

MATERIAL SAFETY DATA SHEET

Nitrous Oxide

EMERGENCY CONTACT: 00-36-95-373-100

MANUFACTURER:

LISS Patrongyártó, töltő és forgalmazó Kft. (Liss Ltd.),
H-9653 Répcelak, Carl von Linde út 1.

SUBSTANCE IDENTITY:

SUBSTANCE: Nitrous Oxide

CAS # 10024-97-2

UN2037

Class 2.2

MOLECULAR FORMULA: N₂O

MOLECULAR WT: 44.01

CHEMICAL FAMILY: Inorganic Gas.

CERCLA RATINGS (SCALE 0-3):

HEALTH=U

FIRE=0

REACTIVITY=0

PERSISTENCE=0

NFPA RATINGS (SCALE 0-4):

HEALTH=U

FIRE=0

REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: Nitrous Oxide (CAS #10024- 97-2)

PERCENT: 100.0

OTHER CONTAMINANTS: None

PHYSICAL DATA

DESCRIPTION: Colourless Gas or Liquid with a Slightly Sweet Odor and Taste.

BOILING POINT: -128 F (-89 C)

MELTING POINT: -132 F (-91 C)

SPECIFIC GRAVITY: 1.8122 G/L @ 25 C

VAPOR PRESSURE: 760 mmHg @ -88 C

SOLUBILITY IN WATER: 59% @ 25 C

VAPOR DENSITY: 1.530

SOLVENT SOLUBILITY: soluble in alcohol, ether, sulphuric acid, alkaline solutions, and oils.

VISCOSITY: 0.0145 CPS @ 25 C

FIRE AND EXPLOSION DATA

FIRE/EXPLOSION HAZARD: GAS-Negligible fire hazard when exposed to heat or flame.

CYLINDER-May rupture in heat of fire. GAS-AIR Mixtures are explosive.

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, or halon. For larger fires, use water spray, fog or standard foam.

FIREFIGHTING: Cool fire-exposed cylinders with water from the side until well after the fire is out. Use agents suitable for type of fire. Cool cylinders with flooding amounts of water, applied from as far a distance as possible.

CONDITIONS TO-AVOID

Do not permit physical damage or overheating of cylinders. Contents are under pressure; cylinders may rupture and travel a considerable distance. Contact of liquefied gases with water may cause explosions due to rapid temperature fluctuations.

STORAGE AND DISPOSAL

Store in accordance with 29 CFR 1910.101. For assistance, contact the district director of the EPA.

REACTIVITY

Stable under normal temperatures and pressures. At temperatures greater than 300 C, may decompose and act as an oxidizer.

INCOMPATIBILITIES: *Acetylene:* Forms explosive mixture; *Aluminum:* Oxidizes; *Ammonia:* Forms explosive mixture; *Boron (Amorphous):* Ignites when heated; *Cadmium:* Oxidizes @ 300 C; *Carbon Monoxide:* Explosion Hazard; *Cobalt:* Oxidizes @ 200 C; *Copper:* Oxidizes @ 150 C; *Ditungsten Carbide:* Incandescent Reaction; *Hydrazine:* Ignites; *Hydrogen:* Forms explosive mixture; *Hydrogen+Oxygen:* Ignition reaction with possible explosion; *Hydrogen Sulfide:* Forms explosive mixture; *Iron:* Oxidizes @ 170 C; *Lead:* Oxidizes @ 300 C; *Lithium Hydride:* Ignites; *Nickel:* Oxidizes @ 200 C; *Organic Peroxides:* Incompatible; *Phenyllithium:* Forms unstable products; *Phosphine:* Explodes when sparked; *Sodium (Gaseous):* Incandescent @ 260 C; *Stannous Chloride:* Violent reaction; *Tin (II) Oxide:* Ignites @ 400 C; *Tungsten Carbide:* Ignites with incandescent @600 C.

DECOMPOSITION: Thermal decomposition products may include toxic oxides of nitrogen.

POLYMERIZATION: Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

HEALTH HAZARD DATA

CARCINOGEN STATUS: Inadequate Evidence.

TARGET EFFECTS: Simple Asphyxiate; Central Nervous System Depressant.
Poisoning may affect blood, liver and kidneys.

ANTIDOTE: No specific antidote. Treat symptomatically.

INHALATION:

ASPHYXIANT: Multiple cylinders released in a confined space may cause asphyxia.

ACUTE EXPOSURE: Inhalation of high concentrations without adequate oxygen can result in headache and serious anoxia causing fatal cardiac arrhythmias or brain damage with cerebral edema, permanent mental deficit, and visual system involvement. High concentrations mixed with air or oxygen may produce signs of central nervous system depression, including drowsiness, light-headedness, confusion, hysteria, anaesthesia, unconsciousness.

FIRST AID: Immediately remove from exposure area to fresh air. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure. Keep affected person warm. Get medical attention immediately.

SKIN CONTACT:

ACUTE EXPOSURE: No adverse effects have been reported from the gas. Due to rapid evaporation, the liquid may cause frostbite with redness, tingling, pain, or numbness.

FIRST AID: In case of frostbite, warm affected skin in warm water (107 F). If warm water is unavailable, gently wrap affected area in blankets. Allow circulation to return naturally. Get medical attention immediately.

EYE CONTACT:

ACUTE EXPOSURE: Contact with liquefied gas may cause frostbite, blurred vision, redness, pain.

FIRST AID: If contact with liquefied or compressed gas occurs, wash with large amounts of warm water (approximately 15-20 minutes). Get medical attention immediately.

INGESTION:

ACUTE EXPOSURE: Unlikely. If liquid is swallowed, frostbite damage to lips, mouth and mucous membranes may occur.

FIRST AID: Treat symptomatically and get medical attention.

PROTECTIVE EQUIPMENT: is not required unless multiple cylinders release in confined spaces.

VENTILATION: Provide local exhaust or process enclosure ventilation.

RESPIRATOR: SCBA only required in confined spaces.

CLOTHING/GLOVES: Protective clothing and gloves are not required.

EYE PROTECTION: No required, but recommended.

EMERGENCY EYE WASH: An eye wash station within the immediate area should be provided.

Special Shipping Guidelines:

Via air: "Cartridges we ship are not restricted per special provision A98 as listed in IATA. This provision allows us to classify our cartridges under UN2037, proper shipping name – Receptacles, small, containing gas. This means, because the amount of gas in each cylinder is under 50ml, they fall under provision A98, allowing the items to be shipped without hazardous labels or documentation.

A98 Aerosols, gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 mL, containing no constituents subject to these Regulations other than a Division 2.2 gas, are not subject to these Regulations unless their release could cause extreme annoyance or discomfort to crew members so as to prevent the correct performance of duties.”

You may also ship the goods via ocean but instead of using special provision A98 you will use special provision 191.

IMDG-Code 191 – Receptacles with a capacity not exceeding 50 ml containing only non-toxic constituents are not subject to the provisions of this Code.