



MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor as "Essentially Similar" to Form OSHA-20)

MSDS OR 614B
DATE 3/28/83

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I. PRODUCT IDENTIFICATION

CHEMICAL NAME AND SYNONYMS	Dicumyl peroxide	REGULAR TELEPHONE NO. 302-575-5000 EMERGENCY TELEPHONE NO. 302-995-3000*
CHEMICAL FAMILY	Organic peroxide	CAS NO. 80-43-3
FORMULA	C ₁₈ H ₂₂ O ₂	MOLECULAR WEIGHT 270
TRADE NAME AND SYNONYMS	DI-CUP® R	

II. HAZARDOUS INGREDIENTS

MATERIAL	%	TLV-TWA VALUES ADOPTED BY ACGIH 1981
Dicumyl peroxide	98-100	Not established

III. PHYSICAL DATA

BOILING POINT, 760 mm Hg	NA-Decomposes	MELTING POINT	38°C (100°F)
VAPOR PRESSURE @ 38°C	15.4 mm Hg	SPECIFIC GRAVITY (H ₂ O=1)	1.04 at 25/25°C Calculated
VAPOR DENSITY (AIR=1)	NA	PERCENT VOLATILE BY VOLUME (%)	0.03 at 20°C (68°F)
SOLUBILITY IN WATER, % BY WEIGHT @	Negligible	EVAPORATION RATE (BUTYL ACETATE=1)	0.002
APPEARANCE AND ODOR: Pale yellow to white granular solid; acrid, fruity odor.		pH	NA

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT 126.7°C (260°F) SETA-CC (TEST METHOD)	AUTOIGNITION TEMPERATURE	Not determined
FLAMMABLE LIMITS IN AIR PERCENT BY VOLUME	LOWER Not determined	UPPER Not determined

EXTINGUISHING MEDIA: Water spray, dry chemical, foam, or carbon dioxide.

SPECIAL FIRE-FIGHTING PROCEDURES: Use water to keep fire-exposed containers cool. Direct hose streams from a protected location.

UNUSUAL FIRE AND EXPLOSION HAZARDS: See SECTION VI, REACTIVITY DATA

NOTES: Factory Mutual has given this product FM organic peroxide Classification IV when handled in DOT 17H drums. Class IV peroxides have moderate fire hazard characteristics that can be easily contained by normal sprinkler systems and fire walls.

NA=NOT APPLICABLE

* Use this emergency number only after normal business hours and only for emergencies involving safety and health.

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V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Not established. See Section II.

EFFECTS OF OVEREXPOSURE: Mild eye and skin irritation. Decomposition products and fumes from vulcanization and crosslinking operations may cause eye, skin, and respiratory irritation and may be skin sensitizers. See Hercules Bulletin ORC-204 for summary of toxicological investigations.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN: Wash thoroughly with soap and running water. Wash clothing before reuse.

INHALATION: Remove to fresh air and, if indicated, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician. Treat symptomatically.

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID: Stable at room temperatures. Avoid temperatures above 55°C (131°F) or contact with materials listed below. Higher temperatures or contact with listed materials promote exothermic decomposition.
UNSTABLE		
STABLE	X	

INCOMPATIBILITY (MATERIALS TO AVOID): Acids and acidic-type materials such as Friedel-Crafts catalysts, strong oxidizing and reducing agents, and oxidation catalysts. Copper, copper alloys, lead and iron.

HAZARDOUS DECOMPOSITION PRODUCTS: Acetophenone, cumyl alcohol, α -methyl styrene, methane, and ethane. Under acidic decomposition conditions, phenols may also be formed. Combustion products include CO, CO₂, and generation of smoke.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID: None
	WILL NOT OCCUR	X	

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Salvage in clean, steel drums. Absorb excess in clean sand and place in clean, steel drums for disposal.

WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and Federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)	None required in normal use. Use self-contained breathing apparatus in excessive fumes from product decomposition.
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VENTILATION	LOCAL EXHAUST	--	SPECIAL	--
	MECHANICAL (GENERAL)	--	OTHER	Use adequate ventilation.
PROTECTIVE GLOVES: Chemical resistant			EYE PROTECTION: Safety glasses	
OTHER PROTECTIVE EQUIPMENT: --				

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IX SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING

DANGER!

HEAT OR CONTAMINATION MAY CAUSE HAZARDOUS DECOMPOSITION.

PRODUCT MAY CAUSE IRRITATION OF EYES AND SKIN.

DECOMPOSITION PRODUCTS MAY CAUSE EYE, SKIN, AND RESPIRATORY.

IRRITATION AND MAY BE SKIN SENSITIZERS.

Do not heat above 55°C (131°F) or permit contact with acids and acidic-type materials such as Friedel-Crafts catalysts, strong oxidizing and reducing agents or oxidation catalysts. Higher temperatures or contact with these materials cause rapid, self-accelerating heating, and decomposition that may cause container rupture and possible fire. Avoid contact with copper, copper alloy, lead, and iron as contact with these metals accelerates decomposition.

Avoid contact with eyes, skin, and clothing.

Avoid breathing vapors.

Use with adequate ventilation.

Wash thoroughly with soap and water after handling.

FIRST AID: EYES - In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN - Wash thoroughly with soap and running water. Wash clothing before reuse.

INHALATION - Remove to fresh air and, if indicated, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician. Treat symptomatically.

STORAGE AND HANDLING: Store below 52°C (125°F) in original containers in a ventilated area out of direct sunlight and away from heat sources.

SPILL OR LEAK: Salvage in clean steel drums. Absorb excess in clean sand and place in clean steel drums for disposal. Dispose of in accordance with local, state, and Federal regulations.

BULK CONTAINER LABELS

MELTING PROCEDURE: Melt by circulating hot water at 55°C (131°F) maximum temperature through coils provided in container. Other heat sources such as ovens, hot rooms, immersion heaters, and direct flame or steam are not safe. Please refer to appropriate Hercules literature that offers a more comprehensive procedure for heating of this container.

DRUM LABELS

MELTING PROCEDURE: USE WATER BATH OR WATER COILS ONLY. Heat must be applied uniformly without creating localized hot spots that might exceed 55°C (131°F). Other heat sources such as ovens, hot plates, hot rooms, immersion heaters, and direct flame or steam are not safe. Please refer to appropriate Hercules literature that offers a more comprehensive procedure for heating of this container.