

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: METHYL ACETYLENE

TRADE NAMES/SYNONYMS:

MTG MSDS 216; PROPYNE; ALLYLENE; PROPINE; 1-PROPYNE; C₃H₄; MAT14250; RTECS UK4250000

CHEMICAL FAMILY: hydrocarbons, aliphatic

CREATION DATE: Jan 24 1989

REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: METHYL ACETYLENE

CAS NUMBER: 74-99-7

PERCENTAGE: 100

3. HAZARDS IDENTIFICATION

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



EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: liquefied gas

ODOR: sweet odor

MAJOR HEALTH HAZARDS: central nervous system depression

PHYSICAL HAZARDS: Flammable gas. May cause flash fire. May decompose violently at room temperature.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, difficulty breathing, headache, drowsiness, dizziness, loss of

coordination, dilated pupils, unconsciousness

LONG TERM EXPOSURE: convulsions

SKIN CONTACT:

SHORT TERM EXPOSURE: frostbite

LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: frostbite

LONG TERM EXPOSURE: no information is available

INGESTION:

SHORT TERM EXPOSURE: ingestion of a gas is unlikely

LONG TERM EXPOSURE: ingestion of a gas is unlikely

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

SKIN CONTACT: If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

EYE CONTACT: Contact with liquid: Immediately 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.

NOTE TO PHYSICIAN: For inhalation, consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Flammable. Containers may rupture or explode if exposed to heat.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical

Large fires: 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: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from

other flammables. 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. 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. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking.

FLASH POINT: flammable

LOWER FLAMMABLE LIMIT: 1.7 % by volume

UPPER FLAMMABLE LIMIT: 11.7 % by volume

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition or combustion products: oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Store in a cool, dry place. Store in a well-ventilated area. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

METHYL ACETYLENE:

1000 ppm (1650 mg/m³) OSHA TWA

1000 ppm ACGIH TWA

1000 ppm (1650 mg/m³) NIOSH recommended TWA 10 hour(s)

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

EYE PROTECTION: For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

GLOVES: Wear insulated gloves.

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

1700 ppm

Any supplied-air respirator.

Any self-contained breathing apparatus with a full facepiece.

Emergency or planned entry into unknown concentrations or IDLH conditions -

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: gas

COLOR: colorless

PHYSICAL FORM: liquefied gas

ODOR: sweet odor

MOLECULAR WEIGHT: 40.07

MOLECULAR FORMULA: C₃-H₄

BOILING POINT: -9.8 F (-23.2 C) @ 760 mmHg

FREEZING POINT: -152.9 F (-102.7 C)

VAPOR PRESSURE: 3876 mmHg @ 20 C

VAPOR DENSITY (air=1): 1.4

SPECIFIC GRAVITY (water=1): 0.7062 @ -50 C

WATER SOLUBILITY: 3.640 mg/mL @ 25 C (slightly soluble)

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

VISCOSITY: 0.26 mPa.s @ -40.15 C (liquid)

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable

SOLVENT SOLUBILITY:

Soluble: alcohol, benzene, chloroform

10. STABILITY AND REACTIVITY

REACTIVITY: May decompose violently at room temperature.

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

INCOMPATIBILITIES: oxidizing materials, metals, halogens, copper, copper alloys, chlorine

HAZARDOUS DECOMPOSITION:

Thermal decomposition or combustion products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

METHYL ACETYLENE:

TOXICITY DATA: 135000 mg/m³ inhalation-rat LC50

ACUTE TOXICITY LEVEL:

Slightly Toxic: inhalation

TARGET ORGANS: central nervous system

MUTAGENIC DATA: Available.

12. ECOLOGICAL INFORMATION

FATE AND TRANSPORT:

KOC: 10 (log = 1.00)

HENRY'S LAW CONSTANT: 1.1 E -2

BIOCONCENTRATION: 0.35 (estimated from Koc)

ENVIRONMENTAL SUMMARY: Leaches through the soil or the sediment at a very rapid rate. Accumulates very little in the bodies of living organisms. Highly volatile from water.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. D003.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Compressed gas, flammable, n.o.s. (METHYL ACETYLENE)

ID NUMBER: UN1954

HAZARD CLASS OR DIVISION: 2.1

LABELING REQUIREMENTS: 2.1

QUANTITY LIMITATIONS:

PASSENGER AIRCRAFT OR RAILCAR: Forbidden

CARGO AIRCRAFT ONLY: 150 kg



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Compressed gas, flammable, n.o.s. (METHYL ACETYLENE)

UN NUMBER: UN1954

CLASS: 2.1

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

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: No

FIRE: Yes

REACTIVE: Yes

SUDDEN RELEASE: Yes

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

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

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: A, B1.

NATIONAL INVENTORY STATUS:

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

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Listed on DSL.

16. OTHER INFORMATION

“RTECS®” is a United States trademark owned and licensed under authority of the U.S. Government, by and through Symyx Software, Inc. Portions ©Copyright 2001, U.S. Government. All rights reserved.

©Copyright 1984-2009 ChemADVISOR, Inc. All rights reserved.

MATHESON TRI-GAS, INC. MAKES NO EXPRESS OR IMPLIED WARRANTIES, GUARANTEES OR REPRESENTATIONS REGARDING THE PRODUCT OR THE INFORMATION HEREIN, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR USE. MATHESON TRI-GAS, INC. SHALL NOT BE LIABLE FOR ANY PERSONAL INJURY, PROPERTY OR OTHER DAMAGES OF ANY NATURE, WHETHER COMPENSATORY, CONSEQUENTIAL, EXEMPLARY, OR OTHERWISE, RESULTING FROM ANY PUBLICATION, USE OR RELIANCE UPON THE INFORMATION HEREIN.