

# MATERIAL SAFETY DATA SHEET

NAME OF MANUFACTURER

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## I. PRODUCT IDENTIFICATION

PRODUCT NAME: Vinyl Chloride (VCM)

PRODUCT CODE: N/A

CHEMICAL FAMILY: Chlorinated Hydrocarbon

CHEMICAL NAME: Vinyl Chloride

SYNONYMS: VCM, Chloroethylene, Chloroethene

FORMULA:  $\text{CH}_2=\text{CHCL}$

## II. HAZARDOUS INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS No.</u>	<u>EXPOSURE LIMITS</u>	<u>WT, %</u>
Vinyl Chloride	75-01-4	1ppm PEL 5ppm STEL 5ppm TLV	100

### III. PHYSICAL/CHEMICAL PROPERTIES

Physical Form: liquid Color: colorless Odor: sweet odor

Molecular Weight: 62.5 Boiling Point: 7°F

Melting Point: -245°F Solubility in Water: 0.25 g/100mL at 25°C

Specific Gravity: 0.9121@ 20/4 °C (H<sub>2</sub>O=1) Vapor Density: 2.15 (Air=1)

Evaporation Rate: < 1 (Ethyl Ether = 1)

Vapor Pressure: 2580 Torr (20°C) (mmHg)

% Volatile by volume: 100%

### IV. FIRE AND EXPLOSION DATA

Flash Point: -78°C -180 °F Autoignition Temperature: 472°C

Flammable Limits (LEL, %): 3.6 (UEL, %): 33

#### Extinguishing Media:

Water and high expansion foam 500.1, carbon dioxide or dry chemical for small fires.

#### Special Fire Fighting Procedures:

Let fire burn itself out if unable to safely shut off valves. Vinyl chloride is an extremely flammable toxic gas transported as a liquid under pressure. Fire may cause violent rupture of tanks in nearby vicinity if not cooled with water. Try to use water spray to disperse clouds of gas as products of combustion contain hydrogen chloride. If spillage is not ignited take p r e c a u t i o n s t o p r e v e n t V C M gas from reaching ignition sources.

#### Unusual Fire and Explosion Warlords:

When fire is present let it burn. Stay away from end of tanks. If massive fire, evacuate area for one-half mile, but on the scale judgment will be necessary. If large volume of water is available use water spray from monitor nozzles to cool tanks that may have flame impinging from the f i r e , o t h e r w i s e s t a y a w a y . C l e a r area immediately in case of high rising sound from venting safety device.

## V. HUMAN HEALTH DATA

ROUTE(S) of Entry: ■Inhalation, ■Skin Contact, ■Eye contact, ■Ingestion

### Human Effects and Symptoms of Over-exposure.

Acute:

Inhalation:

Overexposure can cause lung irritation, dizziness, and unconsciousness following short-term exposure.

Skin and Eye Contact:

Can cause freezing of exposed tissues because of low storage temperatures required for this product.

Chronic:

Long term exposure may cause cancer and precautions should be taken to prevent personnel exposures to vinyl chloride by using prescribed respiratory equipment under 29CFR1910-1007 and protective clothing.

Medical Conditions Aggravated by over exposure:

Prolonged exposure may complicate existing liver, skin and bone disease.

Carcinogenicity: ■NTP Yes , ■IARC Yes , ■OSHA Yes

## VI. EMERGENCY AND FIRST AID PROCEDURES

Eye contact:

If in eyes, DO NOT DELAY! Irrigate immediately with copious amounts of water for at least 15 minutes; call Physician.

Skin Contact:

Wash immediately with large quantities of water under emergency safety shower while removing clothing; continue washing until medical help arrives; call Physician.

Inhalation:

Remove from exposure, support respiration; call Physician.

Notes to Physician:

Enzymatic liver function tests are not abnormal in individuals with vinyl chloride-associated liver lesions. Alternate diagnostic procedures are required.

## VII. PERSONAL PROTECTION RECOMMENDATIONS

### Required Work/Hygiene Procedures:

Avoid contact with skin and avoid breathing mist. Do not eat, drink or smoke in work area. Wash hands prior to eating, drinking, or using restroom. Any protective clothing, or shoes which become contaminated should be removed immediately and thoroughly laundered before wearing again.

### Eye Protection:

Chemical goggles which are splashproof and faceshield.

### Skin Protection:

Wear neoprene, or rubber gloves; Rubber rain suit; rubber boots with pant legs over boots.

### Respiratory Protection:

Self contained breathing apparatus with full face piece approved by NIOSH/MSHA.

### Ventilation Requirements: local exhaust, general, specific

As required to maintain concentrations below 1 ppm.

## VIII. REACTIVITY DATA

Stability: Stable

Hazardous Polymerization: May occur.

### Incompatibilities:

Oxygen, moisture, polymerization initiators, copper, aluminum.  
Contact with copper may produce explosive acetylides.

### Decomposition Products:

Hydrogen chloride, carbon monoxide, and possible traces of phosgene.  
Contaminants may cause polymerization. Decomposition liberates hydrogen chloride.

### Conditions to Avoid:

Exposure to air, oxygen or sunlight or heat at ambient or higher temperature.

IX. SPILL AND LEAK CONTROL PROCEDURES

Spill or Leak Procedures:

Evacuate nonessential personnel. Remove all sources of ignition and ventilate the area. Notify appropriate authorities if necessary. Put on personal protective equipment, dike or impound spilled material and control further spillage if feasible. If no fire, do not ignite the gas. Clear the area, remain upwind and use water spray to disperse vapor. Wear protective clothing and self contained breathing equipment. Keep low behind spray. Avoid entering vapor area as it may ignite. Try to shut off leak.

Waste Disposal Method:

Waste must be disposed of in accordance with the local environmental regulation. Empty containers must be handled with care due to possible product residue. Decontaminate containers prior to disposal. Contaminated soils must be checked for residual VCM. Do not allow VCM to collect in sewers because of explosion hazard. Flush out with water but not to waterway or drainage. Drum or haul contaminated soil to an approved secure landfill.

X. SPECIAL HANDLING AND STORAGE PRECAUTIONS

Keep containers closed when not in use. Do not handle near heat, sparks or flame. Containers containing VCM must be properly grounded. Avoid leaks and spills.

XI. SHIPPING INFORMATION

DOT Shipping Name: Vinyl Chloride

DOT Hazard Class: Flammable (2,1)

UN/NA Number: 1086

Hazard Label(s): Flammable (2,1)

Hazard Placard(s): N/A

NA-Not Applicable

NDA-No Data Available

Prepared by: \_\_\_\_\_

Approved by: \_\_\_\_\_

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