

Chemical Safety Data Sheet for N2O

SECTION 1 IDENTIFICATION

GHS Product identifier: Dinitrogen monoxide.

Other means of identification: /

Recommended use of the chemical and restrictions on use: /

Supplier's details:

COMPANY: Shaanxi Tianrong Yingxing Precise Manufacturing Co. Ltd

CONTACT: NO.1 West Gaoxin 19 Road, Weibin District, Baoji City, Shaanxi Province

TEL: 15691526848

COMPANY: SHENZHEN BOZER SUPPLY CHAIN CO. LTD

CONTACT: RM 219A, Huitong Mansion, Longgang Road 10, Longgang District, Shenzhen

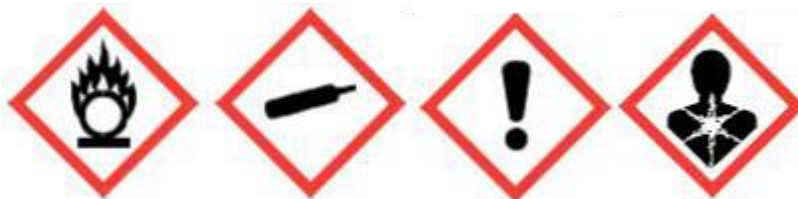
TEL: 86-13926598871

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Oxidizing Gas Category 1, Gas under Pressure (Liquefied gas), Reproductive toxicity Category 1A, Specific target organ toxicity - Single exposure Category 3 (Narcotic effects), Specific target organ toxicity - Repeated exposure Category 1 (blood, nervous system, liver, kidney).

GHS Label elements, including precautionary statements



Signal word: Danger

Hazard statement(s): May cause or intensify fire; oxidizer. Contains gas under pressure; may explode if heated. May damage fertility or the unborn child. May cause drowsiness or dizziness. Causes damage to organs through prolonged or repeated exposure (blood, nervous system, liver, kidney).

Precautionary statement(s):

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep/Store away from clothing/.../combustible materials. Keep valves and fittings free from oil and grease. Do not breathe dust/fume/gas/mist/vapours/spray. Wash ... thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response:

In case of fire: Stop leak if safe to do so. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor/.../if you feel unwell. IF exposed or concerned: Get medical advice/attention.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification: /

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
Dinitrogen monoxide	10024-97-2	99.99%

SECTION 4 FIRST AID MEASURES**Description of necessary first aid measures**

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: Not considered a normal route of entry.

Most important symptoms and effects, both acute and delayed: /

Indication of immediate medical attention and special treatment needed : /

SECTION 5 FIREFIGHTING MEASURES

Suitable extinguishing media: SMALL FIRE: Use extinguishing agent suitable for type of surrounding fire . LARGE FIRE: Cool cylinder. DO NOT direct water at source of leak or venting safety devices as icing may occur.

Special hazards arising from the chemical: Containers may explode when heated - Ruptured cylinders may rocket. Fire exposed containers may vent contents through pressure relief devices. High concentrations of gas may cause asphyxiation without warning. May decompose explosively when heated or involved in fire. Contact with gas may cause burns, severe injury and/ or frostbite.

Special protective actions for fire-fighters: Wear full body protective clothing with breathing apparatus. Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach cylinders suspected to be hot. Cool fire exposed cylinders with water spray from a protected location. If safe to do so, remove cylinders from path of fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used. DO NOT enter confined spaces where gas may have accumulated.

Environmental precautions: Increase ventilation. Clear area of personnel.

Methods and materials for containment and cleaning up: Minor Spills: Stop leak only if safe to do so. Remove leaking cylinders to safe place. Release pressure under safe controlled conditions by opening valve . Major Spills: Water spray or fog may be used to disperse vapour. DO NOT enter confined space

where gas may have collected. Keep area clear until gas has dispersed. Remove leaking cylinders to a safe place . Fit vent pipes. Release pressure under safe, controlled conditions

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling: Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal. Check regularly for spills or leaks. Keep valves tightly closed but do not apply extra leverage to hand wheels or cylinder keys. Test for leakage with brush and detergent - NEVER use a naked flame. Leaking gland nuts may be tightened if necessary. If a cylinder valve will not close completely, remove the cylinder to a well ventilated location (e.g. outside) and, when empty, tag as FAULTY and return to supplier.

Conditions for safe storage, including any incompatibilities: Such compounds should be sited and built in accordance with statutory requirements . The storage compound should be kept clear and access restricted to authorised personnel only . Cylinders stored in the open should be protected against rust and extremes of weather . Cylinders in storage should be properly secured to prevent toppling or rolling . Cylinder valves should be closed when not in use . Where cylinders are fitted with valve protection this should be in place and properly secured . Preferably store full and empty cylinders separately .

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters: EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
nitrous oxide	Nitrous oxide	910 ppm	10,000 ppm	20,000 ppm

Appropriate engineering controls: Areas where cylinders are stored require good ventilation and, if enclosed, need discrete/controlled exhaust ventilation.

Personal protective equipment

Eye/face protection: Safety glasses with side shields. Chemical goggles.

Skin protection: When handling sealed and suitably insulated cylinders wear cloth or leather gloves.

Respiratory protection: Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change).

Thermal hazards: /

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquefied Gas
Odour	/
Odour Threshold	/
pH	/
Melting point/freezing point	-90.8°C
Initial boiling point and boiling range	-88.5°C
Flash point	/
Evaporation rate	/
Flammability (solid, gas)	/
Upper/lower flammability or explosive limits	/
Vapour pressure	5070 @ 21.1 deg
Vapour density (Air = 1)	1.53 @ 25 deg.C
Relative density (Water = 1)	1.23 @ -89 deg.C
Water solubility	Partly miscible
Partition coefficient: noctanol/water	/
Autoignition temperature	/
Decomposition temperature	/
Viscosity	/

SECTION 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: Product is considered stable.

Possibility of hazardous reactions: Inorganic oxidising agents can react with reducing agents to generate heat and products that may be gaseous (causing pressurization of closed containers). The products may themselves be capable of further reactions (such as combustion in the air).

Conditions to avoid: Heat, flames.

Incompatible materials: Reducing agents.

Hazardous decomposition products: Nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, Ingestion, skin, eyes.

Symptoms related to the physical, chemical and toxicological characteristics: /

Acute health effects

Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. Ingestion: Not normally a hazard due to physical form of product. Fluorocarbons may cause dermal problems due to a tendency to remove natural oils from the skin causing irritation and the development of dry, sensitive skin. Eye: Direct contact with the eye may not cause irritation because of the extreme volatility of the gas.

Chronic health effects: /

Numerical measures of toxicity (such as acute toxicity estimates): Inhalation (rat) LC50: 1.068 mg/l/4h.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity: /
Persistence and degradability: /
Bioaccumulative potential: /
Mobility in soil: /
Other adverse effects: /

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods: Evaporate residue at an approved site. Return empty containers to supplier. If containers are marked non-returnable establish means of disposal with manufacturer prior to purchase. Ensure damaged or non-returnable cylinders are gas-free before disposal.

SECTION 14 TRANSPORT INFORMATION

UN number: 1070.
UN proper shipping name: NITROUS OXIDE.
Transport hazard class(es): 2.2+5.1.
Packaging group: /
Environmental hazards: /
Special precautions for user: /

SECTION 15 REGULATORY INFORMATION

Regulations :
This safety data sheet is in compliance with the following national standards: GB/T16483-2008, GB13690-2009, GB18218-2009, GB15258-2009, GB6944-2012, GB190-2009, GB/T191-2008, GB12268-2008, GA57-1993, GB/T 15098-2008, GBZ 2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation, Dangerous Chemicals Safety Administrative Regulation.

SECTION 16 OTHER INFORMATION

References	“Model Regulations on the Transport of Dangerous Goods” “The Globally Harmonized System of Classification and Labelling of Chemicals”
Form Date	20-September-2019

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information (such as boiling point does not exist for the solid) in the table with "/" logo.