元翎精密工業股份有限公司
Mosa Industrial Corp.

Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH) & EC 1272/2008 (CLP)

Creation data : 15.06.2021
Revision data : 07.10.2024

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

1.1 Product identifier:

Product name: 8.5 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

1.2 Relevant 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.

1.3 Details of the supplier of the safety data sheet:

Mosa Industrial Corp.
18, Kehu 3Rd. Huwei, Yunlin 63247, Taiwan
www.twmosa.com
Phone: +886 5 6361867
Fax : +886 5 6312770

1.4 Emergency telephone Number: +886 5 6361867

2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)
• Physical hazards : Oxidizing gases - Category 1 - Danger (H270) Gases under pressure - Liquefied gas - Warning (H280)
Classification acc. to Directive 67/548/EEC & 1999/45/EC: Not included in Annex VI.

2.2 Label elements

Labelling Regulation EC 1272/2008 (CLP)
• Hazard pictograms

• Hazard pictograms code
• Signal word : Danger
• Hazard statements : H270 : May cause or intensify fire; oxidiser.
H280 : Contains gas under pressure; may explode if heated.
• Precautionary statements
- Prevention : P244 : Keep valves and fittings free from oil and grease
P220 : Keep/Store away from clothing/…/combustible materials.
- Response : P370+P376 : In case of fire: Stop leak if safe to do so.
- Storage : P403 : Store in a well-ventilated place.
Other hazards : 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. A physician 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) Non - flammable	Flammable Limits	LEL : Not applicable	UEL: Not applicable
	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.

8: EXPOSURE CONTROL/PERSONAL PROTECTION

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.
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 exposu
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 °C (68 °F) :	52.7 kg/cm2
Relative density at 20 °C (68 °F), 1 atm (Air = 1) :	1.53
Evaporation point :	Not Available
Melting point (CO2 Sublimes) :	- 90.81° C (- 131.5° F)
Boiling point :	- 88.48° C (- 127.3° F)
Specific gravity :	Not Available
Solubility (H20) :	2.2 mg/l at 15 °C, 100 kPa
Odor and appearance :	A colorless, odorless gas.

Pressure / Temperature Characteristics at filling density of 0.75 kg/liter :	57 bar at 20 ℃	838 lbf/in2 at 68 oF
	170 bar at 50 ℃	2499 lbf/in2 at 122 oF
	245 bar at 70 ℃	3602 lbf/in2 at 158 oF
	365 bar at 100 ℃	5366 lbf/in2 at 212 oF
	400 bar at 110 ℃	5880 lbf/in2 at 230 oF

Parameter of 8g N2O charger

	METRIC UNITS	US / IMPERIAL UNITS
Overall Length (approx) :	65.5 mm	2.56 in
Body Diameter :	18.3 mm	0.709 in
Neck Diameter :	8.7 mm	0.343 in
Internal Volume (approx) :	11.4 ml min.	0.636 in^3 min.
Net weight of N2O (approx) :	8.5 g	0.296oz
Tare wt. of charger (approx) :	22g	0.776oz
Gross wt. of charger (approx)	30.4 g	1.072 oz
Bursting pressure :	>500 bar	>7250 lbf/in^2

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

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

Road transport:

UN No. : UN 2037

Class : 2.2

Classification cod 5.0

Receptacles, small, containing gas (gas cartridges) without a release device, non refillable. According to ADR 2013 chapter 3.2 schedule A column 6 special provisions 191,303 and 344 are valid (transported product is not subject to the requirement of ADR).

Air transport:

UN No. : UN 2037

Class or Div : 2.2

Sub Risk: 5.1

Gas cartridges, (oxidising) without a release device,non refillable.

Sea transport:

UN No. : UN 2037

Class : 2.2

Receptacles, small, containing gas (gas cartridges) without a release device, non refillable. According to the IMDG-code special provisions 191 ,277and 303 are valid (transported product is not subject to the requirement of IMDG).

15: REGULATORY INFORMATION

1.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Ensure all national/local regulations are observed.

1.2 Chemical safety assessment Not applicable.

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