

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS NUMBER : M9192 ISSUE DATE : 06-12-97

PRODUCT NAME : VINYL CHLORIDE (MONOMER)

Manufacturer's Name and Address : Occidental Chemical Corporation, Occidental Tower
5005 LBJ Freeway, P.O. Box 809050
Dallas, TX 75380 (972) 404-3800

24 HOUR EMERGENCY TELEPHONE : 1-800-733-3665 OR 972-404-3228

TO REQUEST AN MSDS : 1-800-699-4970

CUSTOMER SERVICE : 1-800-752-5151

PRODUCT USE : PVC manufacturing

CHEMICAL NAME : Ethylene, Chloro-

CHEMICAL FORMULA : Mixture C_2ClH_3

SYNONYMS/COMMON NAMES : MONOCHLOROETHYLENE
CHLOROETHENE
ETHENE, CHLORO
VCM

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS NUMBER / NAME
75-01-4 Ethene, chloro-

EXPOSURE LIMITS	PERCENTAGE
PEL: See 1910.1017	VOL ND
TLV: 5 ppm; 13 mg/m ³ ; TWA, A1	WT 99-100

COMMON NAMES:
MONOCHLOROETHYLENE
VINYL CHLORIDE#
VINYL CHLORIDE MONOMER

OCC 11761

Listed On (List Legend Below):
00 02 06 08 11 15 18 21 22 45 50 51

2. COMPOSITION/INFORMATION ON INGREDIENTS (Continued)

Chemical name used in the SARA Section 313 List of Toxic Chemicals (40 CFR - Section 372.65) if different from CAS name.

LIST LEGEND

00 TSCA INVENTORY	02 SARA TOXIC CHEM, SECTION 313
06 NTP "KNOWN HUMAN CARCINOGEN"	08 IARC HUMAN CARCINOGEN, GROUP 1
11 CA PROP 65 - CARCINOGEN	15 PA SPECIAL & ENV HAZ SUBSTANCE
18 NY HAZARDOUS SUBSTANCES	21 NJ SPECIAL HEALTH HAZ SUB
22 CANADIAN DOMESTIC SUB LIST	45 EPA/OSHA ACCIDENTAL RELEASE
50 PHILIPPINES INVENTORY (PICCS)	51 EINECS

3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

*
*
* Colorless gas, "sweet odor"

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY:

~~99999~~ 0005

There are no standard statements entered for this section.

TARGET ORGANS:

~~99999~~ 14, 15, 12, 9

There are no standard statements entered for this section.

IRRITANCY:

~~99999~~ 1121

There are no standard statements entered for this section.

SENSITIZING CAPABILITY:

~~99999~~ 107

There are no standard statements entered for this section.

REPRODUCTIVE EFFECTS:

~~99999~~ 107

There are no standard statements entered for this section.

CANCER INFORMATION:

~~99999~~ 1851

There are no standard statements entered for this section.

SHORT-TERM EXPOSURE (ACUTE)

OCC 11762

INHALATION:

~~99999~~ 1435, 2187

There are no standard statements entered for this section.

EYES:

~~999~~ 61

There are no standard statements entered for this section.

SKIN:

~~99999~~ 61

There are no standard statements entered for this section.

3. HAZARDS IDENTIFICATION (Continued)

INGESTION:

~~99999~~ 87

There are no standard statements entered for this section.

REPEATED EXPOSURE (CHRONIC)

~~99999~~ 116

There are no standard statements entered for this section.

SYNERGISTIC MATERIALS:

~~99999~~ 107

There are no standard statements entered for this section.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

~~99999~~ 152

There are no standard statements entered for this section.

Revised

4. FIRST AID MEASURES

EYES:

~~99999~~ 157

There are no standard statements entered for this section.

SKIN:

164

For contact with liquid or cold gas, quickly remove victim from source of contamination and flush lukewarm (100-105°) not hot, flowing water until the chemical is removed. DO NOT attempt to re-warm the affected area on site. DO NOT rub area or apply dry heat. Loosely cover with a dry sterile dressing. GET MEDICAL ATTENTION QUICKLY.

INHALATION:

1899

Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, have a trained person administer artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:

179

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Have patient drink several glasses of water then induce vomiting by having patient tickle back of throat with finger. Keep airway clear. GET MEDICAL ATTENTION IMMEDIATELY.

NOTES TO PHYSICIAN:

~~99999~~ 2224

There are no standard statements entered for this section.

5. FIRE FIGHTING MEASURES

Flash Point: -78°C (-108°F) ~~RE~~

Method: Not available ~~TOC~~

Autoignition Temperature: 882°F

OCC 11763

5. FIRE FIGHTING MEASURES (Continued)

FLAMMABLE LIMITS IN AIR, BY % VOLUME

Upper: 33.0
Lower: 3.6

EXTINGUISHING MEDIA:

206

Dry chemical, carbon dioxide, foam, water fog or spray. Water may be ineffective, but should be used to keep fire-exposed containers cool.

207

If a leak or spill has not ignited, use water spray to disperse the vapors and to protect persons attempting to stop leak.

FIRE FIGHTING PROCEDURES:

1368

FIRE AND EXPLOSION HAZARD:

303

For large cargo fires, evacuate all personnel to at least 1/2 mile in all directions due to danger of exploding vessels. Down wind areas may require additional evacuation due to toxic products of combustion. Do not attempt to extinguish large fires. Evacuate the area and notify the fire department. If possible to do without danger to personnel, containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.

SENSITIVITY TO MECHANICAL IMPACT:

99999- 107

There are no standard statements entered for this section.

SENSITIVITY TO STATIC DISCHARGE:

99999- 248

There are no standard statements entered for this section.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

99999- 312

There are no standard statements entered for this section.

ENVIRONMENTAL PRECAUTIONS:

314

According to 40 CFR 302 Table 302.4 (CERCLA), environmental releases that exceed the RQ must be reported to the National Response Center by calling 800-424-8802 (202-426-2675) and the State Emergency Response Commission and the Local Emergency Planning Committee (40 CFR 355.40) as appropriate.

METHODS FOR CLEANING UP:

99999- 1319

There are no standard statements entered for this section.

7. HANDLING AND STORAGE

HANDLING:

359

Keep away from sources of ignition. The vapors can travel to an ignition source and flash back causing a flash fire.

SPECIAL MIXING AND HANDLING INSTRUCTIONS:

~~99999~~ 359

There are no standard statements entered for this section.

STORAGE:

~~99999~~ 369, 355

There are no standard statements entered for this section.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

PERSONAL PROTECTION

RESPIRATORY:

468

Avoid breathing vapor. If exposure may or does exceed occupational exposure limits (Sec III) use a NIOSH approved respirator as required to prevent overexposure. In accord with 29 CFR 1910.134, use an atmosphere supplying respirator (air line or self-contained breathing apparatus). No air purifying respirator has been approved for vinyl chloride.

EYE/FACE:

~~99999~~ 471

There are no standard statements entered for this section.

SKIN:

~~479~~ 1262

Wear chemical resistant gloves such as rubber, neoprene or vinyl.

OTHER:

494

Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Colorless gas, "sweet odor"

Odor Threshold: Not available

Specific Gravity (Water=1): 0.91 @ 25°C/25°C

Vapor Pressure: 1,210 mm Hg @ 20°C

Vapor Density (Air=1): 2.15

Density: Not available

OCC 11765

9. PHYSICAL AND CHEMICAL PROPERTIES (Continued)

Evaporation Rate: >15

% Volatiles by Wt: 100

Boiling Point: 7°F

Freezing Point: Not available

Melting Point: -245°F

Solubility in Water (% by wt.): Slight

pH: Not determined

Octanol/Water Partition Coefficient: Not available

Thermal Decomposition Temperature: Not available

Other: This material is a gas at atmospheric pressure and room temperature.

VOC (g/l. by wt.): Not applicable

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:

 STABLE X UNSTABLE

REACTS WITH:

<u> X </u> AIR	<u> X </u> OXIDIZERS	<u> X </u> METALS
<u> </u> WATER	<u> </u> ACIDS	<u> </u> OTHER
<u> X </u> HEAT	<u> </u> ALKALIS	<u> </u> NONE

HAZARDOUS POLYMERIZATION:

 X OCCURS WILL NOT OCCUR

COMMENTS:

99999 ~~533~~ There are no standard statements entered for this section.

IN BACK

HAZARDOUS DECOMPOSITION PRODUCTS:

99999 ~~533~~ ~~1387~~ 1290 There are no standard statements entered for this section.

11. TOXICOLOGICAL INFORMATION

743

OCC 11766

75-01-4 Ethene, chloro-

ACUTE ORAL LD50 : (rat) 500 mg/kg

ACUTE INHALATION LC50 : (rat) 150,000 mg/kg

11. TOXICOLOGICAL INFORMATION (Continued)

Vinyl chloride has been demonstrated to be mutagenic in cultured cell tests, insects, and laboratory animals. It is also listed as a human carcinogen by OSHA, IARC (Group 1) and NTP. Long term exposure to vinyl chloride has caused liver and other cancers in animals and humans. At high concentrations vinyl chloride can cause central nervous depression, affect heart rhythms, and cause liver and kidney damage. Prolonged and repeated exposure may result in changes in the blood system and loss of bone from finger tips.

12. ECOLOGICAL INFORMATION

802

No Ecological Data Available.

13. DISPOSAL CONSIDERATIONS

99999 852

There are no standard statements entered for this section.

14. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME: Vinyl Chloride, Stabilized

DOT HAZARD CLASS: 2.1

DOT IDENTIFICATION NUMBER: UN1086

DOT PACKING GROUP: Not Applicable

DOT HAZARDOUS SUBSTANCE(S): RQ 1 Lb. (Vinyl Chloride)

DOT MARINE POLLUTANT(S): Not Applicable

ADDITIONAL DESCRIPTION REQUIREMENT: Not Applicable

OCC 11767

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

880

This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372. See Section 2, List Legend 02.

877

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

15. REGULATORY INFORMATION (Continued)

879

To aid our customers in complying with regulatory requirements, SARA Title III Hazard Categories for this product are indicated below. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40.CFR.370. Please consult those regulations for details.

TSCA:

SARA/TITLE III HAZARD CATEGORIES:

Immediate(Acute) Health:	<u>YES</u>	Reactive Hazard	<u>YES</u>
Delayed(Chronic) Health:	<u>YES</u>	Sudden Release of Pressure:	<u>YES</u>
Fire Hazard:	<u>YES</u>		

HMIS HAZARD RATINGS:

HEALTH HAZARD: 3* FIRE HAZARD: 4 REACTIVITY: 2

STATE REGULATIONS:

888

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING: This product contains a chemical known to the State of California to cause cancer.

1112

See Section 2. COMPOSITION/INFORMATION ON INGREDIENTS list legend for applicable state regulation.

INTERNATIONAL REGULATIONS:

894

Consult the regulations of the importing country.

99999

There are no standard statements entered for this section.

CANADA:

WHMIS Hazard Class: Not Rated/

16. OTHER INFORMATION

895

For additional non-emergency health, safety or environmental information telephone (972) 404-2405 or write to:

Occidental Chemical Corporation
Product Stewardship Department
5005 LBJ Freeway
P.O. Box 809050
Dallas, Texas 75380

OCC 11768

16. OTHER INFORMATION (Continued)

MSDS LEGEND:

ACGIH = American Conference of Governmental Industrial Hygienists

CAS = Chemical Abstracts Service Registry Number

CEILING = Ceiling Limit (15 Minutes)

CEL = Corporate Exposure Limit

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit (OSHA)

STEL = Short Term Exposure Limit (15 Minutes)

TDG = Transportation of Dangerous Goods (Canada)

TLV = Threshold Limit Value (ACGIH)

TWA = Time Weighted Average (8 Hours)

WHMIS = Worker Hazardous Materials Information System (Canada)

* = See Section 3 Hazards Identification - Repeated Exposure (Chronic) Information

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Revised

17. WARNING LABEL INFORMATION

SIGNAL WORD:

898

DANGER

OCC 11769

HAZARD WARNINGS:

99999

THERE ARE NO STANDARD STATEMENTS ENTERED FOR THIS SECTION.

PRECAUTIONS:

355

Keep away from heat, sparks, pilot lights, welding operations and open flame.

1000

Keep container tightly closed and properly labeled.

17. WARNING LABEL INFORMATION (Continued)

1005

Never enter a pit or tank without following safety procedures - never alone, always with a lifeline, and always with a positive pressure supply of fresh air. Avoid use in confined spaces.

997

Ground and bond equipment to prevent electrostatic charge when pouring pellets.

FIRST AID

EYES:

99999

There are no standard statements entered for this section.

SKIN:

164

For contact with liquid or cold gas; quickly remove victim from source of contamination and flush lukewarm (100-105°) not hot, flowing water until the chemical is removed. DO NOT attempt to re-warm the affected area on site. DO NOT rub area or apply dry heat. Loosely cover with a dry sterile dressing. GET MEDICAL ATTENTION QUICKLY.

INHALATION:

1899

Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, have a trained person administer artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:

179

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Have patient drink several glasses of water then induce vomiting by having patient tickle back of throat with finger. Keep airway clear. GET MEDICAL ATTENTION IMMEDIATELY.

IN CASE OF SPILL OR LEAK:

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There are no standard statements entered for this section.

FIRE:

99999

There are no standard statements entered for this section.

HANDLING AND STORAGE:

99999

There are no standard statements entered for this section.

DISPOSAL:

99999

There are no standard statements entered for this section.

INFORMATION REQUIRED BY FEDERAL, STATE OR LOCAL REGULATIONS:

This Product Contains:

OCC 11770

CAS# NAME

75-01-4 Ethene, chloro-

HMIS RATING: HEALTH 3* FLAMMABILITY 4 REACTIVITY 2

17. WARNING LABEL INFORMATION (Continued)

LABEL NUMBER: 110M9192

1110

For Industrial Use Only

D
R
A
F
T