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: NITROSYL CHLORIDE

TRADE NAMES/SYNONYMS:
MTG MSDS 69; NITROGEN OXYCHLORIDE; NITROGEN OXIDE CHLORIDE; NITROSONIUM
CHLORIDE; STCC 4904330; UN 1069; CINO; MAT16750; RTECS Q7883000

CHEMICAL FAMILY: inorganic, gas

CREATION DATE: Jan 24 1989
REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: NITROSYL CHLORIDE
CAS NUMBER: 2696-92-6
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=3  FIRE=0  REACTIVITY=1

EMERGENCY OVERVIEW:
COLOR: yellow, red or brown
PHYSICAL FORM: gas
ODOR: irritating odor
MAJOR HEALTH HAZARDS: respiratory tract burns, skin burns, eye burns, mucous membrane burns
PHYSICAL HAZARDS: Containers may rupture or explode if exposed to heat. May ignite combustibles.
May react on contact with water.

POTENTIAL HEALTH EFFECTS:
INHALATION:
SHORT TERM EXPOSURE: burns, nausea, difficulty breathing, headache, dizziness, bluish skin color,
lung congestion
LONG TERM EXPOSURE: tooth decay, digestive disorders

SKIN CONTACT:
SHORT TERM EXPOSURE: burns
LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:
SHORT TERM EXPOSURE: burns, tearing, blindness
LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:
SHORT TERM EXPOSURE: burns, nausea, vomiting, diarrhea, stomach pain, difficulty breathing, kidney damage, convulsions, coma
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. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

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

EYE CONTACT: Immediately 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. Give large amounts of water or milk. Allow vomiting to occur. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

NOTE TO PHYSICIAN: For inhalation, consider oxygen. Avoid gastric lavage or emesis.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. Oxidizer. May ignite or explode on contact with combustible materials.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical

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. Cool containers with water
spray until well after the fire is out. Stay away from the ends of tanks. Keep unnecessary people away, isolate hazard area and deny entry.

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:
Stop leak if possible without personal risk. 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.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
NITROSYL CHLORIDE:
No occupational exposure limits established.

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: 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.
Any supplied-air respirator with a full facepiece that is operated in a 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.
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  
**COLOR:** yellow, red or brown  
**ODOR:** irritating odor  
**MOLECULAR WEIGHT:** 65.46  
**MOLECULAR FORMULA:** CL-N-O  
**BOILING POINT:** 21 F (-6 C)  
**FREEZING POINT:** -84 to -79 F (-64.5 to -61.5 C)  
**VAPOR PRESSURE:** 76 mmHg @ 50 C  
**VAPOR DENSITY (air=1):** 2.3  
**SPECIFIC GRAVITY (water=1):** 1.417 @ -12 C  
**WATER SOLUBILITY:** decomposes  
**PH:** acidic  
**VOLATILITY:** Not applicable  
**ODOR THRESHOLD:** Not available  
**EVAPORATION RATE:** Not applicable  
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not applicable  
**SOLVENT SOLUBILITY:** Soluble: fuming sulfuric acid

10. STABILITY AND REACTIVITY

**REACTIVITY:** Contact with water or moist air may form flammable and/or toxic gases or vapors.  
**CONDITIONS TO AVOID:** Minimize contact with material. Containers may rupture or explode if exposed to heat.  
**INCOMPATIBILITIES:** metals, combustible materials  
**HAZARDOUS DECOMPOSITION:**  
Thermal decomposition products: halogenated compounds, oxides of nitrogen  
**POLYMERIZATION:** Will not polymerize.

11. TOXICOLOGICAL INFORMATION

**NITROSYL CHLORIDE:**  
**LOCAL EFFECTS:**  
Corrosive: inhalation, skin, eye, ingestion
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: Nitrosyl chloride
ID NUMBER: UN1069
HAZARD CLASS OR DIVISION: 2.3
LABELING REQUIREMENTS: 2.3; 8
QUANTITY LIMITATIONS:
PASSENGER AIRCRAFT OR RAILCAR: Forbidden
CARGO AIRCRAFT ONLY: Forbidden
ADDITIONAL SHIPPING DESCRIPTION: Toxic-Inhalation Hazard Zone C

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: Nitrosyl chloride
UN NUMBER: UN1069
CLASS: 2.3; 8

15. REGULATORY INFORMATION

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


SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):
ACUTE: Yes
CHRONIC: No
FIRE: No
REACTIVE: Yes
SUDDEN RELEASE: Yes


STATE REGULATIONS:
California Proposition 65: Not regulated.

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: AD1E

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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