

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: HYDROGEN CYANIDE, ANHYDROUS, STABILIZED

TRADE NAMES/SYNONYMS:

MTG MSDS 119; HYDROCYANIC ACID; PRUSSIC ACID; FORMONITRILE; CARBON HYDRIDE NITRIDE; HYDROCYANIC ACID, LIQUEFIED; HYDROGEN CYANIDE; RCRA P063; UN 1051; CHN; MAT11160; RTECS MW6825000

CHEMICAL FAMILY: inorganic, gas

CREATION DATE: Jan 24 1989

REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: HYDROGEN CYANIDE, ANHYDROUS, STABILIZED
CAS NUMBER: 74-90-8
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

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



EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: liquid

ODOR: almond odor

MAJOR HEALTH HAZARDS: potentially fatal if inhaled or swallowed, respiratory tract irritation, eye irritation

PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May polymerize. Containers may rupture or explode. May react on contact with air, heat, light or water.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, rash, nausea, chest pain, irregular heartbeat, headache, blindness, bluish skin color, suffocation, lung congestion, paralysis, convulsions, coma, death

LONG TERM EXPOSURE: vomiting, digestive disorders, dizziness

SKIN CONTACT:

SHORT TERM EXPOSURE: suffocation

LONG TERM EXPOSURE: same as effects reported in long term inhalation, rash, itching

EYE CONTACT:

SHORT TERM EXPOSURE: irritation, suffocation, death

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

INGESTION:

SHORT TERM EXPOSURE: suffocation, death

LONG TERM EXPOSURE: no information is available

4. FIRST AID MEASURES

INHALATION: When safe to enter area, remove from exposure. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention immediately.

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: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

ANTIDOTE: amyl nitrite, inhalation; sodium nitrite, intravenous; sodium thiosulfate, infusion; oxygen.

NOTE TO PHYSICIAN: Consider amyl nitrite inhalation, 1 ampoule (0.2 mL) every 5 minutes, and oxygen. For ingestion, consider gastric lavage. Consider oxygen.

5. FIRE FIGHTING MEASURES

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

EXTINGUISHING MEDIA: Let burn unless leak can be stopped immediately. Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Cool containers with water spray until well after the fire is out. Keep unnecessary people away, isolate hazard area and deny entry. For tank, rail car or tank truck, evacuation radius: 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. 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.

FLASH POINT: 0 F (-18 C) (CC)

LOWER FLAMMABLE LIMIT: 5.6%

UPPER FLAMMABLE LIMIT: 40%

AUTOIGNITION: 1000 F (538 C)

FLAMMABILITY CLASS (OSHA): IA

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Do not touch spilled material. Stop leak if possible without personal risk. Avoid heat, flames, sparks and other sources of ignition. Remove sources of ignition. Reduce vapors with water spray. Do not get water directly on material. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet. For tank, rail car or tank truck: 800 meters (1/2 mile). 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 1910.101. Protect from physical damage. Store outside or in a detached building. Store with flammable liquids. Avoid heat, flames, sparks and other sources of ignition. Shelf life is 90 days. Keep separated from incompatible substances. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355 Part B).

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

HYDROGEN CYANIDE, ANHYDROUS, STABILIZED:

HYDROGEN CYANIDE:

10 ppm (11 mg/m³) OSHA TWA (skin)

4.7 ppm (5 mg/m³) OSHA STEL (skin) (vacated by 58 FR 35338, June 30, 1993)

4.7 ppm(CN) ACGIH ceiling (skin)

4.7 ppm (5 mg/m³) NIOSH recommended STEL (skin)

VENTILATION: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles with a faceshield. 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.

47 ppm

Any supplied-air respirator.

50 ppm

Any supplied-air respirator operated in a continuous-flow mode.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator 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 canister providing protection against the compound of concern.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

COLOR: colorless

ODOR: almond odor

MOLECULAR WEIGHT: 27.03

MOLECULAR FORMULA: H-C-N

BOILING POINT: 79 F (26 C)

FREEZING POINT: 7 F (-14 C)

VAPOR PRESSURE: 620 mmHg @ 20 C

VAPOR DENSITY (air=1): 0.941

SPECIFIC GRAVITY (water=1): 0.699 @ 22 C

WATER SOLUBILITY: soluble

PH: weakly acidic

VOLATILITY: Not available

ODOR THRESHOLD: 2-5 ppm

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Soluble: alcohol

Slightly Soluble: ether

10. STABILITY AND REACTIVITY

REACTIVITY: May react with evolution of heat on contact with water.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Avoid inhalation of material or combustion by-products. Keep out of water supplies and sewers.

INCOMPATIBILITIES: combustible materials, bases, amines, oxidizing materials, acids

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: cyanides

POLYMERIZATION: Polymerizes with evolution of heat. Avoid contact with air, light, water, incompatible material or storage and use above room temperature.

11. TOXICOLOGICAL INFORMATION

HYDROGEN CYANIDE, ANHYDROUS, STABILIZED:

TOXICITY DATA: 150 ppm/30 minute(s) inhalation-rat LC50; 3700 ug/kg oral-mouse LD50

LOCAL EFFECTS:

Irritant: inhalation, eye

ACUTE TOXICITY LEVEL:

Highly Toxic: inhalation, ingestion

TARGET ORGANS: blood

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: blood system disorders, heart or cardiovascular disorders, nervous system disorders

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: 5 ug/L 12 week(s) (Physiological) Atlantic salmon (*Salmo salar*)

INVERTEBRATE TOXICITY: 21 ug/L 83 hour(s) NOEC (Reproduction) Scud (Gammarus pseudolimnaeus)

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): P063.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Hydrogen cyanide, stabilized

ID NUMBER: UN1051

HAZARD CLASS OR DIVISION: 6.1

PACKING GROUP: I

LABELING REQUIREMENTS: 6.1; 3

QUANTITY LIMITATIONS:

PASSENGER AIRCRAFT OR RAILCAR: Forbidden

CARGO AIRCRAFT ONLY: Forbidden

MARINE POLLUTANT: HYDROGEN CYANIDE, ANHYDROUS, STABILIZED



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Hydrogen cyanide, stabilized

UN NUMBER: UN1051

CLASS: 6.1; 3

PACKING GROUP/CATEGORY: I

15. REGULATORY INFORMATION

U.S. REGULATIONS:

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

HYDROGEN CYANIDE: 10 LBS RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B):

HYDROGEN CYANIDE: 100 LBS TPQ

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C):

HYDROGEN CYANIDE: 10 LBS RQ

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):
HYDROGEN CYANIDE**

**OSHA PROCESS SAFETY (29 CFR 1910.119):
HYDROGEN CYANIDE: 1000 LBS TQ**

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: ABD1F

NATIONAL INVENTORY STATUS:

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

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Not determined.

16. OTHER INFORMATION

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