone: (302)366-5285

Triage of 8(e) Submissions

Date sent to triage: 11-22-96

NON-CAP

CAP

Submission number: 13616A

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 DATA: Submission # BEHQ 0496-13616 SEQ. A

TYPE: SUPP FLWP
 SUBMITTER NAME: Dupont Central Research And Development

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

VOLUNTARY ACTIONS:
 0400 ACTION REPORTED
 0402 STUDIES PLANNED/INITIATED
 0403 NOTIFICATION OF WORK RESUMED
 0404 LABELS/MSDS (CHANGE)
 0405 PROCESS/HANDLING (CHANGE)
 0406 APP USE DISCONTINUED
 0407 PRODUCTION DISCONTINUED
 0408 CONFIDENTIAL

SUB. DATE: 03/27/96 OTS DATE: 03/29/96 CSRAD DATE: 08/05/96

CHEMICAL NAME: Vanadium Hydroxide Oxide
Ammonium hydroxide
 CAS# 30486-37-4
21645-51-2

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 ECO/AQUA 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 DAM/REPAIR	01 02 04
0208 NEURO (HUMAN)	01 02 04	0223 RESPONSE REQEST DELAY	01 02 04	0248 PROD/USE/PROC	01 02 04
0209 NEURO (ANIMAL)	01 02 04	0224 PRO/COMP/CHEM ID	01 02 04	0251 MSDS	01 02 04
0210 ACUTE TOX. (HUMAN)	01 02 04	0225 REPORTING RATIONALE	01 02 04	0299 OTHER	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 METAB/PHARMACO (ANIMAL)	01 02 04		
0215 CHRONIC TOX (ANIMAL)	01 02 04	0240 METAB/PHARMACO (HUMAN)	01 02 04		

TRIAGE DATA: NON-CBI INVENTORY YES NO IN TRAINING

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

SPECIES: Daphnia Algae FISH

TOXICOLOGICAL CONCERN: LOW MED HIGH

USE: _____ PRODUCTION: _____

UNSPICED

Tox Concern

ID
13616A

H

ECO
AQUATO

COMMENT

AQUATIC TOXICITY TO THE FATHEAD MINNOW, *P. PROMELAS*, IS OF HIGH CONCERN WITH A 42 DAY MATC OF 0.1460 MG/L. THE NOEC=0.102 MG/L AND THE LOEC=0.209 MG/L. (FLOW-THROUGH, ALUMINUM HYDROXIDE)

AQUATIC TOXICITY TO THE GREEN ALGA, *S. CAPRICORNUTUM*, IS OF HIGH CONCERN WITH A 96 HOUR EC50 OF 0.6560 MG/L. (STATIC, ALUMINUM HYDROXIDE)

AQUATIC TOXICITY TO *DAPHNIA MAGNA* IS OF HIGH CONCERN WITH A 48 HOUR EC50 OF 0.8240 MG/L. (STATIC, ALUMINUM HYDROXIDE)

AQUATIC TOXICITY TO *DAPHNIA MAGNA* IS OF HIGH CONCERN WITH A 21 DAY MATC OF 0.1340 MG/L. THE NOEC=0.091 MG/L AND THE LOEC=0.197 MG/L. (STATIC-RENEWAL, ALUMINUM HYDROXIDE).