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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)



Dear Coordinator:

8ECAP-0025

88920010893

On behalf of the Regulatee and pursuant to Unit II B.1.b. and Unit II C of the 6/28/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 information¹. 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.

For Regulatee,

Mark H. Christman
Counsel
Legal D-7158
1007 Market Street
Wilmington, DE 19898
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¹For several of the old studies, submission is made because the words "ataxia" or "tremor" appear in the study report and do not represent a determination that the information reasonably supports a conclusion of substantial risk.

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 criteria. 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 *in vitro* discussed; discussion of "Ames test".

¹⁹Guide at pp-23.

²⁰43 Fed Reg at 11112; 11115 at Comment 16.

CAS #: 306-83-2

Chem:G-123

Title: LC 50 of G123 in rats

Date: 10/4/76

Summary of Effects: anesthesia; convulsions

**LC50 OF G123 IN RATS
FINAL REPORT**

Submitted to

**Allied Chemical Company
Morristown, New Jersey**

October 4, 1976



HAZLETON LABORATORIES AMERICA, INC.
2300 Leesburg Turnpike • Vienna, Virginia 22180 • U.S.A.



HAZLETON LABORATORIES AMERICA, INC.

SPONSOR: Allied Chemical Company

DATE:

MATERIAL: G123

SUBJECT: FINAL REPORT
LC50 of G123 in Rats
Project No. M165-162

I. INTRODUCTION

The objective of this study was to determine the acute (six-hour) LC50 of G123.

II. MATERIALS AND METHODS

A. Animal Groups

A total of 70 male albino rats (Charles River COBS), initially weighing between 233 and 349 grams, were exposed in groups of 10 to various concentrations of G123. An eighth group (designated as Group 8) of 10 rats was exposed to filtered room air for six hours and served as Controls.

The following Table presents the nominal concentrations of G123 for each exposure group.

<u>Group No.</u>	<u>No. Rats</u>	<u>Nominal Concentration of G123 mg/l</u>	<u>Duration of Exposure</u>
1	10	766.67	20 minutes
2	10	600.42	24 minutes
3	10	261.42	6 hours
4	10	236.00	6 hours
5	10	234.17	6 hours
6	10	144.72	6 hours
7	10	48.61	6 hours



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B. Exposure Conditions

All exposures were conducted under dynamic conditions in 100-liter glass and stainless steel inhalation chambers. The test material for Groups 1 through 7 was generated by means of a glass nebulizer (refluxing type with internal impactor). Because the test material for these groups was a neat formulation, the varying nominal concentrations for Groups 1 through 7 were achieved by varying the ratio of nebulizer airflow rates and the accessory airflow rates through the chamber, keeping the total flow at 9-10 liters/minute. Airflow for Group 8 (controls) was 10 liters/minute.

All groups remained in the chamber for one hour after termination of the exposure with house air flowing through the chamber at 10 liters/minute.

The nebulizers were pre-weighed after charging and post-weighed after each generation period. The loss of weight divided by the total airflow during each exposure gave the nominal aerosol concentration for that exposure.

All rats were group-housed in stainless steel mesh cages on one level during each exposure.

C. Observations

The rats were observed continuously during exposures and signs of toxicity recorded for onset and intensity. Time of death was noted during and for one hour after exposure. During a 14-day period following exposure the survivors were observed once daily to record delayed mortality.



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D. LC50 Determination

The LC50 of G123 was estimated by the method of Litchfield and Wilcoxon (1) from the percentage of rats at each concentration (Groups 1 + 7) which died during the exposure.

E. Body Weights

Each animal was weighed just prior to exposure and on Days 8 and 15 of the post-exposure observation period. The Day 15 weight was taken after fasting.

F. Gross Pathology

All animals that died during the exposure were necropsied. At the termination of the 14-day post-exposure observation period all surviving animals were sacrificed and necropsied and the following tissues removed and fixed in 10% neutral buffered formalin for possible future histologic examination:

lungs	stomach
heart	small and large intestine
liver	pancreas
kidney	gonad
adrenal	eye
brain	bladder
spleen	thyroid

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III. RESULTS

A. LC50

1. Mortality - The following table presents the mortality data for each group exposed:

<u>Group No.</u>	<u>G123 mg/l</u>	<u>No. Exposed</u>	<u>No. Dead at 6 Hours</u>
1	766.67	10	10
2	660.42	10	10
3	261.42	10	4
4	236.00	10	1
5	234.17	10	2
6	144.72	10	0
7	48.61	10	0
8	-----	10	0

No rats died after the exposure period.

2. LC50

Based on the mortality ratios for Groups 2-6 at six hours of exposure, the estimated LC50 of G123 was 329 mg/liter with 95% confidence limits of 263 and 411 mg/liter.

5.267%
50,000
ppm

3. Toxic Signs

All animals in Groups 1 through 7 became inactive immediately after initiation of exposure with animals in Groups 1 through 6 appearing anesthetized shortly thereafter.



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Mild convulsions were noted in several rats of Group 6 at three hours of exposure. Animals in Groups 4 and 5 displayed shallow breathing at one hour of exposure.

B. Body Weights

Table 1 presents the group mean body weights and standard deviations for each group at Day 1 (day of exposure) and Days 8 and 15. Weight gains were in the range expected for this species. The weight loss from Day 8 to Day 15 was attributable to pre-sacrifice overnight fasting.



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Table - 1

Mean Body Weights +S.D. for Rats
Exposed to G123

<u>Group No.</u>	<u>No. Animals</u>	<u>Day</u>	<u>Mean Weight</u>	<u>+S.D.</u>
1	10	1	259	27
	0	8	---	--
	0	15	---	--
2	10	1	307	19
	0	8	---	--
	0	15	---	--
3	10	1	303	28
	6	8	342	17
	6	15	322	14
4	10	1	310	14
	9	8	324	11
	9	15	314	7
5	10	1	337	9
	8	8	*	*
	8	15	384	18
6	10	1	337	7
	10	8	379	13
	10	15	399	16
7	10	1	316	23
	10	8	354	27
	10	15	380	30
8 (Controls)	10	1	286	29
	10	8	289	34
	10	15	292	36

* No valid data obtained.



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C. Gross Pathology

Gross observations at necropsy of the Group 1 animals included discolored lungs in six animals, discoloration of the liver in five animals and an unusually firm pancreas in five animals. One animal had a severely pitted kidney and the lungs of one animal did not deflate completely when the chest cavity was opened.

Necropsy observations of the Group 2 animals included discolored lungs (nine animals), discoloration of the liver (three animals), and a discolored thymus (four animals). Focal discolorations of the small intestines were seen in four animals and three animals had pitted kidneys. The lungs of four rats did not collapse fully when the chest cavities were opened.

No gross lesions were observed in five of the six surviving Group 3 rats. The sixth rat had focal discolorations of the lungs.

All four animals that died in Group 3 had discolored lungs and three rats had a discolored thymus. The left ventricle of the hearts of two animals was pale. Two animals had dark cervical lymph nodes and one animal had a discoloration of the small intestine. A reddish fluid was observed in the nasal passages of one rat.

Eight of the nine surviving animals of Group 4 had no gross lesions. The ninth rat had dark cervical lymph nodes. The single Group 4 rat that died during exposure had discolored lungs.



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Five Group 5 rats, out of eight which survived the exposure, had no gross lesions. The livers of two animals were discolored; the lungs of one of these animals were also discolored. Dark focal discolorations were noted on the lungs of another rat. The tissues of one of the two animals in Group 5 that died during exposure were dark. The same animal had an unusually firm liver. The lungs of the second animal did not collapse and were discolored; the liver was focally discolored.

All of Group 6 animals survived the exposure to G123; six animals had no gross lesions when necropsied. Four animals had discolored lungs and one animal had a small area of consolidation in one lobe of the lung.

No gross lesions were observed in eight of the ten Group 7 animals. The kidneys of one rat were pale with reddened medullas. This animal's liver was also discolored. A second rat had focal discolorations of the lungs along with pale kidneys.

One Group 8 rat exhibited a pitted kidney with fluid filled pockets in the medulla and cortex and focal discolorations on all lobes of the lung. No gross lesions were observed in the other nine rats.



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IV. CONCLUSIONS

G123 when administered to rats via inhalation is an acutely toxic compound with a six-hour LC50 of approximately 329 mg/liter of air.

Submitted by

W. B. Coate

WILLIAM B. COATE, Ph.D.

Director

Inhalation Toxicology Department

Report Preparation: Gleason

Supervision: Hardy & Krutz

:ew



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V. REFERENCE

1. Litchfield, J.T. and Wilcoxon, F.: A simplified method of evaluating dose-effect experiments. *J. Pharm. Exp. Therap.*, 96, 99-113, 1949.