



MSDS (MATERIAL DATA SAFETY SHEET)
8 gram compressed gas (n2o) filled charger

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

COMPANY : UNITED BRANDS PRODUCT DESIGN DEVELOPMENT AND MARKETING INC.

CONTACT: 170 Associated Rd., South San Francisco, CA 94080, U.S.A TEL : 650-588-8952 FAX : 650-588-8568

PRODUCT: Nitrous oxide supplied in cartridges

CREATION DATE :Jan 2013 FORMULA: N 2 O

EMERGENCY CONTACT: CHEMTREC: 800-424-9300

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS NO	EINECS
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Nitrous oxide	10024-97-2	233-032-0
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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/E C

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 personel protection:
put on the protective equipment, evacuate the area and close for the traffic, keep upwind,
- 6.2. Measures for enrioment 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 ventillated place, Store in a cool, dry well-ventilated area. keep away from heat, sources of ignation, 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	AK value (mg/m3)	CK value (mg/m3)	MK value (mg/m3)
ingredients:			
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 ³ , Filling pressure: 7MPa (1,015psi) Pressure at 50 °C: 16,5MPa (2,425psi) Burst pressure: min. 45 MPa

9.2. Other Informations

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,
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
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 PDDM Inc.,
170 Associated Rd.,
South San Francisco, CA 94080
Tel: 800-500-0583
Fax: 650-588-8568

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16.3. Sources

Safety data sheet - United Brands PDDM Inc. (2005.05.17), United Brands Data Sheet,

16.4. Further information

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