

Date:	2005.05.17.	Nitrous oxide supplied in cartridges Select N2O Chargers	Site:	1/8
Date of revision:	2021.02.01.		Version:	2

SAFETY DATA SHEET

(According to CLP and REACH regulations)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

1. 1. Identification of the substance or preparation

Product name: *Nitrous oxide supplied in cartridges*
CAS number: 10024-97-2
EINECS number: 233-032-0
Registration number:
Registration name:

1. 2. Application of the materials/products

industrial, food and/or medical application

1. 3. Supplier

Manufacturer/ Supplier: United Brands, Inc.
Address: 170 Associated Road, South San Francisco, CA 94080
Tel.: 800-500-0583 Fax: 650-588-8568 Email: info@unitedbrands.us

Distributor: United Brands, Inc.
Address: 170 Associated Road, South San Francisco, CA 94080
Tel.: 800-500-0583 Fax: 650-588-8568 Email: info@unitedbrands.us

Responsible for safety data sheet: United Brands, Inc.
Address: 170 Associated Road, South San Francisco, CA 94080
Tel.: 800-500-0583 Fax: 650-588-8568 Email: info@unitedbrands.us

1. 4. Emergency telephone

CHEMTREC
CN687719
1-800-262-8200

2. HAZARD IDENTIFICATION

2.1. Classification according to Regulation No 1272/2008/EC

GHS label elements



GHS03



GHS04



Signal Word: DANGER

Category

Oxid. gas: 1 category, Gases under pressure, liquefied gas. Specific target organ toxicity (single exposure). Cat 3
H336 - May cause drowsiness or dizziness.

Hazard Statements (H- phrases)

H270 - May cause or intensify fire; oxidizer.
H280 - Contains gas under pressure; may explode if heated.

Precautionary Statements (P- phrases)

P244 - Keep reduction valves free from grease and oil.
P220 - Keep/Store away from clothing/.../combustible materials.
P260 - Do not breath gas.
P304+P340 - If inhaled, remove person to fresh air and keep comfortable for breathing.
P312 - Call a doctor if you feel unwell.
P370+P376 - In case of fire: Stop leak if safe to do so.
P403 - Store in a well-ventilated place.

Supplemental hazard information



2.2. Classification according to Directive 67/548/EEC or Directive 1999/45/EC

O - oxidizing Xn - harmful

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Risk phrases

R8 - Contact with combustible material may cause fire.
R40 - Limited evidence of a carcinogenic effect.

Danger signs

S1/2 - Keep locked up and out of the reach of children.
S9 - Keep container in a well-ventilated place.
S17 - Keep away from combustible material
S21 - When using do not smoke.
S36/37/39 - Wear suitable protective clothing and eye/face protection.
S38 - In case of insufficient ventilation, wear suitable respiratory equipment.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3. Other dangers

2.3.1. Health effects

risk of suffocation,

2.3.2. Environmental effects

no information available,






2.3.3. Physical and chemical danger

oxidizing agent, assisted combustion,

2.3.4. Specific dangers

no data

3. COMPOSITION/INFORMATION ON INGREDIENTS

10024-97-2	Nitrous oxide supplied in cylinder	min.99 %	
	O Xn		
			
	8-40		
	GHS03 GHS04		
			
	Oxid. gas: 1 category, Gases under pressure, liquefied gas, H270-H280		

(You can see full text of R and H sentences at 16 point.)

4. FIRST AID MEASURES

Inhaling

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If victim is not breathing, breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention immediately. If breathing is difficult, trained personnel should give oxygen. If necessary, call a physician or poison control center.

Eyes Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation persists

Skin Contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes, wash clothing and shoes before reuse. Risk of cold burns and frostbite from skin exposure, get medical attention if these occur.

Ingestions

Ingestion is not considered a potential route of exposure.

Symptoms and effects, both acute and delayed

Inhalation of small amounts causes laughter, intoxicating, pulsating sound and visual hallucinations, in greater amount cause anesthetic and narcotic (laughing gas).

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General



Instructions for physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. FIREFIGHTING MEASURES

Fire-hazard class: Oxidizing Gas



- 5.1. **Suitable extinguishing media:**
Use extinguishing material suitable to the surrounding fire.
- 5.2. **Inadequate extinguishing materials:**
None known
- 5.3. **Hazardous thermal decomposition products:**
No data
- 5.4. **Special protection equipment for firemen:**
Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- 5.5. **Specific chemical hazards:**
No data
- 5.6. **Specific methods**
No data

6. ACCIDENTAL RELEASE MEASURES

- 6.1. **Measures for personal protection:**
Evacuate surrounding area. Keep unnecessary and unprotected personnel from entering the area. No flares, smoking or open flames in hazardous area. Avoid breathing gas and provide adequate ventilation. When ventilation is inadequate wear an appropriate respirator. Put on appropriate personal protective equipment. See Section 8 for appropriate personal protective equipment.
- 6.2. **Measures for environment protection:**
Stop the leak by shutting off the supply if it is safe to do so. Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform local authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- 6.3. **Methods and materials for containment and cleaning up:**
Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.


7. HANDLING AND STORAGE


- 7.1. **Handling**
- 7.1.1. **Technical precautions**
Only use in well ventilated areas. Use appropriate personal protective equipment listed in Section 8 of this SOS.
- 7.1.2. **Safe handling guidance**
Avoid inhalation, use only in well ventilated areas and use a respirator when ventilation is inadequate. Avoid contact with skin, eyes, and clothing. Use with equipment that is rated for cylinder pressure. Close valve after each use to prevent accidental release of product. Protect cylinders from physical damage; do not drag, slide, or drop. Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing.
- 7.2.
- 7.2.2. **Incompatible products**
This product reacts violently with sulfurous anhydride, amorphous boron, phosphine, ethers, hydrazine, phenyl lithium and tungsten carbide. Contact with incompatible materials will cause fire and explosion hazard. This product is a strong oxidizing agent and' above 300° C and may form explosive mixtures with ammonia, carbon monoxide, hydrogen sulfide, oil, grease and fuels.


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- 7.2.3. Packaging materials
- in retail boxes and/or in bulk
- 7.3. Special application
- no data

8. EXPOSURE CONTROLS – PERSONAL PROTECTION

- 8.1. Exposure limit values
- | | | | |
|---------------------------------------|------------------|------------------|------------------|
| Ingredients: | AK value (mg/m3) | CK value (mg/m3) | MK value (mg/m3) |
| 1. Nitrous oxide supplied in cylinder | 180 | 720 | |
- NIOSH REL (Recommended Exposure Limit) TWA: 25PPM
- 8.2. Exposure control
- Use only in well ventilated areas. Always wear recommended personal protective equipment. Avoid breathing in gas fumes. Avoid contact with skin, eyes, and clothing.
- 8.2.1. Workplace exposure control
- 8.2.1.1. Respiratory protection:
- 

In areas with inadequate exhaust or ventilation use respiratory protection. When used in an enclosed space a respirator that is independent from the ambient air should be used, such as a self-contained breathing apparatus (SCBA).
- 8.2.1.2. Hand protection:
- 

Wear protective gloves
- 8.2.1.3. Eyes protection:
- 

Tight fitting protective goggles (EN 166)
- 8.2.1.4. Protection of skin and body surface:
- Chemical protective apron and safety shoes (MSZ EN 345-1, SB)
- 8.2.2. Environmental exposure control:
- Prevent accidental release. Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1. General information
- | | |
|-------------|---------------|
| Appearance: | Liquefied gas |
| Color: | Colorless |
| Odor: | Sweetish odor |
- Information on basic physical and chemical properties
- | | |
|----------------------------|---------|
| Ph: | no data |
| Boiling Point (°C): | -88,5°C |
| Ignition temperature (°C): | no data |
| Explosive limit: | |
| - lower: | no data |
| - upper: | no data |

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Oxidize facility:	no data			
Vapor Pressure (20°C):	no data			
Gravity (20°C):	no data			
Specific gravity (water=1), (20°C):	no data			
Solubility:				
- Water:	2.2 mg/L			
- Other solvents:	no data			
Distribution coefficient (n-octanol/water):	no data			
- Viscosity:	no data			
Vapor Density:	1.5			
Evaporation Rate:	no data			
Decomposition Temperature:	no data			
Other items:	Critical temperature: 36.4°C, Critical pressure: 72.4 bar, Critical density: 0.452 g/cm3, Filling pressure: -6MPa (870psi), Pressure at 50°C: 16.5MPa (2,425psi), Burst pressure: 33MPa (4,800psi)			
9.2.	Other Information			
Melting Point (°C):	-90,81°C			
Flashpoint (°C):	no data			

10. STABILITY AND REACTIVITY

10.1.	Reactivity	Stable under normal conditions
10.2.	Chemical stability	Stable under normal conditions
10.3.	Possibility of hazardous reactions	Reacts violently with sulfurous anhydride, amorphous boron, phosphine, ethers, hydrazine, phenyl lithium and tungsten carbide causing fire and explosion hazard.
10.4.	Conditions to avoid	Keep away from heat, flames, sparks and ignition sources
10.5.	Incompatible materials	Organic, combustible material
10.6.	Hazardous decomposition products	Nitrogen monoxide

11. TOXICOLOGICAL INFORMATION

Actual material		Nitrous oxide supplied in cartridges
11.1.	Acute toxicity	
11.1.1.	After inhaling	In animals: no data available
11.1.2.	When swallowed	In animals: No data available
11.1.3.	In case of contacting skin	In animals: No data available

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- 11.2. Local effects
- 11.2.1. After inhaling
No data available
- 11.2.2. In case of contacting skin
No data available
- 11.2.3. In case contacting eyes
No data available
- 11.3. Sensibility
No data available
- 11.4. Chronic toxicity
No data available
- 11.5. Specific effects
- 11.5.1. Genotoxicity
No data available
- 11.5.2. Carcinogenity
No data available
- 11.5.3. Reproductive toxicity
No data available

12. ECOLOGICAL INFORMATION

- Actual material
Nitrous oxide supplied in cartridges
- 12.1. Ecotoxicity
- 12.1.1. Water toxicity
no data available
- 12.1.2. Terrestrial toxicity
no data available
- 12.1.3. Behavior in wastewater treatment plants
no data available
- 12.2. Mobility
no data available
- 12.3. Biological persistence
- 12.3.1. General
no data available
- 12.3.2. In water
no data available
- 12.3.3. In air
no data available
- 12.3.4. In soils and sediments
no data available
- 12.4. Bio accumulative potential
no data available
- 12.5. Results of PBT and vPvB assessment
no data available
- 12.6. Other adverse effects
Prevent substance from entering waterways, if release occurs into the environment notify the local authorities as necessary.

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13. DISPOSAL CONSIDERATIONS

- 13.1. Material disposal
- Any waste product, excess product, tools, and packing materials must be disposed of properly or neutralized. Observe all state and local environmental regulations.
- 13.2. Package disposal
- Packaging and container must be disposed of properly. Observe all state and local environmental regulations.
- 13.3. EWC number
- 15 01 05

14. TRANSPORT INFORMATION

UN number
2037

ADR/ADN/RID

Proper shipping name:	Small Receptacles containing gas (Gas Cartridges)
Technical/Trade name:	Nitrous oxide supplied in cartridges
Hazard class:	2
Labels:	2.2 + 5.1
Classification code:	50
Packing group:	-
Hazard identification number:	25
Hazard of environment:	NO
Tunnel restriction code:	(E)

IMDG

Proper shipping name:	Small Receptacles containing gas (Gas Cartridges)
Technical/Trade name:	Nitrous oxide supplied in cartridges
Hazard class:	2
Labels:	2.2 + 5.1
Packing group:	-
EmS:	F-D,S-U,
Marine pollutant:	NO



IATA

Proper shipping name:	Gas cartridges
Technical/Trade name:	Nitrous oxide supplied in cartridges
Hazard class:	2.2
Labels:	2.2 (5.1)
Packing group:	-
PAX:	203
CAO:	203
UN Number:	2037

15. REGULATORY INFORMATION

- 15.1. Seveso category
3. - Oxidizing agents,
- 15.2. Storage category
- 2A storage class: Compressed, liquefied or dissolved gas under pressure

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15.3. WGK

WGK 1

15.4. Important national regulations related to the product

Act No. XCIII/1993 on work safety, and the related regulations

Act No. XLIII/2000 on waste management

Act No. XXV/2000 on chemical safety

Gov. Decree No. 98/2001 (VI. 15.) on the conditions of pursuing waste-related activities

Decree No. 25/1996 (VIII. 28.) of the Minister of Public Health on the general health requirements of working and work conditions without health risks

Decree No. 26/1996 (VIII. 28.) of the Minister of Public Health on the limitations of the (weekly, daily) exposure time of workers employed under certain health risks

Decree No. 28/2011. (IX. 6.) of the Minister of Internal Affairs on issuing the National Fire Protection Rules

Decree No. 44/2000. (XII. 20.) of the Minister of Health on the detailed rules of certain procedures and activities related to hazardous substances and hazardous products

Joint Decree No. 25/2000 (IX. 30.) of the Minister of Health and of the Minister of Social and Family Affairs on the chemical safety of workplaces,

EÜM decree no.

The European Community and Regulation 1907/2006/EC on the registration, evaluation, approval and restriction of chemicals (REACH)

15.5. Other relevant national regulations

Joint Decree No. 25/2000 (IX. 30.) of the Minister of Health and of the Minister of Social and Family Affairs on the chemical safety of workplaces

EWG code numbers: Decree No. 16/2001 (VII. 18.) of the Minister for the Environment on the lists of waste, as amended by Decree No. 10/2002 (III. 26.) of the Minister for the Environment

Road Transport Department: Act 19 of 1979 and decree no. 71/2011 (XII.8.) amending KPM decree no. 20/1979 (IX. 18.)

KPM on the promulgation of Annex "A" and "B" of the European Agreement on the International Road Transport of

Hazardous Goods, and Annex C of Act LXXVII of 2006 (GKM decree no. 72/2011 (XII.8.) NFM on the promulgation of the domestic use of the annexes of the International Railway Goods Transport Convention

1272/2008/EC regulation on classification, labelling and packaging of substances and mixtures, amending and repealing

Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

15.6. Chemical safety assessment

No data available.

16. OTHER INFORMATION

The review affected this chapters:

1.3, 3.3.3, 3.3.4, 4.2, 4.5, 4.6, 5.5, 5.6, 6.4, 7.2.2, 7.2.3, 7.3, 8.1, 8.2.1.1, 10.2, 10.5, 10.6, 10.7, 11.1.1, 11.1.2, 11.1.3, 11.2.3, 11.2.2, 11.2.1, 11.3, 11.4, 11.5.1, 11.5.2, 11.5.3, 12.1.1, 12.1.2, 12.1.3, 12.2, 12.3.1, 12.3.2, 12.3.3, 12.4, 12.6, 12.5, 14, 15.14, 15.11, 15.10, 16.3

Risk phrases

R8 - Contact with combustible material may cause fire.

R40 - Limited evidence of a carcinogenic effect.

H- phrases

H270 - May cause or intensify fire; oxidizer.

H280 - Contains gas under pressure; may explode if heated.

16.1. General information

This information relates TO THE PRODUCT AS SUCH and follows the specifications of the enterprise. In case of products and mixtures, it should be ensured that no new risks arise.

The information on this data sheet is based on our best knowledge at the time of printing the safety data sheet and is provided in good faith. However, certain data are being reviewed.

Users should note the potential for additional risks in case of using the product for purposes other than the recommended application. This data sheet may be used and reproduced for prevention and safety purposes only. The references to legislation, regulations and practical rules, and documents should not be considered complete.

It is the responsibility of the person receiving the product to consult all documents related to the use and handling of the product.

The responsibility of parties handling the product also includes to pass on the whole of the information listed on the safety data sheet and necessary for work safety and for the protection of health and the environment, to the next person who may get in contact in any way with the product (use, storage, cleaning of containers, other operations).

16.2. Technical advisory services

United Brands, Inc.

Address: 170 Associated Road, South San Francisco, CA 94080

Tel.: 800-500-0583 Fax: 650-588-8568 Email: info@unitedbrands.us

16.3. Sources

Safety data sheet - United Brands (2005.05.17), United Brands Product Data Sheet

16.4. Further information

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