



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: VINYLIDENE CHLORIDE

TRADE NAMES/SYNONYMS:

MTG MSDS 239; 1,1-DICHLOROETHENE; 1,1-DICHLOROETHYLENE; VDC; VINYLIDENE CHLORIDE MONOMER; VINYLIDENE DICHLORIDE; VINYLIDENE CHLORIDE, INHIBITED; RCRA U078; UN 1303; C2H2CL2; MAT25070; RTECS KV9275000

CHEMICAL FAMILY: halogens

CREATION DATE: Jan 24 1989

REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: VINYLIDENE CHLORIDE

CAS NUMBER: 75-35-4

PERCENTAGE: >99.9

COMPONENT: 4-METHOXYPHENOL

CAS NUMBER: 150-76-5

PERCENTAGE: 0.02000

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=4 REACTIVITY=2

EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: volatile liquid

ODOR: faint odor, sweet odor

MAJOR HEALTH HAZARDS: harmful if swallowed, respiratory tract irritation, skin irritation, eye irritation, central nervous system depression



PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May polymerize. Containers may rupture or explode. May form peroxides during prolonged storage.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, symptoms of drunkenness, lung congestion, liver damage, convulsions

LONG TERM EXPOSURE: kidney damage, tumors

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe)

LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe), eye damage

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: symptoms of drunkenness, liver damage

LONG TERM EXPOSURE: same as effects reported in short term exposure

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If a large amount is swallowed, get medical attention.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive above flash point. Containers may rupture or explode if exposed to heat.

EXTINGUISHING MEDIA: alcohol-resistant foam, carbon dioxide, regular dry chemical, water

Large fires: Use alcohol-resistant foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool

containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Water may be ineffective.

FLASH POINT: 14 F (-10 C)

LOWER FLAMMABLE LIMIT: 5.6%

UPPER FLAMMABLE LIMIT: 11.4%

AUTOIGNITION: 855 F (457 C)

FLAMMABILITY CLASS (OSHA): IA

6. ACCIDENTAL RELEASE MEASURES

AIR RELEASE:

Reduce vapors with water spray. Stay upwind and keep out of low areas.

SOIL RELEASE:

Dig holding area such as lagoon, pond or pit for containment. Dike for later disposal. Absorb with sand or other non-combustible material.

WATER RELEASE:

Collect with absorbent into suitable container. Collect spilled material using mechanical equipment.

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Remove sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Store in a cool, dry place. Store in a well-ventilated area. Keep in the dark. Keep separated from incompatible substances. Store outside or in a detached building. Store with flammable liquids. Store in a tightly closed container. Containers must have overpressure release device. Avoid heat, flames, sparks and other sources of ignition. Keep separated

from incompatible substances. Monitor inhibitor content. Avoid exposure to low temperatures or freezing. May form explosive peroxides. Store in a tightly closed container. Avoid contact with light. Store in a cool, dry place. Monitor inhibitor content. Do not evaporate or distill to dryness. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

VINYLDENE CHLORIDE:

1 ppm (4 mg/m³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)

5 ppm ACGIH TWA

NIOSH TWA (lowest feasible concentration)

VENTILATION: Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

At any detectable concentration -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid
COLOR: colorless
PHYSICAL FORM: volatile liquid
ODOR: faint odor, sweet odor
MOLECULAR WEIGHT: 96.64
MOLECULAR FORMULA: C₂-H₂-CL₂
BOILING POINT: 86-90 F (30-32 C)
FREEZING POINT: -188 F (-122 C)
VAPOR PRESSURE: 400 mmHg @ 14.8 C
VAPOR DENSITY (air=1): 3.4
SPECIFIC GRAVITY (water=1): 1.213
WATER SOLUBILITY: 0.04% @ 20 C
PH: Not available
VOLATILITY: Not available
ODOR THRESHOLD: 500 ppm
EVAPORATION RATE: Not available
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: organic solvents

10. STABILITY AND REACTIVITY

REACTIVITY: May form explosive peroxides. Avoid contact with temperatures above -40 C. Avoid contact with heat, air, light or moisture and monitor inhibitor content. May polymerize. Closed containers may rupture violently.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

INCOMPATIBILITIES: metals, acids, oxidizing materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: phosgene, halogenated compounds, oxides of carbon

POLYMERIZATION: May polymerize. Avoid contact with heat or light and monitor inhibitor content.

11. TOXICOLOGICAL INFORMATION

VINYLDENE CHLORIDE:

TOXICITY DATA: 10000 mg/m³ inhalation-rat LC₅₀; 200 mg/kg oral-rat LD₅₀

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Limited Evidence, Group 3;

ACGIH: A4 -Not Classifiable as a Human Carcinogen

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:

Toxic: inhalation, ingestion

TARGET ORGANS: central nervous system, liver

TUMORIGENIC DATA: Available.

MUTAGENIC DATA: Available.

REPRODUCTIVE EFFECTS DATA: Available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: 74000 ug/L 96 hour(s) LC50 (Mortality) Bluegill (*Lepomis macrochirus*)

INVERTEBRATE TOXICITY: 224000 ug/L 96 hour(s) LC50 (Mortality) Opossum shrimp (*Mysidopsis bahia*)

ALGAL TOXICITY: >712000 ug/L 96 hour(s) EC50 (Photosynthesis) Diatom (*Skeletonema costatum*)

ENVIRONMENTAL SUMMARY: Moderately toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U078. Hazardous Waste Number(s): D029. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 0.7 mg/L. Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Vinylidene chloride, stabilized

ID NUMBER: UN1303

HAZARD CLASS OR DIVISION: 3

PACKING GROUP: I

LABELING REQUIREMENTS: 3



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Vinylidene chloride, stabilized

UN NUMBER: UN1303

CLASS: 3

PACKING GROUP/CATEGORY: I

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

VINYLDINE CHLORIDE: 100 LBS RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):

ACUTE: Yes

CHRONIC: Yes

FIRE: Yes

REACTIVE: Yes

SUDDEN RELEASE: Yes

SARA TITLE III SECTION 313 (40 CFR 372.65):

VINYLDINE CHLORIDE

OSHA PROCESS SAFETY (29 CFR 1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: BD2

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION:

VINYLDENE CHLORIDE

CAS NUMBER: 75-35-4

SECTION 4

CANADA INVENTORY (DSL/NDL): Not determined.

16. OTHER INFORMATION

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