

VINYL CHLORIDE MONOMER

MATERIAL SAFETY DATA SHEET

ISSUED: AUGUST, 1983
Doc. 83124

SECTION I

<u>Manufacturer's Name</u> LaPorte Chemicals Corp. A subsidiary of The BFGoodrich Company	<u>Telephone Number</u> (216) 447-6490	<u>Transportation Emergency Telephone</u> CHEMTREC: (800)424-9300
<u>Address</u> 6100 Oak Tree Blvd. Cleveland, Ohio 44131	<u>Chemical Family</u> Vinyl Halide	<u>Trademark</u> None
<u>Chemical Name/Synonyms</u> Vinyl chloride. VCM. VCl. Chloroethylene. Chloroethene.		<u>Formula</u> CH ₂ CHCl

SECTION II - HAZARDOUS INGREDIENTS

	<u>C.A.S. Number</u>	<u>Amount in Product</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL</u>
Vinyl Chloride	75-01-4	100%	5 ppm, Ala	0.5 ppm "Action Level" 1.0 ppm TWA 5.0 ppm Ceiling

See Section V for further information. Vinyl chloride is a CANCER SUSPECT AGENT.

- Notes: ● TLV-TWA: Threshold Limit Value - Time Weighted Average for concentration of the chemical substance in the ambient workplace air. American Conference of Governmental Industrial Hygienists, 1982 Edition.
- OSHA PEL: OSHA Permissible Exposure Limit, 29CFR1910.1017.
- Ala means "human carcinogen with assigned TLV", ACGIH.

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SECTION V - HEALTH HAZARD DATA

Permissible Exposure Limit (29CFR1910.1017.)

- Eight Hour TWA: 1.0 ppm
- "Action Level": 0.5 ppm
- No employee may be exposed to vinyl chloride at concentrations greater than 5.0 ppm averaged over any period not exceeding 15 minutes.
- No employee may be exposed to direct contact with liquid vinyl chloride.

Effects of Overexposure

- Prolonged exposure may cause cancer.
- Direct contact with liquid causes freeze burns (irritation, frostbite, freezing).
- Prolonged exposure to high concentrations may cause degeneration of the ends of finger bones.
- Exposure to concentrations of 7,500 ppm may cause asphyxiation, persistent irregular heartbeat, narcosis, nausea, or dizziness.
- NOTE: The odor threshold for vinyl chloride is about 4,000 ppm. Odor does not provide an adequate warning for hazardous exposure.

Emergency and First Aid Procedure

IN CASE OF EYE CONTACT: (Liquid). Immediately flush eyes with plenty of water for an extended time, not less than five (5) minutes. Flush longer if there is any indication of residual chemical in the eye. See a physician.

IN CASE OF SKIN CONTACT: Immediately remove contaminated clothing. Wash the affected area with plenty of soap and water. If irritation, freezing or frostbite occur, see a physician at once.

IN CASE OF INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

SECTION VI - REACTIVITY DATA

Stability

Thermally stable.

Hazardous Polymerization

Will occur

Conditions/Materials to Avoid

Exposure to air (oxygen), sunlight, heat, oxidizing materials, copper, contamination with polymerization catalysts and alkali metals and their alloys may result in the formation of vinyl peroxides. This may cause heat generation (exothermic polymerization) and vaporization resulting in high pressure within vessels and potential release into the environment. Vinyl chloride is noncorrosive to metals when dry at normal ambient temperatures, but moisture at elevated temperatures accelerates corrosion.

Hazardous Decomposition Products

CO, CO₂, HCl and, in small amounts, phosgene on combustion.

*NIOSH/MSHA jointly approved respirators under the provisions of 30CFR Part 11. Read 29CFR Part 1910.1017(g)4 for complete details for selection of respirators for vinyl chloride.

Protective Equipment

In regulated areas wear protective gloves, footwear, headgear, and chemical goggles where exposure to liquid is likely. Wear other protective clothing as required to prevent body contact.

SECTION IX - SPECIAL PRECAUTIONS

- Open, handle and use under well-ventilated conditions.
- Wash thoroughly after handling. Always wash-up before eating, smoking or using toilet facilities.
- Keep away from heat, sparks and flame of any sort.
- Do not get in eyes, on skin or on clothing.
- Do not breathe vapors.
- All wiring and electrical equipment should be Class 1, Group D
- Do not store or consume food or beverage in regulated areas.
- Do not smoke in areas where vinyl chloride is used or stored.
- Keep container closed.
- Bond and ground all containers when transferring chemical.
- Emptied container may contain residual liquid or vapors which may ignite or explode. Do not cut, puncture or weld on or near the container.
- Prior to loading, the vapor space of tankcar, vessel, etc. should be analyzed for oxygen content; maximum limit is 500 ppm.

SECTION X - TRANSPORTATION

For domestic transportation purposes, the proper U.S. Department of Transportation shipping description and hazard class is VINYL CHLORIDE, FLAMMABLE GAS, UN1086. (49CFR, 1982 edition.) NOTE: Uninhibited vinyl chloride monomer is not acceptable for international shipments.

SECTION XI - PRECAUTIONARY LABELING

Containers of vinyl chloride shall be legibly labeled either "VINYL CHLORIDE: EXTREMELY FLAMMABLE GAS UNDER PRESSURE: CANCER SUSPECT AGENT" or "CANCER SUSPECT AGENT". 29CFR1910.1017(1)(5)

USER'S RESPONSIBILITY

A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions, in addition to those described herein, are required. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be. LaPorte Chemicals Corp. must rely on the user to utilize the information we have supplied to develop work practice guidelines and employee instructional programs for the individual operation.

The BFGoodrich Company
Chemical Group
6100 Oak Tree Boulevard
Cleveland, Ohio 44131
216-447-6000

MATERIAL SAFETY DATA SHEET

VINYL CHLORIDE MONOMER

ISSUED: AUGUST, 1983*
Doc. 83102

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*Supersedes 7/80

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SECTION III - PHYSICAL DATA (Typical data, not specifications)

<u>Boiling Point</u> 7°F (-13.8°C)	<u>Solubility in Water</u> 0.25 @ 68°F (20°C) @ 7 in. H ₂ O pressure	<u>Specific Gravity (H₂O=1)</u> 0.97 @ -13°C (liquid)
<u>Vapor Pressure (mm Hg)</u> @ 32°F (0°C): 1300 @ 68°F (20°C): 2500	<u>% Volatile by Volume</u> 100	<u>Vapor Density (Air = 1)</u> 2.15 @ 15°C
<u>Appearance and Odor</u> Colorless gas. Mild, sweet odor. (Transported as a liquid under pressure)	<u>Molecular Weight</u> 62.5	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Vinyl Chloride is EXTREMELY FLAMMABLE)

<u>Flash Point</u> -108°F (-78°C) Cleveland Open Cup	<u>Ignition Temperature</u> 882°F (472°C)	<u>Flammable Limits in Air</u> (% by volume) Lower: 3.6% Upper: 33.0%
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National Fire Protection Association Hazard Identification (NFPA 704)

Health: 2

Flammability: 4

Self-Reactivity (Stability): 1

Extinguishing Media

For Small Fire: CO₂ or ABC dry powder.

For Large Fire: Water spray (fog) can be used to absorb heat and cool and protect surrounding exposed materials. Shut off source of fuel if safe to do so.

Note: Streams of water cannot extinguish a vinyl chloride fire. Vinyl chloride liquid floats and boils on top of water.

Special Fire Fighting Procedure

- Whenever possible, let fire burn itself out. Keep away.
- Keep upwind. Isolate hazard area (evacuate unnecessary people at least 2,000 feet if there is danger of exploding containers).
- Cool containers with water sprayed from maximum distance. Use unmanned hose holder or monitor nozzle.
- Wear positive pressure self-contained breathing apparatus and full protective gear to prevent all body contact. Personnel not having suitable respiratory protection must leave the area to prevent exposure to toxic and corrosive combustion gases, including hydrogen chloride.

Unusual Fire and Explosion Hazards

- Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by flame, sparks, heaters, or other ignition sources at distant locations (flashback potential).
- BLEVE potential (container explosion potential)
- If the source of a vinyl chloride leak has not been closed off, do not attempt to extinguish a large fire as hot metal may reignite the invisible vapor cloud.
- Vapors can form flammable mixtures with air.

SECTION V - HEALTH HAZARD DATA

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Hazardous Decomposition Products

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SECTION VII - SPILL OR LEAK PROCEDURE

Steps to be taken in case material is released or spilled

Issue warning: Extreme fire danger and toxic hazard. Flammable vapors may spread from the spill. Eliminate all ignition sources. Ventilate the area. Isolate the hazard area. Do not purposely ignite a leak.

Do not flush chemical into public sewer or water system because of the explosion/toxicity hazard. Shut off leak if safe to do so. Let small spills evaporate. For large spills, dike or flush to ground and let evaporate. Remove contaminated soil.

Personal protective equipment and clothing should be utilized by persons performing this work. All unnecessary personnel and individuals without proper personal protective equipment should leave the area. Be prepared to evacuate all individuals within at least 2,000 feet when danger of exploding large vessels is possible.

Waste Disposal Method

HAZARDOUS WASTE.* If burned, incinerator should be equipped with an HCl scrubber. Contaminated soil and containers must be managed as a hazardous waste.

*EPA Hazardous Waste Number (RCRA): U043. 40CFR261.33(f)

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation

Efficient exhaust ventilation should always be provided to draw vapors away from workers to prevent routine inhalation. Ventilation should be adequate to maintain the ambient workplace atmosphere below the limits listed in Section II and Section V.

Respiratory Protection*

ATMOSPHERIC CONCENTRATION OF VINYL CHLORIDE

REQUIRED APPARATUS

- | | |
|--|--|
| 1) Unknown, or above 3,600 ppm | Open-circuit, self-contained breathing apparatus, pressure demand type, with full facepiece. |
| 2) Not over 1,000 ppm. | Type C, supplied air respirator, continuous flow type, with full or half facepiece, helmet or hood. |
| 3) Not over 10 ppm | Any chemical cartridge respirator with an organic vapor cartridge which provides a service of life of at least 1 hour for concentrations of vinyl chloride up to 10 ppm. |

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DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

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