

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GT&S, INC
(FORMERLY MG INDUSTRIES)
5275 TILGHMAN STREET
ALLENTOWN, PENNSYLVANIA 18104
PHONE: 610-398-2211
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EMERGENCY CONTACT:
CHEMTREC:
1-800-424-9300

SUBSTANCE: NITROGEN, COMPRESSED GAS

TRADE NAMES/SYNONYMS:

DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2; MGI16625; RTECS QW9700000

CHEMICAL FAMILY: inorganic, gas

CREATION DATE: May 07 1990

REVISION DATE: Sep 13 2007

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: NITROGEN, COMPRESSED GAS

CAS NUMBER: 7727-37-9

EC NUMBER (EINECS): 231-783-9

PERCENTAGE: 100

3. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: gas

ODOR: odorless

MAJOR HEALTH HAZARDS: difficulty breathing

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

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: nausea, vomiting, difficulty breathing, headache, drowsiness, fatigue,



dizziness, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma

LONG TERM EXPOSURE: no information on significant adverse effects

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

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

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

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. 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, evacuation radius: 800 meters (1/2 mile). Use extinguishing agents appropriate for surrounding fire. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Do not get water directly on material. Reduce vapors with water spray. Avoid

inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

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. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

NITROGEN, COMPRESSED GAS:

No occupational exposure limits established.

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

EYE PROTECTION: Eye protection not required, but recommended.

CLOTHING: Protective clothing is not required.

GLOVES: Protective gloves are not required.

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

COLOR: colorless

ODOR: odorless

TASTE: tasteless
MOLECULAR WEIGHT: 28.0134
MOLECULAR FORMULA: N₂
BOILING POINT: -321 F (-196 C)
FREEZING POINT: -346 F (-210 C)
VAPOR PRESSURE: 760 mmHg @ -196 C
VAPOR DENSITY (air=1): 0.967
SPECIFIC GRAVITY: Not applicable
DENSITY: 1.2506 g/L
WATER SOLUBILITY: 1.6% @ 20 C
PH: Not applicable
VOLATILITY: 100%
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
VISCOSITY: 0.01787 cP @ 27 C
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable
SOLVENT SOLUBILITY:
Soluble: liquid ammonia
Slightly Soluble: alcohol

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: metals, oxidizing materials

NITROGEN:

LITHIUM: May ignite in the gas.

MAGNESIUM: Violent reaction with the liquid on ignition.

NEODYMIUM: Vigorous reaction.

OZONE: Mixtures of the gases may be explosive.

TITANIUM: Will burn in nitrogen atmosphere.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of nitrogen

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

HEALTH EFFECTS:

INHALATION:

NITROGEN: Nitrogen inhaled under increased atmospheric pressure, (>1.5 atmospheres), may dissolve in

the fat-containing brain cells, and act as an anesthetic, causing narcosis. Persons who have been exposed to increased pressure for a time and who are suddenly released from the pressure may develop decompression sickness. Repeated exposure, without complete decompression, may result in decompression sickness. See information on simple asphyxiants.

ACUTE EXPOSURE:

SIMPLE ASPHYXIANTS: The symptoms of asphyxia depend on the rapidity with which the oxygen deficiency develops and how long it continues. In sudden acute asphyxia, unconsciousness may be immediate. With slow development there may be rapid respiration and pulse, air hunger, dizziness, reduced awareness, tightness in the head, tingling sensations, incoordination, faulty judgement, emotional instability, and rapid fatigue. As the asphyxia progresses, nausea, vomiting, collapse, unconsciousness, convulsions, deep coma and death are possible.

CHRONIC EXPOSURE:

SIMPLE ASPHYXIANTS: No data available.

SKIN CONTACT:

ACUTE EXPOSURE:

NITROGEN: No adverse effects have been reported from the gas.

CHRONIC EXPOSURE:

NITROGEN: No adverse effects have been reported.

EYE CONTACT:

ACUTE EXPOSURE:

NITROGEN: May cause irritation if sprayed directly into the eyes.

CHRONIC EXPOSURE:

NITROGEN: No adverse effects have been reported.

INGESTION:

ACUTE EXPOSURE:

NITROGEN: Ingestion of a gas is unlikely.

CHRONIC EXPOSURE:

NITROGEN: Ingestion of a gas is unlikely.

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

LAND TRANSPORT ADR:

PROPER SHIPPING NAME: Nitrogen, compressed

UN NUMBER: UN1066

CLASS: 2

CLASSIFICATION CODE: 1A

LABELS: 2.2

LAND TRANSPORT RID:

PROPER SHIPPING NAME: Nitrogen, compressed

UN NUMBER: UN1066

CLASS: 2

CLASSIFICATION CODE: 1A

LABELS: 2.2; (+13)

AIR TRANSPORT IATA:

PROPER SHIPPING NAME: Nitrogen, compressed

UN/ID NUMBER: UN1066

CLASS OR DIVISION: 2.2

HAZARD LABELS: 2.2

AIR TRANSPORT ICAO:

PROPER SHIPPING NAME: Nitrogen, compressed

UN NUMBER: UN1066

CLASS OR DIVISION: 2.2

LABELS: 2.2

MARITIME TRANSPORT IMDG:

PROPER SHIPPING NAME: Nitrogen, compressed

UN NUMBER: UN1066

CLASS OR DIVISION: 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 355.30): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: Yes

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: Yes

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

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

GERMAN REGULATIONS:

WATER HAZARD CLASS (WGK):

STATE OF CLASSIFICATION: VwVwS

CLASSIFICATION UNDER HAZARD TO WATER: 0

NATIONAL INVENTORY STATUS:

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

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

16. OTHER INFORMATION

MSDS SUMMARY OF CHANGES

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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