OFFICE OF TOXIC SUBSTANCES REV. 7/27/82

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RESULTS OF RANGE FINDING TOXICOLOGICAL TESTS ON 2 METHYL - 1,2-EPOXY PROPANE

Chemical Name (300 per name)	25	CAS No. (10)	24
ALKYL EPOXIDES		99999994	
2 METHYL - 1,2-EPOXY PROPANE		558-30-5	

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Biochemical Research [illegible]

The Dow Chemical [illegible]

RESULTS OF RANGE FINDING [illegible]
TESTS ON 2-METHYL-1,2-[illegible]

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Results of Range Finding
Toxicological Tests on
2-methyl-1,2-Epoxypropane

The subject material was submitted to the Biochemical Research Laboratory for toxicological studies and definition of industrial handling hazards.

CONCLUSIONS

The subject material has a low acute oral toxicity. There should be no problem from ingestion incidental to industrial handling and use of this substance.

The material has a slight effect on the eye. Conjunctival irritation and transient corneal injury would be expected from direct contact but should heal within a few days. Safety glasses should provide adequate protection against contamination incidental to industrial handling.

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Skin irritation studies on the intact and abraded rabbit belly indicate that repeated, prolonged contact with the undiluted material may produce only very slight irritation. The epoxide linkage, however, is notorious for producing skin sensitization and subsequent allergic rashes. For this reason all skin contact with the material should be avoided. The material has a relatively high vapor pressure and possibly vapors in contact with the area while working in heated areas might cause a rash. Precautions should be taken to avoid such exposure.

Partly due to high vapor pressure, exposures to spills of appreciable amounts in confined or poorly ventilated areas should be avoided. For cleaning up such spills a self-contained breathing apparatus should be employed. The vapors might produce allergic asthma due to the potential sensitizing structure.

These conclusions are based upon range finding toxicological tests and are limited to precautions for industrial handling of the material. Development of specific uses will require consideration of the health problems presented and of the need for further toxicological studies.

SUMMARY OF RANGE FINDING TOXICOLOGICAL DATA

Acute Oral Toxicity

Animal	Preparation Fed	Dose (g./kg.)	No. Died No. Fed	Response-Remarks
Rat	10% solution in corn oil	1.0	0/2	Animals appeared normal during and after feeding.
Rat	10% solution in corn oil	2.0	1/2	Liver, stomach and kidney injury observed at autopsy.

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Eye Contact - Rabbit

Material	Treatment	Response-Remarks
Undiluted	Washed	Moderate conjunctival irritation and corneal injury occurred but had cleared in a week.
Undiluted	Unwashed	Slight conjunctival irritation and corneal injury occurred but had cleared in a week.

Skin Contact - Rabbit (Repeated Application)

Material	Condition Of Skin	No. Of Appl.	Site	Response-Remarks
Undiluted	Intact	10	Ear	No response.
Undiluted	Intact	10	Belly	Very slight scaling.
Undiluted	Abraded	3	Belly	Very slight irritation; skin healed normally.

Skin Absorption

There is no indication, from the skin irritation tests conducted, that this material is absorbed through the skin in acutely toxic amounts.

Inhalation (Saturated Atmosphere)

Animal	Bath Temp.	Minutes Exposed	No. Died/ No. Treated	Response-Remarks
Rat	Room	90	5/5	Animals died in jar; 28.46 grams used during exposure period.

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FIRST AID MEASURES

EYE CONTACT	[X]	If the eyes are contaminated, they should be flushed immediately with copious amounts of flowing water for at least 15 minutes.
	[X]	Medical attention should be obtained if irritation persists or develops after washing of the eyes.
	[ ]	Medical attention should be obtained.
	[ ]	MEDICAL ATTENTION SHOULD THEN BE OBTAINED WITHOUT DELAY.
SKIN CONTACT	[X]	Any injuries or irritations which may develop should receive medical attention.
	[ ]	Contaminated clothing and shoes should be removed and not re-used until thoroughly cleaned.
	[ ]	Wash contaminated skin with soap and plenty of water.
	[X]	Contaminated clothing, including shoes, should be removed and the affected skin area should be washed thoroughly with soap and plenty of water.
	[ ]	Medical attention should not be obtained.
	[X]	Contaminated clothing and shoes should not be re-used until thoroughly cleaned.
	[ ]	All contaminated clothing, including shoes, must be removed immediately and the affected skin area flushed thoroughly with water from a safety shower, or other suitable device and cleansed with soap and plenty of water.
	[ ]	MEDICAL ATTENTION MUST THEN BE OBTAINED AS RAPIDLY AS POSSIBLE.
	[ ]	Contaminated clothing including shoes, must not be re-used until thoroughly cleaned or must be discarded.
INHALATION	[X]	If a person should experience any unfavorable ill effects from breathing the vapor or fumes of this material, medical attention should be obtained promptly.
	[ ]	If a person should be overcome from breathing this material, he should be removed to fresh air at once, he made to rest, kept warm, and MEDICAL ATTENTION SHOULD BE OBTAINED IMMEDIATELY. In breathing stops, artificial respiration should be administered.
INGESTION	[ ]	If appreciable amounts of material are swallowed, vomiting should be induced by tickling the back of the tongue with the finger or by giving an emetic such as 2 tablespoonfuls of table salt in a glass of warm water. Medical attention should then be obtained.
	[ ]	If the material is swallowed, vomiting must be induced by tickling the back of the tongue with the finger or by giving an emetic such as 2 tablespoonfuls of table salt in a glass of warm water. MEDICAL ATTENTION SHOULD THEN BE OBTAINED WITHOUT DELAY

Comments

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