

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

AIRTEC GASES, LLC
2900 S. Highland Drive, #19A
Las Vegas, NV 89109
Information: 1-702-454-2400

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:

SUBSTANCE: NITROUS OXIDE

TRADE NAMES/SYNONYMS:

MTG MSDS 70; DINITROGEN MONOXIDE; FACTITIOUS AIR; LAUGHING GAS; HYPONITROUS ACID ANHYDRIDE; NITROGEN (I) OXIDE; NITROGEN OXIDE; UN 1070; NITROGEN OXIDE (N2O); DINITROGEN OXIDE; NITROUS OXIDE, COMPRESSED; N2O; MAT16790; RTECS QX1350000

CHEMICAL FAMILY: inorganic, gas

PRODUCT USE: industrial

CREATE DATE: March 20, 2020

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: NITROUS OXIDE
CAS NUMBER: 10024-97-2
PERCENTAGE: 100

3. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: gas

ODOR: sweet odor

MAJOR HEALTH HAZARDS: potentially fatal if inhaled, central nervous system depression, difficulty breathing

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



POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: central nervous system effects, nausea, vomiting, headache, drowsiness, dizziness, loss of coordination, hyperactivity or drowsiness, hearing loss, suffocation

LONG TERM EXPOSURE: tingling sensation, impotence, liver effects, kidney effects, reproductive effects, blood disorders

SKIN CONTACT:

SHORT TERM EXPOSURE: blisters, frostbite

LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: frostbite, blurred vision

LONG TERM EXPOSURE: no information is available

INGESTION:

SHORT TERM EXPOSURE: frostbite

LONG TERM EXPOSURE: no information is available

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: If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

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: Oxidizer. May ignite or explode on contact with combustible materials. Gas/air mixtures are explosive.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Flood with water. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-

products. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 800 meters (1/2 mile). 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. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn.

FIRE FIGHTING PROTECTIVE EQUIPMENT: Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

FLASH POINT: Not available

LOWER FLAMMABLE LIMIT: Not available

UPPER FLAMMABLE LIMIT: Not available

AUTOIGNITION: Not available

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition or combustion products: oxides of nitrogen

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. Avoid contact with combustible materials. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

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 1910.105. Keep separated from incompatible substances. Store in a well-ventilated area. Protect from sunlight.

HANDLING: Explosive when mixed with combustible material.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

NITROUS OXIDE:

50 ppm ACGIH TWA

25 ppm (46 mg/m³) NIOSH recommended TWA (waste anesthetic gas)

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

EYE PROTECTION: For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

GLOVES: Wear insulated 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: colorless

ODOR: sweet odor

TASTE: sweet taste

MOLECULAR WEIGHT: 44.01

MOLECULAR FORMULA: N₂-O

BOILING POINT: -128 F (-89 C)

FREEZING POINT: -132 F (-91 C)

DECOMPOSITION POINT: Not available

VAPOR PRESSURE: 760 mmHg @ -88 C

VAPOR DENSITY (air=1): 1.530

SPECIFIC GRAVITY: Not applicable

DENSITY: 1.8122 g/L @ 25 C

WATER SOLUBILITY: 59% @ 25 C

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

VISCOSITY: 0.0145 cP @ 25 C

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable

SOLVENT SOLUBILITY:

Soluble: sulfuric acid, alcohol, alkali solutions, ether, oils

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid contact with combustible materials. Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. May ignite or explode on contact with combustible materials.

INCOMPATIBILITIES: combustible materials, metals, bases, reducing agents, peroxides, metal salts, metal oxides

HAZARDOUS DECOMPOSITION:

Thermal decomposition or combustion products: oxides of nitrogen

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

NITROUS OXIDE:

TOXICITY DATA: >250 ppm inhalation-rat LC50

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3 (Anesthetics, volatile); ACGIH: A4 -Not Classifiable as a Human Carcinogen

TARGET ORGANS: central nervous system

blood, liver, kidneys

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: central nervous system disorders, reproductive disorders, kidney disorders, liver disorders, blood system disorders

MUTAGENIC DATA: Available.

REPRODUCTIVE EFFECTS DATA: Available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: No data available.

INVERTEBRATE TOXICITY: No data available.

ALGAL TOXICITY: No data available.

FATE AND TRANSPORT:

BIODEGRADATION: No data available.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Nitrous oxide

ID NUMBER: UN1070

HAZARD CLASS OR DIVISION: 2.2

LABELING REQUIREMENTS: 2.2; 5.1



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Nitrous oxide

UN NUMBER: UN1070

CLASS: 2.2; 5.1

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: Yes

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:

NITROUS OXIDE

Developmental toxicity (Aug 01, 2008)

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: A, C, D2A.

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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