

M A T E R I A L S A F E T Y D A T A S H E E T

The Dow Chemical Company, Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 91578

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Product: VINYL CHLORIDE MONOMER, UNINHIBITED CS

Effective Date: 06/14/93

Date Printed: 04/07/94

MSD: 000664

1. INGREDIENTS: (% w/w, unless otherwise noted)

Vinyl chloride

CAS# 000075-01-4 99.9%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: -13.83 (+7.11F)

VAP PRESS: 2524 mmHg, 336 kPa @ 20C

VAP DENSITY (Air=1): 2.16

SOL. IN WATER: <0.1 mole % @ 1 atm & 25C

SP. GRAVITY: 0.913 @ 20/20C, 68F

APPEARANCE: Extremely flammable, colorless gas or liquid under pressure.

ODOR: Faint, sweet odor.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: -78C (-108.4F)

METHOD USED: COC

FLAMMABLE LIMITS

LFL: 3.6 vol. %

UFL: 33.0 vol %

EXTINGUISHING MEDIA: For containment of fire and protection of surrounding equipment only. Water fog, foam, CO2, dry chemical.

FIRE & EXPLOSION HAZARDS: Vapors can form flammable mixtures with air at all normal ambient temperatures. All sources of possible ignition should be avoided in areas where vinyl chloride vapors are present. Autoignition temperature 472C (882F).

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained

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3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Avoid exposure to air, oxygen, sunlight, moisture, and all sources of heat or ignition. Autoignites in air at 472C (882F).

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing material, and aluminum or aluminum alloys.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, carbon monoxide.

HAZARDOUS POLYMERIZATION: May occur. Avoid exposures to oxygen (air), heat, sunlight, moisture, and free radical initiators or other catalytic impurities.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Remove all sources of ignition; supply ample ventilation, allow only properly protected personnel into the area; do not allow vinyl chloride to enter the sewer system because of explosive hazard.

DISPOSAL METHOD: Incinerate in equipment with a hydrochloric acid scrubber according to local, state, and federal laws and regulations. Contact The Dow Chemical Company for additional information.

6. HEALTH HAZARD DATA:

EYE: If liquid contacts eye, evaporation may cause frostbite-type injury due to rapid cooling.

SKIN CONTACT: If liquid contacts skin, evaporation may cause frost-bite type injury due to rapid cooling.

SKIN ABSORPTION: Skin absorption is unlikely due to physical properties.

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6. HEALTH HAZARD DATA: (CONTINUED)

INGESTION: Ingestion is unlikely due to physical state.

INHALATION: A single brief (minutes) inhalation exposure to easily attainable concentrations may cause serious adverse effects, even death. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Signs and symptoms of excessive exposure may be central nervous system effects.

SYSTEMIC & OTHER EFFECTS: Excessive exposure may cause lung, liver and kidney effects. Repeated exposures have been reported to produce changes in bone, skin, and vascular system, particularly in the extremities of the body. Has been shown to cause cancer in humans. Has been shown to cause cancer in laboratory animals. For hazard communication purposes under OSHA Standard 29 CFR Part 1910.1200, this chemical is listed as a carcinogen,

by NTP, IARC, and OSHA. Birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother. Has been shown to have mutagenic activity in bacteria. Results of mutagenicity tests in animals have been negative. An increased incidence of chromosomal abnormalities has been reported in the lymphocytes of workers exposed to vinyl chloride; the chromosomal breakage frequency returns to normal after reduction of exposure levels.

7. FIRST AID:

EYES: Irrigate immediately with water for at least 5 minutes.

SKIN: No adverse effects anticipated by this route of exposure except for frostbite.

INGESTION: No adverse effects anticipated by this route of exposure due to physical properties.

INHALATION: Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call a physician.

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7. FIRST AID: (CONTINUED)

NOTE TO PHYSICIAN: The following disease states have been observed in industrial workers exposed to vinyl chloride vapors: acroosteolysis, scleroderma, and Raynaud's phenomenon. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): Vinyl chloride: OSHA PEL is 1 ppm TWA, 5 ppm excursion limit average over any period not exceeding 15 minutes; ACGIH TLV is 5 ppm, Al.

VENTILATION: Control airborne concentrations below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: When airborne exposure guidelines and/or comfort levels may be exceeded, use an approved positive-pressure self-contained breathing apparatus.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation.

EYE PROTECTION: Use chemical goggles. If vapor exposure causes eye discomfort, use a full-face, supplied-air respirator.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Storage should be in an isolated, well-ventilated area. Pits, depressions, and basements should be avoided. Avoid all skin and eye contact. Avoid breathing vapors. Vinyl chloride should always be handled with full recognition of its volatility and its flammability. Keep the material enclosed and eliminate all sources of ignition.

MSDS STATUS: Revised Canadian regulatory information and section 9.

For information regarding state/provincial and federal regulations see the Regulatory Information Section.

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REGULATORY INFORMATION: (Not meant to be all-inclusive-- selected regulations represented.)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
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VINYL CHLORIDE	000075-01-4	99.98 %
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SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

- An immediate health hazard
- A delayed health hazard
- A fire hazard
- A sudden release of pressure hazard

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REGULATORY INFORMATION:(CONTINUED)

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains a chemical(s) known to the State of

California to cause cancer. (See Section 6 of the MSDS for details on carcinogenicity.)

CANADIAN REGULATIONS
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WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

1
D2A
E

CANADIAN TDG INFORMATION: For guidance, the Transportation of Dangerous Goods Classification for this product is:

Vinyl Chloride/Class2.1/UN1086/ERP2-0011 Permit No: SR 0116A

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The Information Herein Is Given In Good Faith, But No Warranty,
Express Or Implied, Is Made. Consult The Dow Chemical Company For
Further Information.