Safety Data Sheet

Product Name: Carbon dioxide - Gaseous Carbon dioxide & Liquid Carbon dioxide
Date of Issue: 19/06/2020 Revision-1 Revision date:05/04/2025

premier carbonic

1. Product and Company identification:

Product	: Carbon dioxide
Chemical Formula	: CO_2
Chemical description	: Liquid Carbon dioxide, Gaseous Carbon dioxide, Food grade Carbon dioxide, High pure Carbon dioxide
Company name	: Premier Carbonic Pvt Ltd 13/700, Coimbatore road, Kalmandapam, Kerala, India - 678003
Emergency Contact number	: +919962326026

2. Hazards Identification:

Classification : H280

Hazard Pictogram :

Hazard Warning : 2 C No flammable gas
Label Elements : Contains gas under pressure; may explode if heated

Hazard : Liquid carbon dioxide is freezing and can cause frostbite in contact with skin.Carbon dioxide gas in high concentrations is an asphyxiant,which acts by excluding oxygen from the lungs.It can cause increase in respiration and heart rate.

Environment : Carbon dioxide is a natural component of air; it constitutes approximately 0.03% by volume of earth's atmosphere

3. First Aid Measures:

Inhalation	: Immediately remove the person from the source of exposure to fresh air, keep warm and at rest. If unconscious,loosen tight clothing and place in a stable position, lying on one side. If breathing is difficult, provide oxygen if possible. If the heart has stopped, provide cardiac compression.
Eye	: Immediately flush eyes thoroughly with water for 20 minutes. Remove contact lenses. Hold the eyelids open and away from the eyeballs for thorough flushing. Seek medical assistance immediately if irritation does not stop.
Skin	: Do not rub frostbitten skin or break blisters. Remove all clothing from around the affected area. Immerse frostbitten toes, fingers, feet, hands or limbs in lukewarm water (about 40°C) NEVER HOT. Do not use direct heat, hot water bottles, heat lamps, heating pads etc. on the frostbitten area. If possible, keep frostbitten fingers and toes separated with strips of gauze or clean cloth. Seek medical assistance immediately if color and feeling do not return to Frostbitten areas within 20 minutes.
Ingestion	: Same as Inhalation.

4. Fire-Fighting Measures

Extinguishing Agents	: None necessary; carbon dioxide is non-flammable and is itself used as an extinguishing agent.
Precautions	: Wear self-contained breathing apparatus in areas where large amounts of carbon dioxide are involved.

Environmental Precautions : Carbon dioxide is heavier than air and could accumulate in low-lying areas. Care should be taken when entering a potentially oxygen deficient environment. If possible, ventilate the affected area.

5. Accidental Release Measures

Personal Precautions : Liquid carbon dioxide is cold; wear protective clothing and footwear, eye / face protection and heavy gloves to avoid skin contact. If spillage occurs in an enclosed space with poor ventilation there is a danger of asphyxiation; wear self-contained breathing apparatus. The gas is heavier than air and will accumulate at floor level and in low-lying areas.

Clean up procedures : Liquid carbon dioxide will evaporate at room temperature. If spillage occurs indoors, provide adequate ventilation to minimize the danger of asphyxiation. No other special procedures are necessary.

6. Handling And Storage

Handling : Avoid skin contact, Low temperatures can embrittle plastics, rubbers and some steels.

Storage : Protect against direct sunlight and heat.

7. Exposure Controls / Personal Protection

Engineering Measures : Provide adequate ventilation in areas where carbon dioxide is handled.

Exposure limit : Concentration level above 1000 PPM is dangerous.

Personal Protection Equipment : Liquid carbon dioxide is cold, wear protective clothing and footwear. Eye / face protection and heavy gloves to avoid skin contact. Leakage of liquid to an enclosed space with poor ventilation may dilute the oxygen concentration of the air sufficiently to cause asphyxiation; wear self-contained breathing apparatus.

8. Physical And Chemical Properties

Appearance	Colourless
Form	Liquid
Odor	Odorless
Molar Mass	44.0 g/mol
Triple Point	-56.6°C at 5.2 atm
Melting Point / Range °C	Sublimes at –78° (-56.6° C at 5.2 atm)
Burning Point	None flammable
Critical Temperature °C	31° C at 73.8 atm
Relative Gravity (g/cm3)	0.933 at 0° and 40 atm (liquid)
Relative density (air = 1)	1.98 (gas)
Water Solubility	3.42 g CO2/Liter H2O (0°, 1 atm)
Thermal Decomposition	Starts at 1200°C
Hazardous Decomposition Product	Carbon Monoxide (CO)
Viscosity	137 10 -7 Pa at 20°C

9. Stability And Reactivity

General	: Carbon dioxide gas is chemically inert under most conditions. The gas is soluble in water, however forms a weak acid solution known as carbonic acid. (H_2CO_3).
Conditions To Avoid	: Cannot be used for extinguishing fires where metallic sodium, Potassium or magnesium is involved.

10. Toxicological Information

Health Effects(General)	: Liquid carbon dioxide is very cold and can cause frost bite if in contact with the skin. Carbon dioxide gas in high concentrations is an asphyxiant, which acts by excluding O_2 from the lungs
Inhalation	: Concentrations of 4-5% by volume may cause headache and dizziness. Concentrations of 6-8% may cause unconsciousness and paralysis of the respiratory system.
Contact with skin	: Can cause frost bite.Wash With Plenty Of Water

11. Ecological Information

Ecological Effects (General)	: Carbon dioxide is a component of air; it constitutes approximately 0.03% by volume of the earth's atmosphere.
Mobility	: Liquid carbon dioxide will evaporate at room temperature.

12. Disposal Considerations

General	: With adequate ventilation and otherwise under conditions where the low temperature will not present a hazard or problem, the liquid may be allowed to evaporate. A cold "fog", heavier than air, will be formed.

13. Transport Information

Road / Rail	: ADR/(GGVS) RID/(GGVE) - Class 2 Prod. No. - 3 A UN-No 2187
Sea: IMO IMDG	: Class 2.2
Emergency Procedures (IMDG)	: EmS No. 2-12
Medical First Aid Guide (IMDG)	: MFAG No. 615
Air	: ICAO/IATA-DGR - Class 2 UN-No. - 2187
Other Information - Packaging	: Refrigerated Tanks

14. Regulatory Information

General	: Not regulated

15. Other Information

Recommended Users	: Used in carbonation of beverages, for fire Extinguishing, water treatment and freezing goods etc.