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October 15, 1992

Document Processing Center (TS-790)
Office of Pollution Prevention and Toxics
Environmental Protection Agency
401 M Street., S.W.
Washington, D.C. 20460
Attn: Section 8(e) Coordinator (CAP Agreement)

8ECAP

Dear Coordinator:

8ECAP-0025

On behalf of the Regulatee and pursuant to Unit II B.1.b. and Unit II C of the 6/28/91 CAP Agreement, E.I. Du Pont de Nemours and Co. hereby submits (*in triplicate*) the attached studies. Submission of this information is voluntary and is occasioned by unilateral changes in EPA's standard as to what EPA now considers as reportable information. Regulatee's submission of information is made solely in response to the new EPA §8(e) reporting standards and is not an admission: (1) of TSCA violation or liability; (2) that Regulatee's activities with the study compounds reasonably support a conclusion of substantial health or environmental risk or (3) that the studies themselves reasonably support a conclusion of substantial health or environmental risk.

The "Reporting Guide" creates new TSCA 8(e) reporting criteria which were not previously announced by EPA in its 1978 Statement of Interpretation and Enforcement Policy, 43 Fed Reg 11110 (March 16, 1978). The "Reporting Guide states criteria which expands upon and conflicts with the 1978 Statement of Interpretation. Absent amendment of the Statement of Interpretation, the informal issuance of the "Reporting Guide" raises significant due processes issues and clouds the appropriate reporting standard by which regulated persons can assure TSCA Section 8(e) compliance.

For Regulatee,

Mark H. Christman
Counsel
Legal D-7158
1007 Market Street
Wilmington, DE 19898
(302) 774-6443

3/23/95

ATTACHMENT 1

Submission of information is made under the 6/28/91 CAP Agreement, Unit II. This submission is made voluntarily and is occasioned by recent changes in EPA's TSCA §8(e) reporting standard; such changes made, for the first time in 1991 and 1992 without prior notice and in violation of Regulatee's constitutional due process rights. Regulatee's submission of information under this changed standard is not a waiver of its due process rights; an admission of TSCA violation or liability, or an admission that Regulatee's activities with the study compounds reasonably support a conclusion of substantial risk to health or to the environment. Regulatee has historically relied in good faith upon the 1978 Statement of Interpretation and Enforcement Policy criteria for determining whether study information is reportable under TSCA §8(e), 43 Fed Reg 11110 (March 16, 1978). EPA has not, to date, amended this Statement of Interpretation.

After CAP registration, EPA provided the Regulatee the June 1, 1991 "TSCA Section 8(e) Reporting Guide". This "Guide" has been further amended by EPA, EPA letter, April 10, 1992. EPA has not indicated that the "Reporting Guide" or the April 1992 amendment supersedes the 1978 Statement of Interpretation. The "Reporting Guide" and April 1992 amendment substantively lowers the Statement of Interpretation's TSCA §8(e) reporting standard². This is particularly troublesome as the "Reporting Guide" states criteria, applied retroactively, which expands upon and conflicts with the Statement of Interpretation.³ Absent amendment of the Statement of Interpretation, the informal issuance of the "Reporting Guide" and the April 1992 amendment clouds the appropriate standard by which regulated persons must assess information for purposes of TSCA §8(e).

²In sharp contrast to the Agency's 1977 and 1978 actions to soliciting public comment on the proposed and final §8(e) Policy, EPA has unilaterally pronounced §8(e) substantive reporting criteria in the 1991 Section 8(e) Guide without public notice and comment. See 42 Fed Reg 45362 (9/9/77), "Notification of Substantial Risk under Section 8(e): Proposed Guidance".

³A comparison of the 1978 Statement of Interpretation and the 1992 "Reporting Guide" is appended.

Throughout the CAP, EPA has mischaracterized the 1991 guidance as reflecting "longstanding" EPA policy concerning the standards by which toxicity information should be reviewed for purposes of §8(e) compliance. Regulatee recognizes that experience with the 1978 Statement of Interpretation may cause a review of its criteri. Regulatee supports and has no objection to the Agency's amending reporting criteria *provided that* such amendment is not applied to the regulated community in an unfair way. However, with the unilateral announcement of the CAP under the auspices of an OCM enforcement proceeding, EPA has wrought a terrific unfairness since much of the criteria EPA has espoused in the June 1991 Reporting Guide and in the Agency's April 2, 1992 amendment is new criteria which does not exist in the 1978 Statement of Interpretation and Enforcement Policy.

The following examples of new criteria contained in the "Reporting Guide" that is not contained in the Statement of Interpretation follow:

- o even though EPA expressly disclaims each "status report" as being preliminary evaluations that should not be regarded as final EPA policy or intent⁴, the "Reporting Guide" gives the "status reports" great weight as "sound and adequate basis" from which to determine mandatory reporting obligations. ("Guide" at page 20).
- o the "Reporting Guide" contains a matrix that establishes new numerical reporting "cutoff" concentrations for acute lethality information ("Guide" at p. 31). Neither this matrix nor the cutoff values therein are contained in the Statement of Interpretation. The regulated community was not made aware of these cutoff values prior to issuance of the "Reporting Guide" in June, 1991.
- o the "Reporting Guide" states new specific definitional criteria with which the Agency, for the first time, defines as 'distinguishable neurotoxicological effects'; such criteria/guidance not expressed in the 1978 Statement of Interpretation.⁵;
- o the "Reporting Guide" provides new review/ reporting criteria for irritation and sensitization studies; such criteria not previously found in the 1978 Statement of Interpretation/Enforcement Policy.
- o the "Reporting Guide" publicizes certain EPA Q/A criteria issued to the Monsanto Co. in 1989 which are not in the Statement of Interpretation; have never been published in the Federal Register or distributed by the EPA to the Regulatee. Such Q/A establishes new reporting criteria not previously found in the 1978 Statement of Interpretation/Enforcement Policy.

⁴The 'status reports' address the significance, if any, of particular information reported to the Agency, rather than stating EPA's interpretation of §8(e) reporting criteria. In the infrequent instances in which the status reports contain discussion of reportability, the analysis is invariably quite limited, without substantial supporting scientific or legal rationale.

⁵ See, e.g., 10/2/91 letter from Du Pont to EPA regarding the definition of 'serious and prolonged effects' as this term may relate to transient anesthetic effects observed at lethal levels; 10/1/91 letter from the American Petroleum Institute to EPA regarding clarification of the Reporting Guide criteria.

In discharging its responsibilities, an administrative agency must give the regulated community fair and adequate warning to as what constitutes noncompliance for which penalties may be assessed.

Among the myriad applications of the due process clause is the fundamental principle that statutes and regulations which purport to govern conduct must give an adequate warning of what they command or forbid.... Even a regulation which governs purely economic or commercial activities, if its violation can engender penalties, must be so framed as to provide a constitutionally adequate warning to those whose activities are governed.

Diebold, Inc. v. Marshall, 585 F.2d 1327, 1335-36 (D.C. Cir. 1978). See also, Rollins Environmental Services (NJ) Inc. v. U.S. Environmental Protection Agency, 937 F. 2d 649 (D.C. Cir. 1991).

While neither the are rules, This principle has been applied to hold that agency 'clarification', such as the Statement of Interpretation, the "Reporting Guide" nor the April 1992 amendments will not applied retroactively.

...a federal court will not retroactively apply an unforeseeable interpretation of an administrative regulation to the detriment of a regulated party on the theory that the post hoc interpretation asserted by the Agency is generally consistent with the policies underlying the Agency's regulatory program, when the semantic meaning of the regulations, as previously drafted and construed by the appropriate agency, does not support the interpretation which that agency urges upon the court.

Standard Oil Co. v. Federal Energy Administration, 453 F. Supp. 203, 240 (N.D. Ohio 1978), aff'd sub nom. Standard Oil Co. v. Department of Energy, 596 F.2d 1029 (Em. App. 1978):

The 1978 Statement of Interpretation does not provide adequate notice of, and indeed conflicts with, the Agency's current position at §8(e) requires reporting of all 'positive' toxicological findings without regard to an assessment of their relevance to human health. In accordance with the statute, EPA's 1978 Statement of Interpretation requires the regulated community to use scientific judgment to evaluate the significance of toxicological findings and to determining whether they reasonably support a conclusion of a substantial risk. Part V of the Statement of Interpretation urges persons to consider "the fact or probability" of an effect's occurrence. Similarly, the 1978 Statement of Interpretation stresses that an animal study is reportable only when "it contains reliable evidence ascribing the effect to the chemical." 43 Fed Reg. at 11112. Moreover, EPA's Statement of Interpretation defines the substantiality of risk as a function of both the seriousness of the effect and the probability of its occurrence. 43 Fed Reg 11110 (1978). Earlier Agency interpretation also emphasized the "substantial" nature of a §8(e) determination. See 42 Fed Reg 45362, 45363

(1977). [Section 8(e) findings require "extraordinary exposure to a chemical substance...which critically imperil human health or the environment"].

The recently issued "Reporting Guide" and April 1992 Amendment guidance requires reporting beyond and inconsistent with that required by the Statement of Interpretation. Given the statute and the Statement of Interpretation's explicit focus on substantial human or environmental risk, whether a substance poses a "substantial risk" of injury requires the application of scientific judgment to the available data on a case-by-case basis.

If an overall weight-of-evidence analysis indicates that this classification is unwarranted, reporting should be unnecessary under §8(e) because the available data will not "reasonably support the conclusion" that the chemical presents a substantial risk of serious adverse consequences to human health.

Neither the legislative history of §8(e) nor the plain meaning of the statute support EPA's recent lowering of the reporting threshold that TSCA §8(e) was intended to be a sweeping information gathering mechanism. In introducing the new version of the toxic substances legislation, Representative Eckhart included for the record discussion of the specific changes from the version of H. R. 10318 reported by the Consumer Protection and Finance Subcommittee in December 1975. One of these changes was to modify the standard for reporting under §8(e). The standard in the House version was changed from "causes or contributes to an unreasonable risk" to "causes or significantly contributes to a substantial risk". This particular change was one of several made in TSCA §8 to avoid placing an undue burden on the regulated community. The final changes to focus the scope of Section 8(e) were made in the version reported by the Conference Committee.

The word "substantial" means "considerable in importance, value, degree, amount or extent". Therefore, as generally understood, a "substantial risk" is one which will affect a considerable number of people or portion of the environment, will cause serious injury and is based on reasonably sound scientific analysis or data. Support for the interpretation can be found in a similar provision in the Consumer Product Safety Act. Section 15 of the CPSA defines a "substantial product hazard" to be:

"a product defect which because of the pattern of defect, the number of defective products distributed in commerce, the severity of the risk, or otherwise, creates a substantial risk of injury to the public."

Similarly, EPA has interpreted the word 'substantial' as a quantitative measurement. Thus, a 'substantial risk' is a risk that can be quantified, *See*, 56 Fed Reg 32292, 32297 (7/15/91). Finally, since information pertinent to the exposure of humans or the environment to chemical substances or mixtures may be obtained by EPA through Sections 8(a) and 8(d) regardless of the degree of potential risk, §8(e) has specialized function. Consequently, information subject to §8(e) reporting should be of a type which would lead a reasonable man to conclude that some type action was required immediately to prevent injury to health or the environment.

Attachment

Comparison:

Reporting triggers found in the 1978 "Statement of Interpretation/ Enforcement Policy", 43 Fed Reg 11110 (3/16/78) and the June 1991 *Section 8(e) Guide*.

<u>TEST TYPE</u>	<u>1978 POLICY CRITERIA EXIST?</u>	<u>New 1991 GUIDE CRITERIA EXIST?</u>
ACUTE LETHALITY		
Oral	N}	Y}
Dermal	N}	Y}
Inhalation (Vapors)	} ⁶	} ⁷
aerosol	N}	Y}
dusts/ particles	N}	Y}
SKIN IRRITATION	N	Y ⁸
SKIN SENSITIZATION (ANIMALS)	N	Y ⁹
EYE IRRITATION	N	Y ¹⁰
SUBCHRONIC (ORAL/DERMAL/INHALATION)	N	Y ¹¹
REPRODUCTION STUDY	N	Y ¹²
DEVELOPMENTAL TOX	Y ¹³	Y ¹⁴

⁶43 Fed Reg at 11114, comment 14:

"This policy statements directs the reporting of specific effects when unknown to the Administrator. Many routine tests are based on a knowledge of toxicity associated with a chemical. Unknown effects occurring during such a range test may have to be reported if they are those of concern to the Agency and if the information meets the criteria set forth in Parts V and VII."

⁷Guide at pp.22, 29-31.

⁸Guide at pp-34-36.

⁹Guide at pp-34-36.

¹⁰Guide at pp-34-36.

¹¹Guide at pp-22; 36-37.

¹²Guide at pp-22

¹³43 Fed Reg at 11112

"Birth Defects" listed.

¹⁴Guide at pp-22

NEUROTOXICITY	N	Y ¹⁵
CARCINOGENICITY	Y ¹⁶	Y ¹⁷
MUTAGENICITY		
<i>In Vitro</i>	Y ¹⁸	Y ¹⁹
<i>In Vivo</i>	Y}	Y}
ENVIRONMENTAL		
Bioaccumulation	Y}	N
Bioconcentration	Y} ²⁰	N
Oct/water Part. Coeff.	Y}	N
Acute Fish	N	N
Acute Daphnia	N	N
Subchronic Fish	N	N
Subchronic Daphnia	N	N
Chronic Fish	N	N
AVIAN		
Acute	N	N
Reproductive	N	N
Reproductive	N	N

¹⁵Guide at pp-23; 33-34.

¹⁶43 Fed Reg at 11112
"Cancer" listed

¹⁷Guide at pp-21.

¹⁸43 Fed Reg at 11112; 11115 at Comment 15

"Mutagenicity" listed/ *in vivo* vs *invitro* discussed; discussion of "Ames test".

¹⁹Guide at pp-23.

²⁰43 Fed Reg at 11112; 11115 at Comment 16.

CAS: 15520-10-2

Chem: 2-methyl-1,5-pentanediamine

Title: Inhalation One Hour Median Lethal Concentration (LC50) in Rats

Summary of Effects: one hour LC50 was 2.9 mg/L for male rats; 4.1 mg/L for female rats.

2a

Study Title

Inhalation One-Hour Median Lethal Concentration (LC50)
of Dytek®A Amine in Rats by IMDG Protocol

Author

David P. Kelly

Study Completed On

8/21/88

Performing Laboratory

E. I. du Pont de Nemours and Company, Inc.
Haskell Laboratory for Toxicology and Industrial Medicine
Elkton Road, P. O. Box 50
Newark, Delaware 19714

Medical Research No.

8210-001

Laboratory Project ID

Haskell Laboratory Report No. 265-38

GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT

This study was conducted according to EPA Good Laboratory Practice Regulations (40 CFR 160). Any areas of noncompliance are documented in the study records. No deviations existed that significantly affected the validity of the study.

Submitter: E. I. du Pont de Nemours and Company, Inc.

Sponsor: Petrochemicals Department
E. I. du Pont de Nemours and Company, Inc.
Wilmington, Delaware

Study Director:


8 116 188
David P. Kelly
Toxicologist
Acute and Developmental Toxicology Division

GENERAL INFORMATION

Material Tested: 1,5-Pentanediamine, 2-methyl-

Medical Research No.: 8210-001

Haskell No.: 16,930

Physical Form: Clear liquid

Purity: 99.5%

Composition: 99.5% 2-Methyl-1,5-pentanediamine
0.2% Methyltetrahydropyridine
0.1% Methylcyclopentanediamine
0.2% Not accounted for

Synonyms: Dytek®A Amine
2-methylpentamethylenediamine
MPMD
2-methyl-1,5-diaminopentane

Other Codes: PD-LS-DIST

CAS Registry Numbers: 15520-10-2

Stability: The test material was expected to be stable throughout the exposure phase of the study.

In Life Phase
Initiated - Completed 12/28/87 - 1/14/88

GENERAL INFORMATION (cont.)

Notebook: E-54748, pp. 1-98.

Sponsor: Petrochemicals Department
E. I. du Pont de Nemours and Company, Inc.
Wilmington, Delaware

Material Submitted By: Frank E. Herkes
Petrochemicals Department
E. I. du Pont de Nemours and Company, Inc.
Pontchartrain Works, Louisiana

There are 11 pages in this report.

Distribution: J. C. Olguin (1)
F. Herkes (1)
N. C. Chromey/D. P. Kelly (1)
T. A. Kegelman/R. T. Turner (1)

Inhalation One-Hour Median Lethal Concentration (LC50)
of Dytek®A Amine in Rats by IMDG Protocol

SUMMARY

Five groups of 5 male and 5 female Cr1:CD®BR rats were exposed, nose-only, to atmospheres of Dytek®A Amine for a single, one-hour period. Mixed aerosol/vapor test atmospheres were generated by vaporizing the liquid and were characterized by gas chromatography and particle size analysis. After exposure, rats were weighed and observed for clinical signs of toxicity during a 14-day recovery period.

Under the conditions of this test, the one-hour LC50 of Dytek®A Amine was 2.9 mg/L for male rats (no confidence limits), and 4.1 mg/L for female rats (95% confidence limits of 1.8 and 11 mg/L). In the IMDG Code, Dytek®A Amine falls into Packaging Group III which is for substances presenting a relatively low risk of poisoning (one-hour LC50 between 2.0 and 10 mg/L).

Work by: Thomas Kegelman
Thomas A. Kegelman
Technician

Robert T. Turner
Robert T. Turner
Technician

Study Director: David P. Kelly
David P. Kelly
Toxicologist

Approved by: Nancy C. Cromey
Nancy C. Cromey, Ph.D.
Manager
Acute and Developmental Toxicology Division

Reviewed and Approved for Issue: David P. Kelly 8/22/88
David P. Kelly
Toxicologist
Study Director

DPK:alr:HLR103.7

QUALITY ASSURANCE DOCUMENTATION

STUDY: MR 8210-001
H# 16,930

Inhalation One-Hour Median Lethal Concentration (LC50)
of Dytek®A Amine in Rats by IMDG Protocol

Because short-term studies are numerous and routine in nature, representative studies from this test type are audited quarterly to ensure the studies are designed and conducted in compliance with the Good Laboratory Practice Standards.

Reported by: W. Troy Baxter 8-16-88
W. Troy Baxter Date
Quality Assurance Auditor

INTRODUCTION

The purpose of this study was to determine the one-hour L₀₅₀ in male and female rats exposed to Dytek®A Amine and, using this data, to determine the packing classification by the International Maritime Dangerous Goods (IMDG) Code. The IMDG Code packaging group criteria are defined in the IMDG Code, Volume IV, Class 6.1 - Poisons, Amendment No. 21-83, pages 6005 to 6006-3 and are based on the inhalation median lethal concentration (LC₅₀¹) for the test material following one-hour exposure in rats. An LC₅₀ is defined as the calculated atmospheric concentration of test material which is expected to be lethal to 50% of exposed animals either on the day of exposure or within 14 days post exposure.

MATERIALS AND METHODS

A. Animal Husbandry

Young adult male and female CrI:CD®BR rats were obtained from Charles River Breeding Laboratories, Kingston, New York. Each rat was assigned a unique 6-digit identification number which corresponded to a numbered card affixed to the cage. Rats were quarantined for one week prior to testing, and were weighed and observed twice during the quarantine period. During the test, rats were housed either individually or in pairs (sexes separate) in 8" x 14" x 8" suspended, stainless steel, wire-mesh cages. The rat assigned the lower number in each cage was identified by a slash in the right ear. Prior to exposure, rat tails and cage cards were color-coded with water-insoluble markers so that individual rats could be identified after exposure. Except during exposure, Purina Certified Rodent Chow® #5002 and water were available ad libitum.

Animal rooms were maintained on a timer-controlled, 12 hour/12 hour light/dark cycle. Environmental conditions of the rooms were targeted for a temperature of 23 ± 2°C and a relative humidity of 50 ± 10%. Excursions outside these ranges were judged to have been of insufficient magnitude and/or duration to have adversely affected the validity of the study.

B. Exposure Protocol

Five groups of 5 male and 5 female rats, 8-10 week-old were used in this study. Male rats weighed 231-288 g and female rats weighed 196-244 g at study initiation. Rats were individually restrained in perforated, stainless steel cylinders with conical nose pieces. The restrainers were inserted into the face plate of a 38-L glass exposure chamber such that

1. LC₅₀ calculated by the method of Finney, D. J., Probit Analysis, 3rd Edition, Cambridge University Press (1971).

only the nose of each rat protruded into the chamber. Each group was exposed nose-only for a single, one-hour period to an aerosol/vapor atmosphere of Dytek®A Amine in air. Rats were observed for clinical signs of toxicity during exposure if possible, and upon release from the restrainers after exposure. During the 14-day recovery period, surviving rats were weighed and observed daily for the first 7 days after exposure and daily except on weekends during the second 7 days after exposure.

C. Atmosphere Generation

Atmospheres of Dytek®A Amine were generated by pumping the liquid test material into an Instatherm® Flask heated to 187-228°C. The liquid was metered with a Harvard® Model 975 Compact Infusion Pump. Nitrogen introduced at the flask swept the vapors of Dytek®A Amine into a glass transfer tube. Dilution air was added in the transfer tube where an aerosol/vapor mixture was formed. The vapor/aerosol mixture then discharged directly into a 38-liter cylindrical glass exposure chamber and was dispersed with a baffle to promote uniform chamber distribution. In order to attain a higher chamber concentration in the last exposure, 2 syringes and 2 Instatherm® flasks were used to increase the vaporization capacity. Chamber concentrations of Dytek®A Amine were controlled by varying the test material feed rates into the flask. Chamber atmospheres were exhausted through a dry ice cold trap and an MSA cartridge filter prior to discharge into a fume hood.

D. Analytical

The atmospheric concentration of Dytek®A Amine was monitored at approximately 15-minute intervals during each exposure. Known volumes of chamber atmosphere were drawn through two tandem glass midget impingers which contained methanol as a trapping solvent. Impinger samples were analyzed in duplicate with a Hewlett-Packard 5730A gas chromatograph equipped with a flame ionization detector. Samples were chromatographed isothermally at 110°C on a 5 m x 0.53 mm fused silica megabore column coated (1.2 um film thickness) with methyl silicone gum. The atmospheric concentration of Dytek®A Amine was determined by comparing the detector response of samples with standard curves. Standards were prepared prior to each exposure by quantitatively diluting the test material in methanol.

Aerodynamic particle size (mass median aerodynamic diameter and percent particles less than 10 um diameter) was determined with a Sierra Series 210 cascade impactor during each exposure.² Chamber temperature

2. Calculation described in Sierra Instruments, Inc., Bulletin 7-79-219IM, Instruction Manual: Series 210 Ambient Cascade Impactors and Cyclone Preseparators.

was measured with a mercury thermometer, oxygen concentration was measured with a Biosystems Model 3100R oxygen monitor, and relative humidity was measured with a Bendix Model 566 psychrometer.

E. Records Retention

All raw data and the final report will be stored in the archives of Haskell Laboratory for Toxicology and Industrial Medicine, Newark, Delaware, or in the Du Pont Records Management Center, E. I. du Pont de Nemours and Company, Inc., Wilmington, Delaware.

RESULTS

A. Exposure Conditions and Mortality

An aerosol was observed in the chamber during the exposures with mean concentrations of 1.7 mg/L and higher. Chamber temperature ranged from 23-25°C, relative humidity ranged from 28-70%, and chamber oxygen concentration was 21%. The atmospheric concentrations of Dytek®A Amine and rat mortality data for each exposure are summarized in Table 1.

Table 1

Dytek®A Amine Concentration (mg/L)			MMD(um) ^b	% <10 um ^c	Mortality (#deaths/#exposed)	
Mean ^a	S.D.	Range			Males	Females
0.37	0.22	0.068 - 0.53	3.4	95	1/5	0/5
1.7	0.41	1.3 - 2.2	4.2	89	3/5	1/5
2.5	0.63	1.8 - 3.4	3.8	84	1/5	2/5
6.6	1.2	6.2 - 8.1	3.8	90	2/5	2/5
10	0.74	9.5 - 11	3.1	94	5/5	5/5

a Values shown represent the mean, standard deviation (S.D.), and range based on four samples taken during each exposure.

b Mass median aerodynamic diameter.

c Percent by weight of particles with aerodynamic diameter less than 10 um.

B. Clinical Observations

Two male rats and one female rat in the 10 mg/L exposure group died during exposure. All other rats in this group died within 48 hours of exposure. Deaths occurred at lower exposure concentrations at various times during the 14-day recovery period (deaths occurred on recovery days

1, 2, 3, 4, 7, 10, 12, and 14). There was no clear dose-related trend seen with respect to when the deaths occurred.

During exposure, rats in the 1.7 and 2.5 mg/L exposure groups showed red nasal discharge. In addition, rats in the 2.5 mg/L group showed a decreased response to sound. Rats in the 6.6 and 10 mg/L groups could not be seen during exposure, therefore it was not possible to note clinical signs during exposure. Immediately after being released from their restrainers, rats in the 0.37 and 1.7 mg/L exposure groups showed red nasal and ocular discharges, a clinical sign that is common for rats under restraint. Upon release from their restrainers, rats that were exposed to concentrations of 2.5 mg/L and higher showed red ocular, nasal, or oral discharges, labored breathing, and gasping. In addition, rats in the 10 mg/L exposure group showed hunched posture.

During the 14-day recovery period, the only clinical sign of toxicity observed in the rats exposed to 0.37 mg/L was slight to severe weight loss*, which occurred over one to three days. Numerous clinical signs of toxicity were observed in both male and female rats exposed to 1.7 mg/L and higher concentrations, but there was no clear dose-response trend seen among these exposure groups. Common clinical signs observed in rats exposed to higher concentrations included slight to severe weight loss, red-ocular, -nasal, or -oral discharge; wet urine- or feces-stained perineum, diarrhea, high carriage, hunched posture, lung noise, labored breathing, and gasping.

CONCLUSION

Under the conditions of this test, the one-hour LC50 of Dytek®A Amine was 2.9 mg/L for male rats (no confidence limits), and 4.1 mg/L for female rats (95% confidence limits of 1.8 and 11 mg/L). In the IMDG Code, Dytek®A Amine falls into Packaging Group III which is for substances presenting a relatively low risk of poisoning (one-hour LC50 between 2.0 and 10 mg/L).

* Weight-loss classes are defined as: Slight - < 10 grams, Moderate - 10 to 20 grams, Severe - > 20 grams.

Triage of 8(e) Submissions

Date sent to triage: _____

NON-CAP

CAP

Submission number: 13132A

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, 1st tab pages 1, All tabs

Notes:

Contractor reviewer : JEA Date: 5/22/95

CECATS/TRIAGE TRACKING DBASE ENTRY FORM

CECATS DATA: Submission # 8EHO-1192-13132 SEQ. A

TYPE INT. SUPP FLWP
 SUBMITTER NAME: F. I. Dupont
de Nemours and

SUB. DATE: 10/15/92 OTS DATE: 11/02/92 CSRAD DATE: 03/22/95

CHEMICAL NAME: Dytek A Amine
Methyl tetrahydropyridine
Methyl cyclopentane diamine
Misc Chemicals

CAS# 155 20-10-2
 none
 P F C

- OPTIONARY ACTIONS:
 0401 NO ACTION REQUIRED
 0402 STUDIES PLANNED IN HWAY
 0403 NOTIFICATION OF WORK IN PROGRESS
 0404 LABELS/MSDS CHANGES
 0405 PROCESSING/LOADING CHANGES
 0406 APP. USE DISCONTINUED
 0407 PRODUCTION DISCONTINUED
 0408 CONFIDENTIAL

- INFORMATION REQUESTED: FLWP DATE:
 0501 NO INFO REQUESTED
 0502 INFO REQUESTED (TECH)
 0503 INFO REQUESTED (VOL. ACTIONS)
 0504 INFO REQUESTED (REPORTING RATIONALE)
 DISPOSITION:
 0679 REFER TO CHEMICAL SCREENING
 0678 CAP NOTICE

INFORMATION TYPE:	P F C	INFORMATION TYPE:	P F C
0201 ONCO (HUMAN)	01 02 04	0216 EPICLIN	01 02 04
0202 ONCO (ANIMAL)	01 02 04	0217 HUMAN EXPOS (PROD CONTAM)	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 (MONITORING)	01 02 04
0205 MUTA (IN VIVO)	01 02 04	0220 ECO/AQUA TOX	01 02 04
0206 REPRO/TERATO (HUMAN)	01 02 04	0221 ENV. OCCUREL/FATE	01 02 04
0207 REPRO/TERATO (ANIMAL)	01 02 04	0222 EMER INCI OF ENV CONTAM	01 02 04
0208 NEURO (HUMAN)	01 02 04	0223 RESPONSE REQUEST DELAY	01 02 04
0209 NEURO (ANIMAL)	01 02 04	0224 PROD/COMP/CHEM ID	01 02 04
0210 ACUTE TOX. (HUMAN)	01 02 04	0225 REPORTING RATIONALE	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: YES NON-CBI INVENTORY
 Ongoing Review: YES (DROP/REFER) NO (CONTINUE) REF-R
 SPECIES: RAT TOXICOLOGICAL CONCERN: LOW Acute Inhalation Toxicity
 USE: Acute Inhalation Toxicity
 MED HIGH
 CAS SR NO (IN TRAINING)
 PRODUCTION:

13132A

~~low~~ m

medium

Acute inhalation toxicity is of ~~low~~ concern based on a calculated 1-hour LC_{50} of 2.9 g/m^3 for male rats, and 4.1 g/m^3 for females. Combined mortality and corresponding doses (g/m^3) were 1/10 (0.37), 4/10 (1.7), 3/10 (2.5), 4/10 (6.6) and 10/10 (10). Clinical signs included decreased response to sound (2.5), breathing abnormalities (≥ 2.5), and hunched posture (10).