

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name	: Cream whipper cartridges, 7,8 gr N ₂ O chargers
Chemical name	: Nitrous Oxide, N ₂ O
CAS number	: 10024-97-2
EC number	: 233-032-0
Registration number (REACH)	: Not applicable

As food additive, Nitrous Oxide is conformed to the following regulations and fulfils their requirements. Therefore, Nitrous Oxide is exempted from registration under REACH:

- (1). ECHA's Guidance on Registration, Version 2.0, May 2012, in paragraph 2.2.3.1
- (2). EC 1907-2006, REACH Regulation, page 29 Article 2 (5) (b) (i)
- (3). FAO JECFA at the 74th meeting of the JECFA, page 77 "Nitrous Oxide".
- (4). Directive 2008/84/EC, page 157 "E942 Nitrous Oxide".
- (5). IGC Doc 126/11/E, Appendix 1

1.2 Relevant identified uses and uses advised against

Relevant identified uses	: Cartridges are specially made only for making whipped cream in cream whippers. Use cream whipper cartridges only in accordance with the instructions. Do not use for any other purpose.
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1.3 Details of the supplier of the safety data sheet

Supplier	: Hendi b.v., steenoven 21, 3911 TX Rhenen, The Netherlands tel: 0031 317 681040 www.hendi.eu
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2. HAZARDS IDENTIFICATION

P102 Keep out of reach of children.
 P251 Pressurized container: Do not pierce or burn, even after use.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P402 Store in a dry place.
 P410 Protect from sunlight.
 P412 Do not expose to temperatures exceeding 50°C/ 122°F.

Hold away from head or body during discharge or replacement.
 Nitrous Oxide cartridges may not be sold to persons under 18 years.

Oxygen levels below 19.0% may cause asphyxia. Nitrous oxide exposure can cause nausea and respiratory problems.
 High concentrations may cause vasodilation leading to circulatory collapse.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Product definition of substance :

Chemical name	EC number	CAS number	%		Hazard statements (CLP 1272/2008)
Nitrous Oxide (N ₂ O)	233-032-0	10024-97-2	99%		

4. FIRST AID MEASURES

4.1 Description of first aid measures

General	: -
Inhalation	: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.
Contact with skin	: Flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing
Contact with eyes	: Persons with potential exposure to liquid nitrous oxide should not wear contact wear contact lenses.
Ingestion	: None

5. FIREFIGHTING MEASURES

Flash Point (Method Used)	Flammable Limits	LEL : Not applicable	UEL: Not applicable
Non – flammable	Auto ignition Temperature	: Not determined	NFPA Class : None

General Hazards : Product is not flammable or combustible. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide

Extinguishing media

Suitable extinguishing media	: Carbon dioxide, water, water fog, dry chemical, chemical foam.
Unsuitable extinguishing media	: -

Advice for fire fighters : Self - contained respiratory equipment; cool containers to prevent pressure buildup and possible explosion when exposed to extreme heat.

Unusual Fire and Explosion Hazards: Closed containers can explode due to buildup of pressure when exposed to extreme heat. Contents under pressure. Do not use or store near heat sources.

Hazardous Combustion Products: Smoke, fumes or vapors, oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

Steps to be Taken in Case Material is Released or Spilled : Evacuate and ventilate area. Allow gas to escape to air. Remaining liquid may be absorbed on to an approved absorbent and placed in an approved container for disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling : Keep container closed when not in use; protect containers from abuse; protect from extreme temperatures, keep away from sources of heat. Do not puncture container. Do not attempt to refill container. Keep away from direct sunlight and heat. Never dispose of full chargers. Never force open. Keep out of reach of children and minors. If container is punctured, gas will escape and freeze container, use hand protection and obviate direct contact with container to avoid cold-burns

7.2 Conditions for safe storage : Do not heat. Maximum environmental temperature in use not to exceed 50°C (122°F). Store in a cool and dry location

Packaging materials: Recyclable steel

Recommended use: Use original container

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls

Engineering controls : Nitrous oxide is noncorrosive and may be used with any common structural material. Nitrous oxide oxidizes some metals at elevated temperatures. See Liquid Air's Gas Encyclopedia

Individual protection measures, such as personal protective equipment

- a) Eye/face protection : Chemical safety goggles. Refer to 29 CFR 1910.101
- b) Skin / hand protection : Utilize appropriate gloves for protection needed from cold, based on exposure
- c) Respiratory protection : None required while threshold limits are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.101 for complete regulations.
- d) Other : Safety eyewash station nearby.
Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties of N₂O (E942--99% N₂O)

Odour and appearance : A colorless, odorless gas.
 Melting point (N₂O Sublimes) : - 90.81° C (- 131.5° F)
 Boiling point : - 88.48° C (- 127.3° F)
 Evaporation point : Not Available
 Vapour pressure at 20°C (68°F) : 52.7 kg/cm²
 Vapour density at 20°C (68°F), 1 atm (Air = 1) : 1.53
 Solubility H₂O : 2.2 mg/l at 15 °C, 100 kPa
 Pressure / Temperature Characteristics at filling density of 0.75 kg/liter :
 57 bar at 20°C 383 lbf/in² at 68 oF
 170 bar at 50°C 2499 lbf/in² at 122 oF
 245 bar at 70°C 3602 lbf/in² at 158 oF
 365 bar at 100°C 5366 lbf/in² at 212 oF
 400 bar at 110°C 5880 lbf/in² at 230 oF

9.2 Other information

<u>Parameter of 8g N₂O charger</u>	<u>METRIC UNITS</u>	<u>US / IMPERIAL UNITS</u>
Overall Length (approx) :	65mm	2.56 in
Body Diameter :	18mm	0.709 in
Neck Diameter :	8.7mm	0.343 in
Internal Volume (approx) :	10.4 ml min.	0.636 in ³ min.
Net weight of N ₂ O (approx) :	7.8 g	0.27 oz
Tare wt. of charger (approx) :	21 g	0.74 oz
Gross wt. of charger (approx) :	28.8 g	1.01 oz
Bursting pressure :	>500 bar	>7350 lbf/in ²

10. STABILITY AND REACTIVITY

- Stability** : The product is stable.
- Materials to avoid** : Strong oxidizers, strong acids.
- Hazardous decomposition products** : Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes or vapors, and smoke may be produced.

11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

Hazardous Ingredients	CAS #	EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Nitrous oxide	10024-97-2	233-032-0	Information not found	Inhalation-Rat 1068 mg/m ³ /4 h

12. ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system. None of the ingredients in this mixture are classified as a Marine Pollutant.

13. DISPOSAL CONSIDERATIONS

Dispose of box in empty conditions only. Check your local sanitation department for recycling schedule, or contact local scrap metal companies. Never dispose of full cartridges.

14. TRANSPORT INFORMATION**Non hazardous**

UN number : UN 1070 NITROUS OXIDE Special Provision 584

This gas is not subject to the requirements of ADR (transport by road) because capsule contains not more than 25gr of this gas.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation (EC)**

EU Regulations : Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

16. OTHER INFORMATION

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on Information from similar products, the ingredients, technical literature, and/or professional experience.

All information given in this Safety Data Sheet is exclusively related to the product described and is provided assuming that the product will be used in a way and for the purposes as stated by the manufacturer. The information is based on our present state of knowledge and will be reviewed regularly. This Safety Data Sheet has only been set up with the intention to describe the safety aspects of the product and therefore should not be construed as guaranteeing specific properties of the product of concern or its suitability for a particular application. It is the user's own responsibility to take the precautionary measures described and also to take care that this information is complete and adequate for the use of this product. It is recommended to pass through the information in this Safety Data Sheet, whenever necessary in an adapted form, to all staff and interested parties of concern.