

CODING FORM FOR SRC INDEXING

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Contractor		
YOUNGER LABORATORIES		
[Hatched]		
Document Title		
INITIAL SUBMISSION: TOXICOLOGICAL INVESTIGATION OF: N, N, N', N' -TETRABUTYLHEXAMETHYLENE DIAMINE WITH COVER LETTER DATED 081392		
[Hatched]		
Chemical Category		
N, N, N', N' -TETRABUTYLHEXAMETHYLENE DIAMINE		

8(e)

CAP

(COMPLIANCE AUDIT PROGRAM)

TSCA CONFIDENTIAL BUSINESS INFORMATION

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4162

COMPANY SANITIZED

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CONTAINS NO CBI

ORIGINAL - PUBLIC FILE
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NOTE: Peter provides data entry in CBITS for the 8(e) CAP Documents.

"Contains NO CBI"

Monsanto

8EHQ-0892-9162

ENVIRONMENT, SAFETY & HEALTH

Monsanto Company
800 N. Lindbergh Boulevard
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Phone: (314) 694-1000

August 13, 1992



INIT 08/28/92

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Office of Toxic Substances
Environmental Protection Agency
401 M Street, SW
Washington, DC 20460



88920007490

Attention: Section 8(e) Coordinator (CAP Agreement)

This submission is pursuant to the TSCA Section 8(e) Compliance Audit Program and CAP Agreement #8ECAP-0036.

The information included herein is characterized as follows:

Chemical Identity - N,N,N',N'-TETRABUTYLHEXAMETHYLENE DIAMINE; CP 99341

Chemical CAS No. - 027090637

Information/Study Type - II,B,2,b/Acute Toxicity/Irritation Study

Information/Study Identification - Toxicological Investigation Of: N,N,N',N'
Tetrabutylhexamethylene
YO-75-165

Identification of Reportable Endpoint: MODERATELY TOXIC IN AN ACUTE ORAL
TOXICITY STUDY, MODERATELY TOXIC IN AN ACUTE DERMAL
TOXICITY STUDY

Previous TSCA 8(e) or PMN submissions, if any, for the reference chemical can be found in Appendix A.

It should be noted that this summary is not all inclusive. Therefore, it may not highlight all adverse effects that EPA may judge to meet TSCA 8(e) reportability. This submission/report does not contain confidential business information.

Sincerely,

J. R. Condray
Director, Regulatory Management
(314) 694-8883

YOUNGER LABORATORIES

CAS NO. 027090637

123 CLIFF CAVE ROAD SAINT LOUIS, MO., 63129

Toxicologic Investigation of: **N,N,N',N' TETRABUTYLHEXAMETHYLENE DIAMINE** To: **MONSANTO COMPANY**
 Lot Number **Sample # 2330** **St. Louis, Missouri**
 Project No. **Y-75-165** Date: **July 29th, 1975**

ACUTE ORAL TOXICITY Species **Sprague-Dawley Albino Rats**

LD₅₀ **380** Mg/Kg 95% Confidence Limits **330 - 430** Mg/Kg
 CONDITIONS **Single Oral Dose - 25% Solution in Corn Oil**

Dose	Dosage Mg/Kg	Avg. Initial Weight		Mortalities/Dosed			Time of Mortality
		Male	Female	Male	Female	Combined	
1	251	205	215	0/2	0/3	0/5	Several hours to six days, most in four days
2	316	215	235	1/3	0/2	1/5	
3	398	215	220	2/2	1/3	3/5	
4	501	220	220	2/3	1/2	3/5	
5	631	210	210	1/2	3/3	4/5	
6	794	215	215	3/3	2/2	5/5	

Signs of Intoxication **Reduced appetite and activity (three to nine days in survivors), increasing weakness, collapse, and death.**

Gross Autopsy Decedents **Hemorrhagic areas of the lungs, liver discoloration, and acute gastrointestinal inflammation.**

Survivors (14 Days) **Upper levels - Severe congestion of lungs.
 Lower levels - Viscera appeared normal.**

ACUTE DERMAL TOXICITY Species **New Zealand Albino Rabbits**

LD₅₀ **> 398** Mg/Kg 95% Confidence Limits **----** Mg/Kg Exposure **24 Hours**
 CONDITIONS **Applied Undiluted**

Dose	Dosage Mg/Kg	Initial Weight		Mortalities/Dosed			Time of Mortality
		Male	Female	Male	Female	Combined	
1	251	---	2.0	---	0/1	0/1	One day One day
2	398	2.0	---	0/1	---	0/1	
3	631	---	1.8	---	1/1	1/1	
4	1,000	1.8	---	1/1	---	1/1	
5							
6							

Signs of Intoxication **Reduced appetite and activity (two to five days in survivors), increasing weakness, collapse, and death.**

Gross Autopsy Decedents **Hemorrhagic areas of lungs, liver discoloration, enlarged gall bladder, darkened spleen, and gastrointestinal inflammation.**

Survivors (14 Days) **Viscera appeared normal.**

MCO 8059582

ACUTE EYE IRRITATION		Species New Zealand Albino Rabbits																
Irritation Score (24, 48, 72 Hour Avg.) 10.6		Classification Slight *						Exposure 24 Hours										
Dose and Conditions 0.1 ML. Applied Undiluted / F.H.S.A.		* F.H.S.A.: CLASSED as an Eye Irritant																
Hours	1	24		48		72		120		168								
STRUCTURE	CORNEA	IRIS	CONJUNCTIVAE	CORNEA	IRIS	CONJUNCTIVAE	CORNEA	IRIS	CONJUNCTIVAE	CORNEA	IRIS	CONJUNCTIVAE	CORNEA	IRIS	CONJUNCTIVAE			
Animal Number																		
1	0	0	8	0	0	14	0	0	10	0	0	8	0	0	6	0	0	0
2	0	0	8	0	0	14	0	0	10	0	0	4	0	0	0	0	0	0
3	0	0	10	0	0	14	0	0	12	0	0	8	0	0	6	0	0	0
4	0	0	10	0	0	14	0	0	10	0	0	8	0	0	4	0	0	0
5	0	0	8	0	0	12	0	0	10	0	0	8	0	0	6	0	0	0
6	0	0	10	0	0	14	0	0	12	0	0	10	0	0	6	0	0	0
Mean Score (X/110.0)	9.0		13.6		10.6		7.6		4.6		0.0							

Comments Immediate: Discomfort was slight
 10 Minutes: Slight to moderate erythema, copious discharge
 1 Hour: Slight to moderate erythema, copious discharge
 24 Hours: Moderate erythema, very slight to slight edema, copious discharge containing whitish exudate
 48 - 120 Hours: Gradual improvement
 168 Hours: All scored zero

PRIMARY SKIN IRRITATION		Species New Zealand Albino Rabbits													
Irritation Score (24, 72 Hour Avg.) CORROSIVE		Classification CORROSIVE *					Exposure: 24 Hours								
Dose and Conditions 0.5 ML. Applied Undiluted / F.H.S.A.		* F.H.S.A.: CLASSED as CORROSIVE													
Animal Number	HOUR SKIN	ERYTHEMA					EDEMA								
		4	24	48	72	168	4	24	48	72	168				
		I	A	I	A	I	A	I	A	I	A	I	A	I	A
1															
2															
3															
4															
5															
6															

Comments Loosening about edges of scab in seventeen to twenty-one days showing injury in depth.

INHALATION TOXICITY		Species			
Mortality		Initial sample	g	Chamber temperature ...	°C
Concentration	Mg/L	Recovered sample....	g	Chamber humidity	%
Exposure	Hrs	Condensed sample ...	g	Chamber volume	L
Sample temperature ...	°C	Vaporized sample....	g	Air flow rate	L/Min
Signs of Intoxication					
Gross Autopsy					
Decedents					
Survivors (Days)					

MCO 8059583

YOUNGER LABORATORIES

INCORPORATED
 123 CLIFF CAVE ROAD SAINT LOUIS, MO., 63129

Toxicologic Investigation of: **N,N,N',N' TETRABUTYLHEXAMETHYLENE DIAMINE** To: **MONSANTO COMPANY**
 Lot Number **Sample # 2330** **St. Louis, Missouri**
 Project No. **Y-75-165** Date: **July 29th, 1975**

ACUTE ORAL TOXICITY				Species		
LD50	Mg/Kg	95% Confidence Limits		Mg/Kg		
CONDITIONS						
Dosage Mg/Kg	Avg. Initial Weight Male Female		Male	Mortalities/Dosed Female Combined		Time of Mortality
1						
2						
3						
4						
5						
6						
Signs of Intoxication						
Gross Autopsy						
Decedents						
Survivors (Days)						

ACUTE DERMAL TOXICITY				Species		
LD50	Mg/Kg	95% Confidence Limits		Mg/Kg		Exposure
CONDITIONS						
Dosage Mg/Kg	Initial Weight Male Female		Male	Mortalities/Dosed Female Combined		Time of Mortality
1						
2						
3						
4						
5						
6						
Signs of Intoxication						
Gross Autopsy						
Decedents						
Survivors (Days)						
						MCO 8059584

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ACUTE EYE IRRITATION		Species	
Irritation Score (24, 48, 72 Hour Avg.)		Classification	
Dose and Conditions		Exposure	
Hours	1	24	48
72	120	168	
STRUCTURE	CORNEA	CONJUNCTIVAE	IRIS
Animal Number	CORNEA	CONJUNCTIVAE	IRIS
1			
2			
3			
4			
5			
6			
Mean Score (X/110.0)			

Comments

PRIMARY SKIN IRRITATION		Species New Zealand Albino Rabbits									
Irritation Score (24, 72 Hour Avg.)		Classification NOT CORROSIVE									
Dose and Conditions 0.5 Ml. Applied Undiluted / D.O.T.		Exposure: 4 Hours									
Animal Number	HOUR SKIN	ERYTHEMA					EDEMA				
		4	24	48	72	168	4	24	48	72	168
		I	A	I	A	I	A	I	A	I	A
1											
2											
3											
4											
5											
6											

Comments 4 Hours: Very slight to slight erythema and edema
 24 Hours: Slight to moderate erythema, slight edema
 48 - 120 Hours: Gradual improvement 168 Hours: All scored zero
 Slight defatting effect - skin flaked off in 7 to 10 days. There was no injury in depth.

INHALATION TOXICITY		Species	
Mortality		Initial sample	g
Concentration	Mg/L	Recovered sample....	g
Exposure	Hrs	Condensed sample ...	g
Sample temperature ...	°C	Vaporized sample....	g
Signs of Intoxication		Chamber temperature ...	°C
Gross Autopsy		Chamber humidity	%
Decedents		Chamber volume	L
Survivors (Days)		Air flow rate	L/Min

MCO 8059585

CERTIFICATE OF AUTHENTICITY

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