



Nitric oxide

Safety Data Sheet P-4632

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Issue date: 01/01/1979

Revision date: 11/29/2021 Supersedes: 01/23/2021

Version: 1.1

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	: Substance
Trade name	: Nitric Oxide
Chemical name	: Nitric Oxide
CAS-No.	: 10102-43-9
Formula	: NO
Other means of identification	: Nitric Oxide, Medical Grade Nitrogen II Oxide, nitrogen monoxide, mononitrogen monoxide Chemical Family: Nitric Oxides (NO _x)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use; Use as directed.

1.3. Details of the supplier of the safety data sheet

Linde Inc.
10 Riverview Drive
Danbury, CT 06810-6268, USA
www.lindeus.com

Linde Inc. 1-844-44LINDE (1-844-445-4633)

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

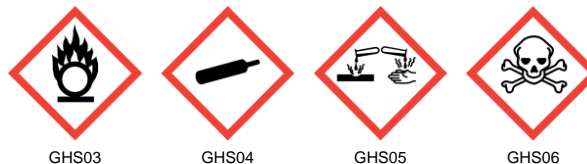
GHS US classification

Ox. Gas 1	H270
Press. Gas (Comp.)	H280
Acute Tox. 1 (Inhalation:gas)	H330
Skin Corr. 1B	H314
Eye Dam. 1	H318

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H270 - MAY CAUSE OR INTENSIFY FIRE; OXIDIZER
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
H314 - CAUSES SEVERE SKIN BURNS AND EYE DAMAGE
H330 - FATAL IF INHALED
CGA-HG22 - CORROSIVE TO THE RESPIRATORY TRACT
CGA-HG11 - SYMPTOMS MAY BE DELAYED

Precautionary statements (GHS US) :

P202 - Do not handle until all safety precautions have been read and understood.
P220 - Keep/Store away from clothing, combustible materials



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P244 - Keep reduction valves/valves and fittings free from oil and grease.
P260 - Do not breathe gas
P262 - Do not get in eyes, on skin, or on clothing.
P271+P403 - Use and store only outdoors or in a well-ventilated place.
P280+P284 - Wear protective gloves, protective clothing, eye protection, respiratory protection, and/or face protection.
P370 - IN CASE OF FIRE:
P376 - Stop leak if safe to do so.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.
P304, P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician.
P303+P361+P353 - IF ON SKIN OR (HAIR): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313 - Get medical advice/attention.
P332+P313 - IF SKIN IRRITATION OCCURS: Get medical advice/attention.
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG10 - Use only with equipment rated for cylinder pressure.
CGA-PG12 - Do not open valve until connected to equipment prepared for use.
CGA-PG18 - When returning cylinder, install leak tight valve outlet cap or plug.
CGA-PG20 - Use only with equipment of compatible materials of construction and rated for cylinder pressure.
CGA-PG22 - Use only with equipment cleaned for oxygen service.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).
CGA-PG21 - Open valve slowly.

2.3. Other hazards

Other hazards which do not result in classification : None.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Nitric oxide
CAS-No. : 10102-43-9

Name	Product identifier	%
Nitric oxide	(CAS-No.) 10102-43-9	99.5 – 100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician. . WARNING: To avoid possible chemical burns, the rescuer should avoid breathing any exhaled air from the victim.

First-aid measures after skin contact : In case of contact, immediately flush affected areas with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash clothing before reuse. Discard contaminated shoes.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.



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4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

CONTACT WITH THIS PRODUCT REQUIRES IMMEDIATE MEDICAL ATTENTION! Symptoms may be delayed. Seek medical attention even if no symptoms are present.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Does not burn. Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Oxidizing agent; vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion.

Explosion hazard : Heating may cause an explosion. PRESSURIZED CONTAINER: MAY BURST IF HEATED.

Reactivity : Cylinders are **NOT** equipped with a pressure relief valve. MAY CAUSE OR INTENSIFY FIRE; OXIDIZER. MAY CAUSE FIRE OR EXPLOSION; STRONG OXIDIZER. corrosive vapors.

5.3. Advice for firefighters

Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting : **DANGER! Toxic, corrosive, high-pressure gas..**

Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.

Stop flow of product if safe to do so.

Use water spray or fog to knock down fire fumes if possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : **Danger: Oxidizing gases. Corrosive.** Evacuate personnel to a safe area. Wear a self-contained breathing apparatus and appropriate personal protective equipment (PPE). (gas tight, chemical-protective) Approach suspected leak area with caution. Remove all sources of ignition. Toxic, corrosive vapor can spread from spill. Contact with flammable materials may cause fire or explosion. Ventilate area or move container to a well-ventilated area. Before entering the area, especially a confined area, check the atmosphere with an appropriate device. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

6.3. Methods and material for containment and cleaning up

No additional information available



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6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Do not breathe gas/vapor. Avoid all contact with skin, eyes, or clothing. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Avoid oil, grease and all other combustible materials.

Store only where temperature will not exceed 125°F (52°C). Post "No Smoking/No Open Flames" signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g. NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16.

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Nitric oxide (10102-43-9)		
ACGIH	ACGIH OEL TWA [ppm]	25 ppm
USA OSHA	OSHA PEL TWA [1]	30 mg/m ³
USA OSHA	OSHA PEL TWA [2]	25 ppm
USA IDLH	IDLH [ppm]	100 ppm
Nitric oxide (10102-43-9)		
ACGIH	ACGIH OEL TWA [ppm]	25 ppm
USA OSHA	OSHA PEL TWA [1]	30 mg/m ³
USA OSHA	OSHA PEL TWA [2]	25 ppm



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8.2. Exposure controls

Appropriate engineering controls	: Product to be handled in a closed system and under strictly controlled conditions. Use corrosion-proof equipment. Preferably use only permanent leak-tight installations (e.g. welded pipes). Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.
Eye protection	: Wear safety glasses with side shields. Provide readily accessible eye wash stations and safety showers. Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder changeout or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.
Skin and body protection	: Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138.
Respiratory protection	: When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).
Thermal hazard protection	: None necessary.
Other information	: Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear. Keep suitable chemically resistant protective clothing readily available for emergency use. Standard EN943-1 - Full protective suits against liquid, solid and gaseous chemicals.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas. Turns yellow to reddish brown on exposure to light and air.
Molecular mass	: 30 g/mol
Color	: Brownish gas.
Odor	: Pungent Irritating Poor warning properties at low concentrations.
Odor threshold	: 0.3 – 1 ppm Odor threshold is subjective and inadequate to warn for overexposure.
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: -164 °C
Freezing point	: No data available
Boiling point	: -151.8 °C
Flash point	: Not applicable.
Critical temperature	: -92.9 °C
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: Not applicable.
Critical pressure	: 6480 kPa
Relative vapor density at 20 °C	: No data available
Relative density	: 1.3
Density	: 1.3 kg/l @ NTP (20°C, 1atm)
Relative gas density	: 1.04 @ NTP (20°C, 1atm)
Solubility	: Water: 67 mg/l
Partition coefficient n-octanol/water (Log Pow)	: Not applicable for inorganic gases.
Partition coefficient n-octanol/water (Log Kow)	: No data available



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Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: Oxidizer.
Explosion limits	: Non flammable.

9.2. Other information

Gas group	: Compressed gas
Additional information	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

Cylinders are **NOT** equipped with a pressure relief valve. MAY CAUSE OR INTENSIFY FIRE; OXIDIZER. MAY CAUSE FIRE OR EXPLOSION; STRONG OXIDIZER. corrosive vapors.

10.2. Chemical stability

Decomposes at room temperature to other nitrogen oxides and nitrogen. Oxidizes in air to form nitrogen dioxide which is extremely reactive. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Violently oxidizes organic material.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Air. May react violently with reducing agents. May react violently with combustible materials.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Nitric oxide (V) 10102-43-9	
LC50 Inhalation - Rat	1068 mg/m ³ (Exposure time: 4 h)
LC50 Inhalation - Rat [ppm]	57.5 ppm/4h
ATE US (gases)	57.5 ppmV/4h
ATE US (vapors)	1.068 mg/l/4h
ATE US (dust, mist)	1.068 mg/l/4h
Nitric oxide (10102-43-9)	
LC50 Inhalation - Rat [ppm]	57.5 ppm/4h
ATE US (gases)	57.5 ppmV/4h

Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: CAUSES SERIOUS EYE DAMAGE.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified



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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No data available.

12.2. Persistence and degradability

Nitric oxide (10102-43-9)	
Persistence and degradability	Not applicable for inorganic gases.

12.3. Bioaccumulative potential

Nitric oxide (10102-43-9)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for inorganic gases.
Bioaccumulative potential	No data available.

Nitric oxide (10102-43-9)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable.
Partition coefficient n-octanol/water (Log Kow)	Not applicable.

12.4. Mobility in soil

Nitric oxide (10102-43-9)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

Nitric oxide (10102-43-9)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Other adverse effects : May cause pH changes in aqueous ecological systems.

Effect on ozone layer : None.

Effect on the global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : U.S. - RCRA (Resource Conservation Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261. U.S. - RCRA (Resource Conservation Recovery Act) - P Series Wastes - Acutely Toxic Wastes.

Product/Packaging disposal recommendations : Do not attempt to dispose of residual or unused quantities. Return container to supplier.

SECTION 14: Transport information

In accordance with DOT

Transport document description (DOT) : UN1660 Nitric oxide, compressed, 2.3

UN-No.(DOT) : UN1660

Proper Shipping Name (DOT) : Nitric oxide, compressed

Class (DOT) : 2.3 - Class 2.3 - Poisonous gas 49 CFR 173.115

Hazard labels (DOT) : 2.3 - Poison gas

5.1 - Oxidizer

8 - Corrosive





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DOT Special Provisions (49 CFR 172.102) : 1 - This material is poisonous by inhalation (see 171.8 of this subchapter) in Hazard Zone A (see 173.116(a) or 173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
B37 - The amount of nitric oxide charged into any tank car tank may not exceed 1,379 kPa (200 psig) at 21 C (70 F).
B46 - The detachable protective housing for the loading and unloading valves of multi-unit tank car tanks must withstand tank test pressure and must be approved by the Associate Administrator.
B50 - Each valve outlet of a multi-unit tank car tank must be sealed by a threaded solid plug or a threaded cap with inert luting or gasket material. Valves must be of stainless steel and the caps, plugs, and valve seats must be of a material that will not deteriorate as a result of contact with the lading.
B60 - DOT Specification 106A500X multi-unit tank car tanks that are not equipped with a pressure relief device of any type are authorized. For the transportation of phosgene, the outage must be sufficient to prevent tanks from becoming liquid full at 55 C (130 F).
B77 - Other packaging are authorized when approved by the Associate Administrator.

Additional information

Emergency Response Guide (ERG) Number : 124
Other information : No supplementary information available.
Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1660
Proper Shipping Name (IMDG) : NITRIC OXIDE, COMPRESSED
Class (IMDG) : 2 - Gases
Division (IMDG) : 2.3 - Toxic gases
MFAG-No : 124

Air transport

UN-No. (IATA) : 1660
Proper Shipping Name (IATA) : Nitric oxide, compressed
Class (IATA) : 2 - Gases
Civil Aeronautics Law : Gases under pressure/Gases toxic under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Nitric oxide (10102-43-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the United States SARA Section 302	
CERCLA RQ	10 lb releases to the air in amounts <1000 pounds per 24 hours which are the result of combustion and combustion-related activities are exempt from the notification requirements per 40 CFR 302.6
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.



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Nitric oxide (10102-43-9)

Listed on the United States SARA Section 302

SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb
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15.2. International regulations

CANADA

Nitric oxide (10102-43-9)

Listed on the Canadian DSL (Domestic Substances List)

Nitric oxide (10102-43-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Nitric oxide (10102-43-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nitric oxide (10102-43-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Nitric oxide (10102-43-9)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Nitric oxide (10102-43-9)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Nitric oxide(10102-43-9)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List



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Nitric oxide (10102-43-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Nitric oxide (10102-43-9)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List



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SECTION 16: Other information

Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Linde asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Linde Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Linde Inc, it is the user's obligation to determine the conditions of safe use of the product.

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Revision date

: 11/29/2021

NFPA health hazard

: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

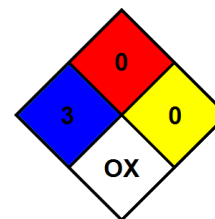
: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA instability

: 0 - Material that in themselves are normally stable, even under fire conditions.

NFPA specific hazard

: OX - Materials that posses oxidizing properties.



SDS US (GHS HazCom 2012) - Praxair OR Linde

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.