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: NANOCHEM® MTX

TRADE NAMES/SYNONYMS:
NANOCHEM MTX; CORROSIVE GAS PURIFIER; 00226076

PRODUCT USE: For use with inert, reactive, and corrosive gases, except reactive fluoride gases, such as F2, HF, or BF3. Suitable for use with halocarbons. Operating pressure: 0-150 psig or 0-650 psig, depending upon purifier hardware design. The data herein are representative for the purification medium as shipped under an inert gas pressure of 5-15 psig. Once the purifier is installed and exposed to the intended process gas, the MSDS for the process gas must also be consulted in conjunction with this MSDS to determine the appropriate hazards.

CREATION DATE: Oct 31 2000
REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: PROPRIETARY ORGANOLITHIUM POLYMER
CAS NUMBER: Not assigned.
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:
COLOR: white
PHYSICAL FORM: White pellets (compound) encased in a stainless steel cylinder (canister) pressurized with an inert gas.

MAJOR HEALTH HAZARDS: There are no expected signs or symptoms of overexposure in the workplace. The purification system is sold as a sealed unit and no worker exposure to the media is expected. In case of an accidental spill, the signs and symptoms below may be seen.
POTENTIAL HEALTH EFFECTS:

INHALATION:
SHORT TERM EXPOSURE: None from sealed unit. Inhaling dust from medium may cause mechanical irritation of nose and throat, coughing and chest discomfort. Inhalation of large quantities of dust may cause lung damage.
LONG TERM EXPOSURE: See short term effects.

SKIN CONTACT:
SHORT TERM EXPOSURE: None from sealed unit. None expected from medium
LONG TERM EXPOSURE: See short term effects.

EYE CONTACT:
SHORT TERM EXPOSURE: None from sealed unit. Exposure to dust from medium may cause mechanical irritation including slight discomfort, blinking and excess tear formation. Can cause eye redness, swelling of conjunctiva and minor corneal injury.
LONG TERM EXPOSURE: See short term effects.

INGESTION:
SHORT TERM EXPOSURE: None from sealed unit. None expected from medium
LONG TERM EXPOSURE: See short term effects.

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: Negligible fire hazard.

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for surrounding fire.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

FLASH POINT: none
6. ACCIDENTAL RELEASE MEASURES

**OCCUPATIONAL RELEASE:**
Collect spilled material in appropriate container for disposal. If purifier has been exposed to process gas prior to release, refer to hazards associated with process gas before attempting to clean up spilled medium.

7. HANDLING AND STORAGE

**STORAGE:** Store and handle in accordance with all current regulations and standards. Store at ambient temperatures with contents under dry inert gas pressure at 5-15 psig. See original container for storage recommendations.

**HANDLING:** Use methods to minimize dust.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

**EXPOSURE LIMITS:**
**NANOCHEM® MTX:**
No occupational exposure limits established.

**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.
Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100.
Any air-purifying full-facepiece respirator equipped with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100 or P100.
Any powered, air-purifying respirator with a high-efficiency particulate filter.
Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter.
Any supplied-air respirator with a full facepiece that 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: solid
COLOR: white
PHYSICAL FORM: White pellets (compound) encased in a stainless steel cylinder (canister) pressurized with an inert gas.
ODOR: Not available
BOILING POINT: Not applicable
MELTING POINT: Not available
VAPOR PRESSURE: Not applicable
VAPOR DENSITY: Not applicable
SPECIFIC GRAVITY (water=1): 0.73
WATER SOLUBILITY: Not available
PH: (8-11 aqueous slurry)
VOLATILITY: Not applicable
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: hydrogen fluoride
Insoluble: solvents

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: Reactive fluoride gases, such as F2, HF, or BF3, will decompose the purifier medium and produce volatile metal fluorides, such as SiF4.

HAZARDOUS DECOMPOSITION:
Thermal decomposition or combustion products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.
11. TOXICOLOGICAL INFORMATION

NANOCHEM® MTX:
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

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: No
CHRONIC: No
FIRE: No
REACTIVE: No
SUDDEN RELEASE: No


STATE REGULATIONS:
California Proposition 65: Not regulated.

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

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