

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: 5-10% CARBON MONOXIDE, 10-15% CARBON DIOXIDE, LESS THAN 3000 PPM PROPANE, BALANCE NITROGEN

TRADE NAMES/SYNONYMS:
00202883

CREATION DATE: Apr 14 1999
REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: NITROGEN, COMPRESSED GAS
CAS NUMBER: 7727-37-9
PERCENTAGE: 74.7-84.7

COMPONENT: CARBON DIOXIDE, GAS
CAS NUMBER: 124-38-9
PERCENTAGE: 10-15

COMPONENT: CARBON MONOXIDE
CAS NUMBER: 630-08-0
PERCENTAGE: 5-10

COMPONENT: PROPANE
CAS NUMBER: 74-98-6
PERCENTAGE: <0.30000

3. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:



PHYSICAL DESCRIPTION: gas

MAJOR HEALTH HAZARDS: harmful if inhaled, blood damage, difficulty breathing, suffocation

PHYSICAL HAZARDS: Containers may rupture or explode if exposed to heat.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: ringing in the ears, nausea, vomiting, chest pain, irregular heartbeat, headache, symptoms of drunkenness, dizziness, fainting, tingling sensation, hearing loss, visual disturbances, dilated pupils, blindness, suffocation, lung congestion, blood disorders, heart disorders, kidney damage, liver enlargement, liver damage, nerve damage, reproductive effects, brain damage, convulsions, coma

LONG TERM EXPOSURE: changes in body temperature, changes in blood pressure, nausea, vomiting, loss of appetite, chest pain, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, hallucinations, pain in extremities, tremors, loss of coordination, hearing loss, visual disturbances, eye damage, suffocation, blood disorders, heart damage, nerve damage, birth defects, brain damage

SKIN CONTACT:

SHORT TERM EXPOSURE: no information on significant adverse effects

LONG TERM EXPOSURE: no information on significant adverse effects

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information on significant adverse effects

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: Wash exposed skin with soap and water.

EYE CONTACT: Flush eyes with plenty of water.

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: Negligible fire hazard. Containers may rupture or explode if exposed to heat.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical

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. Do not get water directly on material. Avoid inhalation of material or combustion by-products.

6. ACCIDENTAL RELEASE MEASURES

WATER RELEASE:

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:

Stop leak if possible without personal risk. Small spills of the liquid component: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Spills with a large number of canisters: Dike for later disposal.

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. See original container for storage recommendations. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

NITROGEN, COMPRESSED GAS:

NITROGEN:

ACGIH (simple asphyxiant)

CARBON DIOXIDE, GAS:

CARBON DIOXIDE:

5000 ppm (9000 mg/m³) OSHA TWA

10000 ppm (18000 mg/m³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)

30000 ppm (54000 mg/m³) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)

5000 ppm ACGIH TWA

30000 ppm ACGIH STEL

5000 ppm (9000 mg/m³) NIOSH recommended TWA 10 hour(s)

30000 ppm (54000 mg/m³) NIOSH recommended STEL

CARBON MONOXIDE:

50 ppm (55 mg/m³) OSHA TWA

35 ppm (40 mg/m³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)

200 ppm (229 mg/m³) OSHA ceiling (vacated by 58 FR 35338, June 30, 1993)
25 ppm ACGIH TWA
35 ppm (40 mg/m³) NIOSH recommended TWA 10 hour(s)
200 ppm (229 mg/m³) NIOSH recommended ceiling

VENTILATION: Provide local exhaust ventilation system. 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: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

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: gas

ODOR: Not available

BOILING POINT: -321 F (-196 C) (NITROGEN, COMPRESSED GAS)

FREEZING POINT: -346 F (-210 C) (NITROGEN, COMPRESSED GAS)

VAPOR PRESSURE: 760 mmHg @ -196 C (NITROGEN, COMPRESSED GAS)

VAPOR DENSITY (air=1): 0.967 (NITROGEN, COMPRESSED GAS)

DENSITY: Not available

WATER SOLUBILITY: Not available

PH: Not applicable

VOLATILITY: 100% (NITROGEN, COMPRESSED GAS)

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

INCOMPATIBILITIES: oxidizing materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of nitrogen, oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

CARBON DIOXIDE, GAS:

TOXICITY DATA: 470000 ppm/30 minute(s) inhalation-rat LC50

ACUTE TOXICITY LEVEL:

Relatively Non-toxic: inhalation

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: heart or cardiovascular disorders, respiratory disorders

REPRODUCTIVE EFFECTS DATA: Available.

CARBON MONOXIDE:

TOXICITY DATA: 1807 ppm/4 hour(s) inhalation-rat LC50

ACUTE TOXICITY LEVEL:

Toxic: inhalation

TARGET ORGANS: blood

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

MUTAGENIC DATA: Available.

REPRODUCTIVE EFFECTS DATA: Available.

ADDITIONAL DATA: Alcohol may enhance the toxic effects. May cross the placenta. Smoking may enhance the toxic effects.

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Nitrogen, compressed
ID NUMBER: UN1066
HAZARD CLASS OR DIVISION: 2.2
LABELING REQUIREMENTS: 2.2



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: Nitrogen, compressed
UN NUMBER: UN1066
CLASS: 2.2

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: Yes
FIRE: No
REACTIVE: No
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:
Known to the state of California to cause the following:
Carbon monoxide
Developmental toxicity (Jul 01, 1989)

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Not determined.

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

MSDS SUMMARY OF CHANGES

15. REGULATORY 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 1984-2008 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.