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Doc Title	TOXICOLOGICAL PROPERTIES AND INDUSTRIAL HANDLING HAZARDS OF CYCLOPENTENE OXIDE WITH COVER LETTER			23
Chemical Name (300 per name)	ARYL PHOSPHATES		25	CAS No. (10)
			24	999822-75-7

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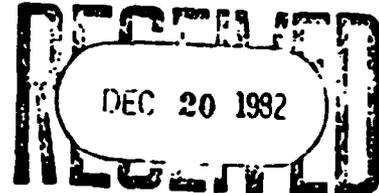


THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN 48640

December 9, 1982

Document Control Office
US Environmental Protection Agency
TSCA-8D1
P.O. Box 2060
Rockville, MD 20852



OPTS-84003A

Dear Sir or Madam:

As required by 40 CFR 716, we herewith submit copies of reports which meet the requirements of the referenced rule as Health and Safety Studies. As noted in the statement enclosed with the reports, some contain confidential business information.

The reports are separated into three categories for your convenience.

- Package 1. Reports which contain no Confidential Business Information.
- Package 2. Reports which contain Confidential Business Information.
- Package 3. Reports from which Confidential Business Information has been deleted. (Public File Copy of reports in Package 2).

Each report is marked with an identifying number at the top of the first page of the report, e.g., D-155. Use of this identification number in future correspondence regarding this submission will facilitate handling of questions.

In order to expedite the completion of our search and submission, no attempt was made to determine whether or not we manufactured or processed the chemicals which formed the subject of submitted reports. (40 CFR 716.6). Thus, submission of a report for any given material should not be construed as indicative of Dow's status as a manufacturer or processor of the material.

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Document Control Office
Page Two
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Many of the submitted reports contain information which is not relevant to Health or Safety Studies of listed chemicals, e.g., references to unlisted chemicals, marketing or process data, account numbers, internal document identification codes or distribution lists. Such information has been deleted from all copies submitted.

The index required by 40 CFR 716.6(b) is enclosed. It lists the Dow identification number and title of each report submitted in CAS number order. Please note that the index contains Dow Confidential Business Information.

We have also included a reprint of a recently published article dealing with methylene chloride.

Very truly yours,



Robert L. Hagerman
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87822166

OFFICE 301

THE DOW CHEMICAL COMPANY
BIOCHEMICAL RESEARCH LABORATORY

TOXICOLOGICAL PROPERTIES AND INDUSTRIAL HANDLING HAZARDS OF
CYCLOPENTENE OXIDE

PV

FILE	
K NO.	CHC.
REF.	
SOURCE	Solvents
SUB. BY	R. L. Daniel
REPT. BY	N. Litchfield-J. Morris
CHECKED BY	T. R. Torkelson
DATE	May 16, 1969

INFORMATIVE SUMMARY WITH CONCLUSIONS - BASED ON THE SAMPLE RECEIVED. ADDITIONAL INFORMATION INCLUDING THE EFFECTS OF REPEATED EXPOSURE MAY BE REQUIRED AS SPECIFIC USES AND FORMULATIONS ARE DEVELOPED OR IF PROCESS CHANGES OCCUR.

A sample of cyclopentene oxide was submitted to the Biochemical Research Laboratory for toxicological evaluation and definition of industrial handling hazards.

LAB COORD. LEFT AND REPORT IN

The test material has a low acute oral toxicity. The LD₅₀ for female rats is between 1 and 2 gm/kg body weight. The test material should present no problem of lethality from ingestion incidental to industrial handling.

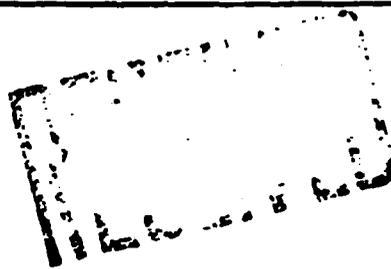
On direct contact with the eyes of a rabbit, the test material caused severe pain, slight conjunctival inflammation, moderate iritis and superficial corneal injury. On the 7th day post-exposure the eye appeared normal. Safety glasses with side shields are recommended for industrial handling whenever the likelihood of eye contact exists.

Repeated prolonged skin contact of the undiluted material with the inner surface of the rabbit ear resulted in no more than slight redness and slight exfoliation. Single, prolonged and confined contact with the shaved belly skin of a rabbit resulted in moderate skin redness, marked swelling and a deep burn. Healing occurred with the formation of black leathery crust which had not sloughed off by the end of the test period. The animal on this test did not display a normal body weight gain.

A patch test conducted on the shaved belly skin of a rabbit to determine the response of a brief, confined contact with the undiluted material resulted in slight skin redness, swelling and a burn in 5-10 minutes.

The test material as a 10% solution in Dowanol DPM produced only slight redness and slight exfoliation when applied to intact and abraded skin even on repeated, prolonged contact. The animals on this test did not display a normal body weight gain.

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Precautions should be taken during industrial handling to avoid skin contact with cyclopentene oxide.

Application of 0.5% (w/v) cyclopentene oxide in methyl chloroform to guinea pig skin in accordance with the prescribed procedure for guinea pig skin sensitization, resulted in a positive response on 3 animals out of the 10 on test.

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OFFICE OF TOXIC SUBSTANCES
CODING FORM FOR GLOBAL INDEXING

REV. 7/27/82

Microfiche No. (7) •	215172	1	No. of Pages	2
Doc I.D.	878221217	3	Old Doc I.D.	8DS
Case No. (s)	OTS 84003A II	5		
Date Produced (6)	06 10 33	6	Date Rec'd (6)	12 20 82
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Check One:	<input type="checkbox"/> Publication	<input type="checkbox"/> Internally Generated	<input checked="" type="checkbox"/> Externally Generated	9
Pub/Journal Name	_____			9
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MID No. (7)	_____	19	D & B NO. (11)	_____
Contractor	_____			21
Doc Type	• R.I.M.E. HEAD 8.D. SU HS FN			22
Doc Title	TOPICAL ACTION OF TRIPHENYLPHOSPHATE			23
Chemical Name (300 per name)	25		CAS No. (10)	24
ARYL PHOSPHATES			999800-00-7	
TRI-PHENYL PHOSPHATE			115-86-6	

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**Chemical Laboratory
THE LLOYD CHEMICAL COMPANY**

Subject THE TOPICAL ACTION OF TRIPHENYLPHOSPHATE

To From

**Rec'd
Feb 6-10-33
By E. H. Adams**

SUMMARY

Triphenylphosphate did not have significant action on the skin of the rabbit. It would not be expected to have a greater action on human skin.

EXPERIMENTAL

The dry powdered triphenylphosphate and a saturated solution in pure ethanol (approximately 75%) were tested on the shaven abdomen of rabbits. The dry powder was held in contact with the skin by means of a cloth bandage. Cotton pads were used to hold the alcoholic solutions; these also were held in place by a bandage.

The saturated alcoholic solution was applied to the shaven skin of a rabbit 13 times in a period of 16 days. Only a slight fine scale was produced.

When the skin was thoroughly abraded (until it bled), the alcoholic solution produced a denaturation of the skin in 24 hours. Alcohol alone doesn't denature the skin as the solution did.

The dry powder had no action upon normal skin. When applied to abraded skin, the powdered solid produced a redness until after the skin healed.

Triphenylphosphate would appear to have no significant action on the skin.

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CODING FORM FOR GLOBAL INDEXING

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Microfiche No. (7) •	215172	1	No. of Pages	2
Doc I.D.	878221218	3	Old Doc I.D.	8DS
Case No.(s)	OTS 84003A			5
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MID No. (7)		19	D & B NO. (11)	
Contractor				21
Doc Type	• RI • ME • HEAD 8D ... SU HS FN			22
Doc Title	ORAL TOXICITY OF CERTAIN PHENYL PHOSPHATES			23
Chemical Name (300 per name)			CAS No. (10)	24
ARYL PHOSPHATES			999800-05-7	
TRI-P-TERT. BUTYL PHENYL PHOSPHATE				

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2.

<u>Material Tested</u>	<u>Rabbit No.</u>	<u>Body Wt. Kg.</u>	<u>Dose cm./kg.</u>	<u>Observed Effect.</u>
Tri-p-tert. butyl phenyl phosphate	9	2.065	1.0	None

D. Effect of Varying Substituents on Phenol -

Tri-phenyl phosphate	4	2.95	3.0	Diarrhea
"	5	2.60	3.0	Slight Diarrhea
Tri o-cresyl phosphate	1	2.99	0.11	Very sick. Lost muscular control.
"	6	3.59	0.06	None
"	2	3.46	0.04	None

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3.

It is to be observed that no pathological studies were made on the animals that survived without observable toxic symptoms.

Respectfully submitted,

LR

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CERTIFICATE OF AUTHENTICITY

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Date processed June 4, 1985 [Signature]
(Month) (Day) (Year) Carroll O'Connell

Place Rockville Maryland
(City) (State)

