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Submitting Organization	MONSANTO CO		
Contractor	YOUNGER LABS INC		
Document Title	INITIAL SUBMISSION: TOXICOLOGICAL INVESTIGATION OF: CP 21645 WITH COVER LETTER DATED 082892		
Chemical Category	CP 21645		

8(e)

CAP

9306

(COMPLIANCE AUDIT PROGRAM)

TSCA CONFIDENTIAL BUSINESS INFORMATION

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

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Monsanto

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ENVIRONMENT, SAFETY & HEALTH

Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 694-1000
August 13, 1992



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Document Processing Center (TS-790)
Office of Toxic Substances
Environmental Protection Agency
401 M Street, SW
Washington, DC 20460



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 - ALPHA,ALPHA'-DICHLORO-P-XYLENE; CP 21645

Chemical CAS No. - 000623256

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

Information/Study Identification - Toxicological Investigation of: CP 21645 -- CDT Ni 53250
YO-71-160

Identification of Reportable Endpoint: 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

PROJECT NO:
REPORT FILE

Y-71-160

CAS NO 000623256

918

YOUNGER LABORATORIES

INCORPORATED

Consulting and Analytical Services

CHEMICAL . . . MICROBIOLOGICAL . . . BIOLOGICAL

128 CLIFF CAVE ROAD
SAINT LOUIS, MO., 63125

PHONE: (314) 846-2840

November 15th, 1971

Certificate of Analysis

SUBJECT - *DICHLORO-P-XYLENE*

Toxicological Investigation Of: CP 21645 -- CDT N1 53250

Monsanto Sample Number 160

Monsanto Project Number Y-71-160

STUDY CONDUCTED FOR -

Monsanto Company, St. Louis, Missouri

EXPERIMENTAL PROCEDURE -

A) Oral LD₅₀ (Rats, Mixed Sex)

The diluted compound was fed by stomach tube to Sprague-Dawley strain albino male and female rats.

After the approximate Minimum Lethal Dose was determined, groups of male and female rats were fed in increasing doses at increments of 0.1 fractional log intervals at four levels designed to blanket the toxicity range thereby supplying data for calculation of the LD₅₀ which was done according to the method of E. J. de Beer.

Observations were made for toxic signs and the viscera of the test animals were examined macroscopically.

The data, together with the dilution at which the compound was fed, are shown in Table I.

B) Acute Skin Absorption Minimal Lethal Dose (Rabbits, Mixed Sex)

The diluted compound was applied in increasing doses at increments of various fractional log intervals to the closely clipped, intact skin of New Zealand white male and female rabbits.

The treated areas were covered with plastic strips and the animals held in wooden stocks for periods up to twenty-four hours, after which time they were assigned to individual cages.

Observations were made for toxic signs and the viscera of the test animals were examined macroscopically.

The data, together with the dilution at which the compound was applied, are shown in Table II.

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EXPERIMENTAL PROCEDURE - (Continued)

C) Skin Irritation (Rabbits, Mixed Sex)

0.5 Gram of finely ground sample moistened with water was applied to the clipped, intact skin of New Zealand white male and female rabbits under a one inch by one inch square patch, two single layers thick. The patches were held in place with adhesive tape. The trunk of each animal was wrapped with plastic strips, to retard evaporation and avoid contamination, for the twenty-four hour exposure period.

Observations were made over a period of seven days for irritation.

The data, scored according to the method of Draize, Woodard and Calvery (Journal of Pharm. and Exp. Therapeutics, Volume 82, December, 1944) are shown in Table III.

D) Eye Irritation (Rabbits, Mixed Sex)

One Hundred (100 0) milligrams of finely ground sample were placed in the conjunctival sac of the right eye of each of three albino male and female rabbits and observations made over a period of seven days for inflammation.

The eyes were rinsed with warm isotonic saline solution after the twenty-four hour reading. The left eye served as a control.

The data, scored according to the method of Draize, et al, are shown in Table IV.

SUMMARY -

CP 21645 -- CDT Ni 53250

A) Oral LD₅₀ (Rats, Mixed Sex)

The Oral LD₅₀ for male and female rats was placed at 1280 milligrams per kilogram with lower and upper limits of 1170 to 1400 milligrams per kilogram.

The compound was classed as mildly toxic by oral ingestion in male and female rats.

B) Acute Skin Absorption Minimal Lethal Dose (Rabbits, Mixed Sex)

The Acute Skin Absorption Minimal Lethal Dose for male and female rabbits was found to be greater than 316 milligrams per kilogram and less than 501 milligrams per kilogram.

The compound was classed as moderately toxic by skin absorption in male and female rabbits.

C) Skin Irritation (Rabbits, Mixed Sex)

The compound was classed as non-irritating when applied as finely ground powder moistened with water to intact skin of male and female rabbits.

The average maximum score was 0.0 out of a possible 8 during the seven day observation period.

D) Eye Irritation (Rabbits, Mixed Sex)

The compound was classed as a mild eye irritant in male and female rabbits.

The average maximum score was 16.0 out of a possible 110 in twenty-four hours.

YOUNGER LABORATORIES, INC.


BY: MELVIN D. BIRCH

To: Monsanto Company
 St. Louis, Missouri
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T A B L E I

THE ORAL LD₅₀ OF 'CP 21645 -- CDT Ni 53250' FOR RATS

Sample Fed As A 10.0% Suspension In Corn Oil

<u>Animal No. - Sex</u>	<u>Weight Gm.</u>	<u>Dose Mg. / Kg.</u>	<u>Fate</u>
1- Female	240	794	Survived
2- Male	240	794	Survived
3- Female	225	794	Survived
4- Male	210	794	Survived
5- Female	230	794	Survived
6- Male	220	1000	Survived
7- Female	265	1000	Survived
8- Male	265	1000	Survived
9- Female	220	1000	Died
10- Male	275	1000	Survived
11- Female	220	1260	Died
12- Male	265	1260	Died
13- Female	255	1260	Died
14- Male	220	1260	Survived
15- Female	230	1260	Died
16- Male	225	1580	Died
17- Female	245	1580	Died
18- Male	220	1580	Died
19- Female	215	1580	Died
20- Male	260	1580	Died

DISCUSSION -

The Oral LD₅₀ for male and female rats was placed at 1280 milligrams per kilogram with lower and upper limits of 1170 to 1400 milligrams per kilogram.

The compound was classed as mildly toxic by oral ingestion in male and female rats.

Survival time was three to five days.

Toxic signs included reduced appetite and activity and lethargy (lasting three to seven days), diarrhea (lasting one to three days in survivors), increasing weakness, collapse, and death.

At autopsy there was lung hyperemia, liver discoloration (jaundiced), and gastrointestinal inflammation.

Surviving animals were sacrificed seven days after dosing. Macroscopic examination revealed lung congestion and slight liver discoloration.

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T A B L E II
THE ACUTE SKIN ABSORPTION MINIMAL LETHAL DOSE OF
'CP 21645 -- CDT Ni 53250' FOR RABBITS

Sample Applied As A 10.0% Suspension In Corn Oil

<u>Animal No. - Sex</u>	<u>Weight Kg.</u>	<u>Dose Mg. / Kg.</u>	<u>Weight Change 5 Days Later Kg.</u>	<u>Fate</u>
1 - Female	2.7	126	- 0.1	Survived
2 - Male	2.3	200	- 0.2	Survived
3 - Female	2.7	316	0.0	Survived
4 - Male	2.4	501	-----	Died -- 4 Days
5 - Female	2.4	794	- 0.3	Died - 12 Days
6 - Male	2.3	1260	-----	Died -- 3 Days
7 - Female	2.5	2000	- 0.6	Died -- 5 Days
8 - Male	2.0	7940	-----	Died - Overnight

DISCUSSION -

The Acute Skin Absorption Minimal Lethal Dose for male and female rabbits was found to be greater than 316 milligrams per kilogram and less than 501 milligrams per kilogram.

The compound was classed as moderately toxic by skin absorption in male and female rabbits.

Survival time was one to twelve days.

Toxic signs included reduced appetite and activity and slight lethargy (lasting three to seven days in survivors), increasing weakness, collapse, and death.

At autopsy there was liver discoloration (mottled), enlarged gall bladder, and gastrointestinal inflammation.

Surviving animals were sacrificed fourteen days after dosing. The viscera appeared normal by macroscopic examination.

Note: Animal #8: Some of the carrier oil and/or sample had contacted the scrotum; severe erythema and moderate to severe edema were noted.

Note: Sample had a defatting effect on the skin causing the skin to slough off in ten to fourteen days. There was no injury in depth.

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T A B L E I V
E Y E I R R I T A T I O N I N R A B B I T S A F T E R A P P L I C A T I O N O F
'CP 21645 -- CDF Ni 53250'

Sample (100.0 Milligrams) Applied As Finely Ground Powder

Animal No. - Sex	Numerical Evaluation At The End Of					
	1 Hour	24 Hours	48 Hours	72 Hours	120 Hours	168 Hours
1 - Male	14	16	10	4	0	0
2 - Female	14	16	12	4	0	0
3 - Male	14	16	12	4	0	0
Average	14.0	16.0	11.3	4.0	0.0	0.0

DISCUSSION -

The compound was classed as a mild eye irritant in male and female rabbits.
The average maximum score was 16.0 out of a possible 110 in twenty-four hours.

Observations following application -

- Immediate: Discomfort was mild, the eyes were closed
- 10-Minutes: Moderate erythema, slight edema, copious discharge
- 1-Hour: Severe erythema, moderate edema, copious discharge
- 24-Hours: Moderate erythema¹, moderate edema, copious discharge containing whitish exudate
- 48-Hours: Moderate erythema, very slight to slight edema, moderate discharge containing whitish exudate (slight)
- 72-Hours: Slight erythema, slight to moderate discharge; no edema
- 120-Hours: Eyes normal; zero readings
- 168-Hours: Eyes normal; zero readings

(1) Diffuse, deep-crimson red appearance of the conjunctivae, with individual vessels not easily discernable