MATERIAL SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

Worldwide Gas BV
(BTW NL859639277B01 CCI number 73717754)

Revised/Reviewed: Feb,28,2017

1:IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

Product name: 8 g N2O chargers

CAS No: 10024-97-2

EC No (from EINECS): 233-032-0

As food additive, Nitrous Oxide is conformed to the following regulations and fulfills 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

1.2Relevant identified uses of the substance and uses advised against:

1.2.1 Relevant identified uses

Whipped Cream-Dressing / Mousses & Other Desserts / Food-grade

1.2.2 Uses advised against:

Not available.

1.3Details of the supplier of the safety data sheet:

Worldwide Gas B.V. (BTW NL859639277B01 CCI number 73717754)

Keizersgracht 391A, 1016 EJ Amsterdam

Tel: +31 202 253 624

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www.worldwidegas.net

1.4 Emergency telephone Number:+31 202 253 624

2: HAZARDS IDENTIFICATION

2.1Classification of the substance or mixture

2.1.1Classification:

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. Warning! Pressurized container; protect from sunlight; do not expose to temperatures exceeding 50°C (122°F); keep out the reach of children; never dispose of full container, never force open.

2.1 Label elements

Labelling Pictograms

Signal word:

Warning

Hazard Statements

H270	May cause or intensify fire; oxidizer.
H280	Contains gas under pressure; may explode if heated.
EIGA-As	Asphyxiant in high concentrations.

3:COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance.
Components/Impurities
Nitrous Oxide.
CAS No: 10024-97-2
Index-Nr.: -
EC No (from EINECS): 233-032-0
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4: FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1 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.

4.1.2 Ingestion :

None

4.1.3 Skin Contact :

Flush affected areas with lukewarm water. DO NOT USE HOT WATER. Aphysician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freeezing.

4.1.4 Eye Contact :

Persons with potential exposure to liquid nitrous oxide should not wear contact wear contact lenses.

5: FIRE-FIGHTING MEASURES

Flash Point (Method Used) Flammable Limits LEL : Not applicable UEL: Not applicable

Non - flammable Autoignition 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
Carbon dioxide, water, water fog, dry chemical, chemical foam.

Fire Fighting Procedures
Self - contained respiratory equipment; cool containers to prevent pressure buildup and

possible explosion when exposed to extreme heat.

Unsual 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

6.1 Personal precautions

Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.

6.2 Environmental precautions:

Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.3 Clean up methods:

Ventilate area.

7: HANDLING AND STORAGE

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.

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

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8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering controls :

itrous 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.

Personal protection Respiratory system :

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 1910.134 or European Standard EN 149 for complete regulations.

Protective gloves :

Utilize appropriate gloves for protection needed from cold, based on exposur

Eue Protection :

Chemical safety goggles. Refer to 29 CFR 1910.101

Other protective clothing or equipment :

Safety eyewash station nearby.

Work/Hygienic practices :

Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

9: PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties of N2O (E942--99% N2O)

Vapor pressure at 20 oC (68 oF) : 58.5 kg/cm2

Vapor density at 20 oC (68 oF), 1 atm (Air = 1) 1.53

Evaporation point : Not Available

Melting point (CO2 Sublimes) : - 90.86° C (- 132° F)

Boiling point : - 88.48° C (- 127° F)

Specific gravity : Not Available

Solubility (H20) : 1.50 g/L at 15 °C, 100 kPa

Odor and appearance : A colorless, odorless gas.

Pressure / Temperature Characteristics at filling density of 0.78 kg/liter :

52 bar at 20 °C	750 lbf/in2 at 68 °F

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185 bar at 50 °C	2680 lbf/in2 at 122 °F
290 bar at 70 °C	4200 lbf/in2 at 158 °F
425 bar at 100 °C	6160 lbf/in2 at 212 °F
470 bar at 110 °C	6815 lbf/in2 at 230 °F

Parameter of 8g N2O charger

	METRIC UNITS	US / IMPERIAL UNITS
Overall Length (approx) :	65 mm	2.56 in
Body Diameter :	18 mm	0.709 in
Neck Diameter :	8.7 mm	0.343 in
Internal Volume (approx) :	10.3 ml min.	0.63 in³ min.
Net weight of N2O (approx) :	8 g	0.32 oz
Tare wt. of charger (approx) :	21 g	0.84 oz
Gross wt. of charger (approx) :	29 g	1.16 oz
Bursting pressure :	>500 bar	>7250 lbf/in²

10: STABILITY AND RELIABILITY

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

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/m³/4 h

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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

Waste Dipposal Method : Dispose of in accordance with Local, State, and Federal Regulations. This product may produce concentrated hazardous vapors in a disposal container creating a dangerous environment. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals. Do not flush to sanitary sewer or waterway.

14: TRANSPORT INFORMATION

Non hazardous

UN No :	UN 1070 NITROUS OXIDE
	Special Provision 584
Class:	2.2
Title :	
	This gas is not subject to the requirements of ADR when:
	A capsule contains not more than 25 g of this gas.

15: REGULATORY INFORMATION

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

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Classification :	Harmful
Risk Phrases :	R8- In use, may form flammable/explosive vapour-air mixture .
Safety Phrases :	S38 - In case of insufficient ventilation, wear suitable respiratory equipment.
Contains :	N2O

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.

HMIS Hazard Ratin	Health	1	* = Chronic Health Hazard
	Flammabili	0	0 = Insignificant
	Physical Haza	0	1 = Slight
	Personal Protective Equipment	B	Safety Glasses, Gloves
			2 = Moderate
			3 = High
			4 = Extreme