

Date: 2005.05.17.  
Date of revision: 2016.02.15.

**unitedbrands**   
**Nitrous oxide supplied in cartridges**

Site: 1/9  
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 /Készítmény 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 Product Design Development and Marketing Inc.  
Address: 170 Associated Rd., South San Francisco, CA 94080, U.S.A  
Tel.: 800-500-0583 Fax: 650-588-8568

**Distributor:** United Brands Product Design Development and Marketing Inc.  
Address: 170 Associated Rd., South San Francisco, CA 94080, U.S.A  
Tel.: 800-500-0583 Fax: 650-588-8568

**Responsible for safety data sheet:** United Brands Product Design Development and Marketing Inc.  
Address: 170 Associated Rd., South San Francisco, CA 94080, U.S.A  
Tel.: 800-500-0583 Fax: 650-588-8568

**1. 4. Emergency telephone**

CHEMTREC: 800-424-9300

**2. HAZARD IDENTIFICATION**

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

**GHS label elements**

GHS03



GHS04



WARNING

**Category**

Oxid. gas: 1 category, Gases under pressure, liquefied gas,

**Hazard Statements (H- phrases)**

H270 - May cause or intensify fire; oxidiser.  
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.  
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 the wounded to fresh air, when unconscious without delay artificial respiration or oxygen inhalation, medical treatment is needed,

### Eyes

wash out immediately with plenty of water for at least 15 minutes,

### Skin

risk of chilblain, thaw frostbite slowly with lukewarm water, prohibited to remove clothes, medical treatment is needed,

### Swallowed

no adverse effects anticipated, Do not eat or drink during work- no smoking.

### Symptoms and effects, both acute and delayed

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



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### General



Instructions for the doctor: symptomatic treatment,

## 5. FIREFIGHTING MEASURES

Fire-hazard class:: C Highly flammable



- 5.1. **Adequate extinguishing materials:**  
use extinguishing material suitable to the near fire circumstances,
- 5.2. **Inadequate extinguishing materials**  
water jet prohibited,
- 5.3. **Dangerous decomposition products**  
no data
- 5.4. **Special protection equipment for firemen**  
Wear self-contained breathing apparatus pneumatic breathing-mask, closed industrial protecting clothing,
- 5.5. **Specific dangers**  
no data
- 5.6. **Specific methods**  
no data

## 6. ACCIDENTAL RELEASE MEASURES

- 6.1. **Measures for personal protection:**  
put on the protective equipment, evacuate the area and close for the traffic, keep upwind,
- 6.2. **Measures for environment protection**  
if possible stop the leakage, prevent that the substance in gutter, hole and collar gets, when the substance gets in gutter or water, notify the local authorities,
- 6.3. **Methods of decontamination**  
let's fresh air in the area, warn everybody, when in liquid form is: do not use sawdust or other combustible absorbents, enclose with a dam the outstreamed substance, cover blot off with dry sand, suitable material, in closed vessel carry to destroying place,
- 6.4. **Reference to other sections**  
Find the personal protective equipments in the 8.

## 7. HANDLING AND STORAGE

- 7.1. **Handling**
  - 7.1.1. **Technical precautions**  
ventillation should be provided, it is recommended to use protective equipments,
  - 7.1.2. **Safe handling guidance**  
avoid the product getting on the skin, in the eyes, on the clothes, avoid breathing its fume, prevent that the substance comes in contact with water, equipment that is suitable for this product and for the designed pressure and temperature should be used.
- 7.2. **Storage**
  - 7.2.1. **Technical measures/storage conditions**  
in a cool, dry, well ventilated place, Store in a cool, dry well-ventilated area. keep away from heat, sources of ignition, in original, closed packing, protected direct sunlight,



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**7.2.2. Incompatible products**

reacts violently with sulphurous anhydride, amorphous boron, phosphine, ethers, aluminum, hydrazine, phenyl lithium and tungsten carbide causing fire and explosion hazard, the gas strong oxidising agent above 300 ° C and may form explosive mixtures with ammonia, carbon monoxide, hydrogen sulfide, oil, grease and fuels,

**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	

**8.2. Exposure control**

ventillation should be provided, it is recommended to use protective equipments, avoid breathing its fume, avoid the product getting on the skin, in the eyes, on the clothes,

**8.2.1. Workplace exposure control**

**8.2.1.1. Respiratory protection:**



inadequate exhaust or ventilation use respiratory protection, in enclosed space a respirator that is independent from the ambient air should be used, Use self-contained breathing apparatus.

**8.2.1.2. Hand protection:**

protective gloves,



**8.2.1.3. Eyes protection:**

tightly closing protective goggles (EN 166),



**8.2.1.4. Protection of skin and body surface:**

protective apron, safety shoes (MSZ EN 345-1, SB)

**8.2.2. Environmental exposure control**

prevent that the substance in gutter, hole and collar gets,

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1. General informations**

Appearance: liquefied gas,  
 Colour: colourless,  
 Odour: sweetish odor,

**Information on basic physical and chemical properties**

Ph: nincs adat/no data  
 Boiling Point (°C): -88,5°C  
 Ignition temperature (°C): nincs adat/no data  
 Explosive limit:  
 - lower: nincs adat/no data  
 - upper: nincs adat/no data



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Oxidize facility:	nincs adat/no data	
Vapor Pressure (20°C):	nincs adat/no data	
Gravity (20°C):	nincs adat/no data	
Specific gravity (water=1), (20°C):	nincs adat/no data	
Solubility:		
- Water:	2,2 mg/l	
- Other solvents:	no data	
Distribution coefficient (n-octanol/water)::	nincs adat/no data	
Viscosity:	nincs adat/no data	
Vapor Density:	1,5	
Evaporation Rate:	nincs adat/no data	
Decomposition Temperature:	nincs adat/no data	
Other items:	critical temperature: 36.4°C, critical pressure: 72.4 bar, the critical density: 0.452 g/cm <sup>3</sup> , Filling pressure: 7MPa (1,015psi) Pressure at 50 °C: 16,5MPa (2,425psi) Burst pressure: min. 45 MPa	
<b>9.2. Other Informations</b>		
Melting Point (°C):	-90,81°C	
Flash-point (°C):	nincs adat/no data	

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

stable under normal conditions,

### 10.2. Chemical stability

there is no decomposition under normal condition,

### 10.3. Possibility of hazardous reactions

reacts violently with sulphurous anhydride, amorphous boron, phosphine, ethers, aluminum, 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

#### 11.1.2. When swallowed

In animals:

no data

#### 11.1.3. In case of contacting skin

In animals:

no data



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**11.2. Local effects**

**11.2.1. After inhaling**

no data

**11.2.2. In case of contacting skin**

no data

**11.2.3. In case contacting eyes**

no data

**11.3. Sensibility**

no data

**11.4. Chronic toxicity**

no data

**11.5. Specific effects**

**11.5.1. Genotoxicity**

no data

**11.5.2. Carcinogenity**

no data

**11.5.3. Reproductive toxicity**

no data

**12. ECOLOGICAL INFORMATION**

**Actual material**

Nitrous oxide supplied in cartridges

**12.1. Ecotoxicity**

**12.1.1. Water toxicity**

no data

**12.1.2. Terrestrial toxicity**

no data

**12.1.3. Behaviour in waste water treatment plants**

no data

**12.2. Mobility**

no data

**12.3. Biological persistence**

**12.3.1. General**

no information available,

**12.3.2. In water**

no data

**12.3.3. In air**

no data

**12.3.4. In soils and sediments**

no data

**12.4. Bioaccumulative potential**

no data

**12.5. Results of PBT and vPvB assessment**

no data

**12.6. Other adverse effects**

prevent that the substance in water, agricultural land and gutter gets, when the substance gets in gutter or water, notify the local authorities,



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**13. DISPOSAL CONSIDERATIONS**

**13.1. Material disposal**

Any product originated from the use of the substance or preparation and unsuitable for further utilisation, as well as the tools and packing materials, should be delivered to an approved deposit for recycling or neutralisation. observe all state and local environmental regulations,

**13.2. Package disposal**

observe all state and local environmental regulations, the packaging has to be used, like product

**13.3. EWC number**

15 01 05

**14. TRANSPORT INFORMATION**

**UN number**

2037



**ADR/ADN/RID**

Proper shipping name: Receptacles, small, 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: Receptacles, small, 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. - Oxidising agents,

**15.2. Storage category**

2A storage class: Compressed, liquefied or dissolved under pressure gases,



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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,  
 EUM 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  
 EWC 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

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

**16.1. General information**

This information relates TO THE PRODUCT AS SUCH and is in compliance with 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 Product Design Development and Marketing Inc.  
 Address: 170 Associated Rd., South San Francisco, CA 94080, U.S.A  
 Tel.: 800-500-0583 Fax: 650-588-8568





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**16.3. Sources**

United Brands Product Data Sheet

**16.4.**

