



Safety Data Sheet (SDS)

The gas cylinder products referenced in this SDS document under 120 ml capacities and are considered "articles" under the Global Harmonized System and are exempted from the GHS labeling and SDS classification criteria. This SDS document is provided as a service in response to requests for information on gas cylinder use, safety and regulatory compliance.

Product name DISPOSABLE CARBON DIOXIDE CARTRIDGE

1. Identification

1.1. Product Identifier

Product name CO2 Kit & Cartridges

1.2. Other means of identification

Product code NCO2K, NCO2C
Synonyms Disposable Carbon Dioxide Cartridges
Chemical Family No information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use Propellant source for cartridge operated fire extinguisher
Uses advised against Any use other than specified

1.4. Details of the Supplier of the Safety Data Sheet

Company Name National Refrigeration Products
985 Wheeler Way
Langhorne, PA 19047
USA
Contact phone (800) 352-6951
Website address www.nrproducts.com

1.5. Emergency Telephone Number

Emergency telephone CHEMTREC 800-424-9300 (USA and Canada)

2. Hazard Identification

2.1 Classification

OSHA Regulatory Status This material is considered "articles" by the OSHA Hazard Communication Standard (29 CFR1910.1200) and is exempted from the OSHA/HCS labeling criteria.

2.2. Label Elements

Hazard statements
Non-hazardous The product contains no substances which at their given concentration, are considered to be hazardous to health.

Precautionary Statements

Prevention – None
Response – None
Storage – None
Disposal – None

2.3. Hazards Not Otherwise Classified (HNOC)

Not Applicable.

3. Composition/information on Ingredients

3.1. Mixture

Substance / Mixture	Substance
Chemical Name	Carbon Dioxide
Synonyms	Carbonic, Carbon Dioxide, Carbon Anhydride, CO2
CAS Number	124-38-9
Content (vo%)	99.8 % or more

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4. First aid measures

4.1. Description of first aid measures

Eye Contact	Carbon dioxide is harmless at atmospheric pressure. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Skin contact	Carbon dioxide is harmless at atmospheric pressure. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Remove exposed person to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband
Ingestion	Refer to the inhalation section..

4.2. Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms None known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

5.1. Suitable Extinguishing Media

Use an extinguishing agent suitable for the surrounding fire.

5.2. Unsuitable Extinguishing Media

None.

5.3. Specific Hazards Arising from the Chemical

Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

5.4. Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

5.5. Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray.

For emergency responders If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

6.2. Environmental Precautions

Environmental Precautions Avoid disposing into drainage/sewer system or directly into the aquatic environment. Keeping away from drains, surface-and ground-water and soil.

6.3. Methods and material for containment and cleaning up

Methods for Containment Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for Cleaning Up This material contains no more than 45 grams of carbon dioxide, in case of spill, allow carbon dioxide to vent naturally. Do not handle the cylinder without protective gloves as it may cause frostbite.

7. Handling and Storage

7.1. Precautions for Safe Handling

Advice on safe handling Put on appropriate personal protective equipment (see Section 8).

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store in accordance with local regulations. Store in a segregated and approved area.

Incompatible Materials Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) Cylinder temperatures should not exceed 52°C (125°F).

8. Exposure Controls/Personal Protection

8.1. Control Parameters

This material contains no more than 45 grams of Carbon Dioxide. Although unlikely to result in serious exposures, the following Control parameters Occupational exposure limits are provided for regulatory purpose.

Ingredient name Exposure Limits	Ingredient name Exposure Limits
Carbon Dioxide	ACGIH TLV (United States, 3/2012). Oxygen Depletion [Asphyxiant]. STEL: 54000 mg/m3 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m3 8 hours TWA: 5000 ppm 8 hours. NIOSH REL (United States, 1/2013). STEL: 54000 mg/m3 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m3 8 hours TWA: 5000 ppm 8 hours. OSHA PEL (United States, 6/2010). TWA: 9000 mg/m3 8 hours TWA: 5000 ppm 8 hours.

OSHA PEL 1989 (United States, 3/1989).
STEL: 54000 mg/m³ 15 minutes.
STEL: 30000 ppm 15 minutes.
TWA: 9000 mg/m³ 8 hours
TWA: 5000 ppm 8 hours

8.2. Appropriate Engineering Controls

Engineering controls Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields or chemical goggles.

Skin and Body Protection No special precautions are needed in handling this material.

Respiratory Protection In case of insufficient ventilation, wear suitable respiratory equipment.

Ventilation Use local exhaust or general dilution ventilation to control exposure with applicable limits

8.4. General hygiene considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state	Gas at normal temperature and pressure
Color	Colorless
Molecular weight	44.01g/mol
Molecular formula	CO ₂
Melting/freezing point	Sublimation temperature: -79°C (-110.2°F)
Critical temperature	30.85°C (87.5°F)
Odor	Odorless
Odor threshold	Not available
pH	Not available
Flash point	[Product does not sustain combustion]
Burning time	Not available
Burning rate	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower and upper explosive (flammable) limits	Not available

Vapor pressure	830 psig
Vapor density	1.53 (Air = 1), Liquid Density@BP: Solid Density = 97.5 lb/ft ³ (1562 kg/m ³)
Specific volume	8.7719 ft ³ /lb (m ³ /g)
Gas density	0.114 lb/ft ³ (178.6 g/m ³)
Relative density	Not available
Solubility	Not available
Solubility in Water	Not available
Partition coefficient	0.83
n-octano / water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
SADT	Not available
Viscosity	Not available

10. Stability and Reactivity

10.1. Chemical Stability

Stable under normal storage and handling conditions.

10.2. Reactivity

No data available

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4. Conditions to Avoid

Humidity, incompatible materials

10.5. Incompatible Materials

Strong acids/alkaline.

10.6. Hazardous decomposition products

None

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity	Not Available
Irritation / Corrosion	Not available
Sensitization	Not available
Mutagenicity	Not available
Carcinogenicity	Not available

Reproductive toxicity	Not available
Teratogenicity	Not available
Specific target organ toxicity (single exposure)	Not available
Specific target organ toxicity (repeated exposure)	Not available
Aspiration hazard	Not available
Information on the likely route of exposure	Not available

11.2. Information on Toxicological Effects

Symptoms No information available.

11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization	No information available.
Germ Cell Mutagenicity	No information available
carcinogenicity	No information available
Reproductive Toxicity	No information available.
STOT - Single Exposure	No information available.
STOT - Repeated Exposure	No information available.

Aspiration Hazard No information available.

12. Ecological Information

12.1. Toxicity Not classified

12.2. Persistence and Degradability No information available.

12.3. Mobility in Soil No information available

12.4. Bioaccumulation

Product / Ingredient name	Log Pow	BCF	Potential
Carbon Dioxide	0.83	-	low

12.5. Other Adverse Effects No information available

13. Disposal Considerations

13.1. Waste Treatment Methods

Discharge of Carbon Dioxide Gradually release in open air.

Disposal of Cylinders If gas remains in cylinders, release gas with proper equipment and recycle cylinders as recyclable steel.

Verify for puncture hole.

Do not dispose or recycle without first checking that all gas has been released and there is a puncture hole on the cylinder.

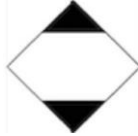
14. Transport Information

IMDG Shipping Name Carbon Dioxide

UN Number UN 1013

Hazard Class 2.2

Placard Limited Quantity



Special Shipping Information Packaging Instruction 200

IATA DGR 56th (2015) Carbon Dioxide

UN Number UN 1013

Hazard Class 2.2

Placard



Special Shipping Information Packaging Instruction 200

DOT Shipping Name Carbon Dioxide

UN Number UN 1013

Hazard Class 2.2

Placard LTD QTY

Special Shipping Information See CFR 49, 172.101, 173.306 for exception of labeling. In accordance to Docket No. PHMSA-2009-0126 (HM-215K).

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable international and domestic (including but not limited to federal, state, and local) regulations.

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan. This material is considered "articles" by the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is exempted from the OSHA/HCS labeling criteria.

This material is a container for carbon dioxide with no more than 4 fluid ounces of capacity and is considered "ORM-D" or "Consumer Commodity" by the Department of Transportation (49 CFR 173.101 and 173.306). This material is exempted from the DOT labeling criteria, except when offered for transportation or transported by air.

SARA 311/312

Fire hazard NO

Hazardous Categories

Sudden release of pressure YES

Reactive NO

Immediate (acute) health hazard NO

Delayed (chronic) health hazard NO

State Regulations

Massachusetts	This material is listed
New Jersey	This material is listed
Pennsylvania	This material is listed
California	This material listed is not regulated under CA Proposition 65.

16. Other information, including date of preparation of the last revision

Hazard Rating Systems

NFPA Ratings	HMIS Ratings
Health = 2	Health = 1
Flammability = 0	Flammability = 0
Reactivity = 0	Physical Hazard = 3
Special = SA	

Revision date

2/12/2019

Revision note

Updated formatting

No information available

Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

End of Safety Data Sheet