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October 16, 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)

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

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2/17/95

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

¹⁹Guide at pp-23.

²⁰43 Fed Reg at 11112; 11115 at Comment 16.

CAS # See below in mixture

Chemical:

CAS No.

Substance 1

Hexamethyl diisocyanate ✓

822-06-0 ✓

Mixture 2

VM&P naphtha

8032-32-4 ✓

Ethyl acetate ✓

141-78-6 ✓

2-Ethoxyethyl acetate ✓

111-15-9 ✓

4-Dodecyloxy-2-hydroxy benzophenone ✓

2985-59-3 ✓

Dibutyl tin dilaurate

77-58-7 ✓

Acrylic resin

none

Silicone

none

Toluene

108-88-3 ✓

Mixture 3

Ethyl acetate

141-78-6 ✓

2-ethoxyethyl acetate

111-15-9 ✓

Xylene

1330-20-7 ✓

Poly(hexamethylene diisocyanate)

28182-81-2 ✓

Title: Primary Skin Irritation and Sensitization Tests on Guinea Pigs

Date: 11-11-1977

Summary of Effects: Skin sensitization

E. I. du Pont de Nemours and Company
Haskell Laboratory for Toxicology and Industrial Medicine

HASKELL LABORATORY REPORT NO. 917-77 MR NO. 2338-003

Materials Tested ^Δ	Haskell No.	Samples Ready For Testing	Other Codes	Material Submitted by
1) Isocyanic acid, hexa-methylene ester (HDI)	1) 11,466	7-29-77	1) Mondur HX; CO20-3-00-1	E. E. Swain, Fabrics & Finishes Department, B-5266
2) Imron® Clear 500S	2) 11,467		2) None	
3) Activator VG-Y-259	3) 11,468		3) Imron® Activator 192-S	

PRIMARY SKIN IRRITATION AND SENSITIZATION TESTS ON GUINEA PIGS

Procedure: The test for primary irritation was conducted by applying, and lightly rubbing in, 1 drop (≈ 0.05 ml) each of a 0.1% and 0.01% solution (vol/vol) of HDI in acetone on the shaved intact shoulder skin of 10 male albino guinea pigs.^Δ To test for the sensitization potential, a series of four sacral intradermal injections was given, one each week over a three-week period, which consisted of 0.1 ml of a 1% solution (vol/vol) of test material in dimethyl phthalate. Following a two-week rest period, the test animals were challenged for sensitization by applying, and lightly rubbing in, 1 drop (≈ 0.05 ml) each of a 0.1%, 0.05%, 0.01% and 0.005% solution (vol/vol) of HDI in acetone on the shaved intact shoulder skin. A group of 10 previously unexposed guinea pigs received similar applications at the time of challenge to provide a direct comparison of the challenge reactions on skin of similar age. After a two week rest period, the test animals were rechallenged by applying and lightly rubbing in one drop of a 0.5% and 0.1% solution of HDI and a 50% and 25% solution of Imron® clear 500S/Activator VG-Y-259 (75%/25%) in acetone. (These solutions were freshly mixed just prior to testing). A group of ten new control guinea pigs were treated in the same fashion.

^Δ Previous Haskell Reports No. 9-61 and 95-77 indicated mild irritation observed at 0.5% concentration in acetone.

Results:

Reactions* on Intact Guinea Pig Skin

	Test Areas		Control Areas for Challenge Test	
	(10 Animals - In. Avg. Wt. = 489 g 1st Chall. Avg. Wt. = 713 g 2nd Chall. Avg. Wt. = 778 g)		(10 New Animals - 1st Chall. Avg. wt = 728 g 2nd Chall. Avg. Wt = 795 g)	
Concentration in Acetone	0.1%		0.01%	
Primary Irritation Test-24 Hours -48 Hours	1+, 9 neg. 10 neg.		10 neg. 10 neg.	
First Challenge Test-	0.1%	0.05%	0.01%	0.005%
24 Hours	5++, 5+ 8+, 2 neg.	10 neg.	10 neg.	1+, 9 neg. 10 neg. 10 neg.
Sensitization Response Ratio**	5/10	0/10	0/10	0/10
Second Challenge Test-	50% 25% H-11467-68 H-11467-68 H-11466 H-11466 75%/25% 75%/25%	0.5% 0.1% H-11467-68 H-11466 H-11466 H-11466 75%/25% 75%/25%	50% 25% H-11467-68 H-11467-68 H-11466 H-11466 75%/25% 75%/25%	0.5% 0.1% H-11466 H-11466 H-11466 H-11466 75%/25% 75%/25%
24 Hours	8+, 2 neg. 10 neg.	6++++, 5+, 5 neg. 2+++ , 1++ 1+	6+, 4 neg. 10 neg.	6+, 4 neg. 10 neg.
48 Hours	7+, 3 neg. 10 neg.	4++++, 5+, 5 neg. 3+++ , 2++ 1+	5+, 5 neg. 10 neg.	7+, 3 neg. 10 neg.
Sensitization Response Ratio**	0/10	8/10	0/10	0/10

* Reaction Code: +, ++, +++ = mild, moderate, strong erythema; ++++ = erythema plus edema; +++++ = necrosis

** Sensitization is defined as a significant score increase over the response expected from the same amount applied initially or on the concurrent controls.

Summary: Isocyanic acid, hexamethylene ester (HDI; H-11,466) caused slight to no irritation at 24 hours as a 0.1% acetone solution and no irritation at 48 hours. As a 0.01% solution no irritation was observed. Five of ten animals showed sensitization responses when challenged with a 0.1% acetone solution; 0.05%, 0.01% and 0.005% did not elicit a sensitization response. A rechallenge with a 0.5% acetone solution of HDI showed sensitization in 8/10 animals.

From these results it is clear that HDI is both a strong skin irritant and sensitizer. All contact with this material should be carefully avoided.

Activated Imron® Clear 500S [H-11,467 activated by mixing 3:1 with Activator VG-Y-259 (H-11,468)] at a 50% dilution with acetone caused mild irritation on half or more of both the sensitized and control groups of guinea pigs. No sensitization response was seen. The 25% acetone solution of activated Imron® Clear 500S caused neither irritation nor sensitization.

Thus, Imron® Clear 500S/Activator VG-Y-259 (75:25) is a mild to moderate skin irritant but would probably not be a sensitizer. However, good industrial hygiene practice would be to wash with soap and water in the event of any skin contact.

† Composition by %:

1) Assumed 100%

2) 2.8%	VM & P Naphtha
16	Ethyl acetate
44.2	Cellulosolve acetate
0.63	4-Dodecyl-oxy-2-hydroxy-benzophenone
0.004	Dibutyl tin dilaurate
30.9	Acrylic resin
.024	Silicone
5.4	Toluene
	<hr/>
100	

3) 56.3	Ethyl acetate
5.5	Cellulosolve acetate
5.5	Xylene
32.82	Desmodur N

Report by: James D. Taylor
James D. Taylor
Toxicologist

Approved by: Raymond W. Morrow
Raymond W. Morrow
Chief, Dermal and Ocular Toxicology Section

N.B. No. E-14698, p. 128

JDT:ms

Report No. 917-77

Issue Date: November 11, 1977

Triage of 8(e) Submissions

Date sent to triage: _____

NON-CAP

CAP

Submission number: 12407A

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

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entire document: 0 1 2 pages <u>1,9</u>	pages _____
Notes:	
Contractor reviewer : <u>JW</u>	Date: <u>1/17/96</u>

CECATS/TRIAGE TRACKING DBASE ENTRY FORM

CECATS DATA: Submission # BEHQ 1092 - 12407 SEQ#

TYPE (INT, SUPP, FLWP)

SUBMITTER NAME: F. I. Dupont de Nemours and Company

INFORMATION REQUESTED: FLWP DATE:
 0501 NO INFO REQUESTED
 0502 INFO REQUESTED (TECH)
 0503 INFO REQUESTED (VOL ACTIONS)
 0504 INFO REQUESTED (REPORTING RATIONALE)

DISPOSITION:
 0629 REFER TO CHEMICAL SCREENING
 0678 CAP NOTICE

SUB. DATE: 10/16/92 OTS DATE: 10/27/92 CSRAD DATE: 02/17/95

CHEMICAL NAME: See Attached - CASE 822-06-0

- VOLUNTARY ACTIONS:
 0401 NO ACTION REPORTED
 0402 STUDIES PLANNED/IN PROGRESS
 0403 NOTIFICATION OF WORKERS
 0404 LABELING/CHANGES
 0405 PROCESSING/CHANGES
 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 ECO/AQUA TOX	01 02 04	0245 CLASTO (ANIMAL)	01 02 04
0206 REPRO/TERATO (HUMAN)	01 02 04	0221 ENV. OCCUR/REL/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 REQUEST DELAY	01 02 04	0248 PROD/USE/PROC	01 02 04
0209 NEURO (ANIMAL)	01 02 04	0224 PROD/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	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		

TRIAZE DATA: NON-CBI INVENTORY YES (circled) NO

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

SPECIES GP

TOXICOLOGICAL CONCERN: LOW MED HIGH

USE: PRODUCTION:

UNCLASSIFIED

Behg - 1092-12407

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CAS # See below in mixture

Chemical:

	<u>CAS No.</u>
Substance 1	
1. Hexamethyl diisocyanate	822-06-0 ✓
Mixture 2	
2. VM&P naphtha	8032-32-4 ✓
3. Ethyl acetate	141-78-6 ✓
4. 2-Ethoxyethyl acetate	111-15-9 ✓
5. 4-Dodecyloxy-2-hydroxy benzophenone ✓	2985-59-3 ✓
6. Dibutyl tin dilaurate	77-58-7 ✓
7. Acrylic resin	none
8. Silicone	none
9. Toluene	108-88-3 ✓
Mixture 3	
10. Ethyl acetate	141-78-6 ✓
11. 2-ethoxyethyl acetate	111-15-9 ✓
12. Xylene	1330-20-7 ✓
13. Poly(hexamethylene diisocyanate)	28182-81-2 ✓

Title: Primary Skin Irritation and Sensitization Tests on Guinea Pigs

Date: 11-11-1977

Summary of Effects: Skin sensitization

“12407A-01”=“H”=“HEXAMETHYLENE ISOCYANIC ACID (HDI) (CAS NO.-000822-06-0) WAS TESTED FOR SENSITIZATION POTENTIAL IN 10 MALE ALBINO GUINEA PIGS. FOUR SACRAL INTRADERMAL INJECTIONS, ONCE WEEKLY OVER 3 WEEKS, OF 0.1 ML OF 1% V/V IN DIMETHYL PHTHALATE. CHALLENGE DOSES WERE 0.1%, 0.05%, 0.01%, AND 0.005% V/V IN ACETONE. A RE-CHALLENGE WAS PERFORMED USING DOSES OF 0.5% AND 0.1% V/V IN ACETONE. AT CHALLENGE, MILD TO MODERATE ERYTHEMA RESPONSES OCCURRED IN 10/10 AND 8/10 ANIMALS TREATED AT 0.1% AND 0.05%, RESPECTIVELY. THE SENSITIZATION RESPONSE WAS CALCULATED BY THE SUBMITTOR TO BE 50% AND 0% AT THE 0.1% AND 0.05% CONCENTRATIONS, RESPECTIVELY. FOLLOWING RE-CHALLENGE AT 0.5%, ALL ANIMALS EXHIBITED MILD TO STRONG ERYTHEMA AND EDEMA AT BOTH THE 24 AND 48 HOUR EXAMINATIONS. FOLLOWING RE-CHALLENGE AT 0.1%, MID ERYTHEMA OCCURRED IN 5/10 ANIMALS AT BOTH THE 24 AND 48 EXAMINATIONS. THE SUBMITTOR CALCULATED THE SENSITIZATION RESPONSE TO BE 80% AND 0% FOR THE 0.5% AND 0.1% RE-CHALLENGE DOSES, RESPECTIVELY.”

"12407A-02"="____"="IMRON CLEAR 500S, ACTIVATED WITH VG-Y-259 (75%/25% SOLUTION) (CAS NO.-UNKNOWN) WAS TESTED FOR SENSITIZATION POTENTIAL IN 10 MALE ALBINO GUINEA PIGS. FOUR SACRAL INTRADERMAL INJECTIONS, ONCE WEEKLY OVER 3 WEEKS, OF 0.1 ML OF 1% V/V IN DIMETHYL PHTHALATE. CHALLENGE DOSES WERE 0.1%, 0.05%, 0.01%, AND 0.005% V/V HEXAMETHYLENE ISOCYANIC ACID IN ACETONE. A RE-CHALLENGE WAS PERFORMED USING DOSES OF 50% AND 25% V/V IN ACETONE. FOLLOWING RE-CHALLENGE AT 50%, 8/10 AND 7/10 ANIMALS EXHIBITED MILD ERYTHEMA AT THE 24 AND 48 HOUR EXAMINATIONS, RESPECTIVELY. FOLLOWING RE-CHALLENGE WITH 25%, NO RESPONSES WERE SEEN AT THE 24 OR 48 HOUR OBSERVATION PERIOD. THE SUBMITTOR CALCULATED THE SENSITIZATION RESPONSE TO BE 0% FOR BOTH THE 25% AND 50% SOLUTION RE-CHALLENGE DOSES."

UNABLE to be determined: To show sensitization potential, animals need to be primed and, at a later date, challenged with Imron clear 500.