



American Dry Ice Corporation

Safety Data Sheet Carbon Dioxide, Solid

Creation Date: 01/01/2015

Revision 1

Section 1: IDENTIFICATION

Product Identifier: Carbon Dioxide, Solid (Dry Ice)

Trade Names/Common Names

Solid Carbon Dioxide; Carbonic Anhydride, Nuggets, Pellets, Block Dry Ice, Hot Ice

CAS No: 124-38-9

Identified Uses

Industrial applications

Restrictions on Use

None known

Manufacturer's Name

American Dry Ice Corporation

Address (Number, Street, City, State and Zip Code)

19 Second Street, PO Box 719

Palmer Industrial Park

Palmer, MA 01069

Emergency Telephone Number

(800)248-1104 and/or (413)283-9906

Telephone Number for Information

(603)425-2500

E-Mail Address

adryice@myfairpoint.net

Section 2: HAZARDS IDENTIFICATION

Classification in accordance with 29 CFR 1910.1200

Hazard Statements

CO₂ can cause suffocation. Higher concentrations cause circulatory insufficiencies which cause headache, nausea, vomiting and unconsciousness. Dry ice when touched can cause severe frostbite which is a change in the color of the skin to gray or white possible followed by blistering.

Precautionary Statements

Prevention

Persons in ill health where such illnesses would be aggravated by exposure to Carbon Dioxide should not be allowed to work with or handle this product. Persons with respiratory disease or heart disorders should avoid breathing excessive Carbon Dioxide.

Response

Immediately assist person overcome by CO₂ to an uncontaminated area to inhale fresh air. Unconscious persons after being moved to fresh air should be given mouth-to-mouth resuscitation, administered oxygen, and medical assistance sought immediately. Rescue personnel should be equipped with self-contained breathing apparatus with full face mask. Frostbite-DO NOT USE HOT WATER. Immerse affected area in lukewarm water and promptly and see a physician.

Storage

Store dry ice in well ventilated areas away from heat. Storage containers specifically manufactured for the storage of dry ice should be used. Local exhaust ventilation and/or general dilution ventilation should be used to meet OSHA TWA 5,000PPM/ACGIH TLV 5,000PPM. Anyone handling dry ice should wear insulated gloves, heavy clothing, face shields, and safety shoes.

Disposal

Move waste to a well ventilated and isolated area and allow to sublime. Area must be supervised until sublimation of all dry ice. DO NOT PUT DRY ICE IN SEALED CONTAINERS UNLESS SPECIFICALLY DESIGNED FOR THAT PURPOSE.



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Section 3: COMPOSITION

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Components

Carbon Dioxide, solid (Dry Ice).

Section 4: FIRST-AID MEASURES

Inhalation

In high concentrations may cause asphyxiation. Symptoms may include headache, nausea, vomiting and unconsciousness. Immediately assist person overcome by CO₂ to an uncontaminated area to inhale fresh air. Unconscious persons after being moved to fresh air should be given mouth-to-mouth resuscitation, administered oxygen, and medical assistance sought immediately. Rescue personnel should be equipped with self-contained breathing apparatus with full face mask.

Skin/eye contact

Dry Ice when touched can cause severe frostbite which is a change in the color of the skin to gray or white possibly followed by blistering. Frostbite- DO NOT USE HOT WATER. Immerse affected area in lukewarm water and promptly see a physician. For Eye protection use safety glasses or full face shield. Protective Gloves with insulation should be used when handling dry ice. Long sleeve shirts should be worn when handling dry ice as well as pants or coveralls. Ties should be removed when viewing ice making equipment.

Ingestion

Do not ingest Dry Ice, if ingested obtain medical assistance.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Non-flammable, inert gas

Specific Hazards

This material is non-combustible, used as an extinguishing agent for smothering class B&C fires. Dry Ice should not be stored in air tight containers unless specifically designed for that purpose; when confined in sealed containers, heat will cause sublimation resulting in container rupture or an explosion.

Hazardous combustion products

None.

Fire Fighting Measures

Move container away from fire area or cool with water and spray until well after fire is out if it can be done without risk.

Special Protective Equipment for Fire Fighters

Wear full protective fire fighting gear including self contained breathing apparatus if in confined space.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area of all personnel and provide with adequate ventilation. Clean up should be provided by personnel wearing self-contained breathing apparatus with full mask, insulated gloves, heavy protective clothing, and safety shoes.



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Environmental precautions

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

Clean up methods

Ventilate area.

Section 7: HANDLING AND STORAGE

Handling

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Anyone handling dry ice should wear insulated gloves, heavy clothing, face shields and safety shoes.

Storage

Keep container below 50°C in a well ventilated place.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Ensure adequate ventilation. Exhaust fans where necessary.

Exposure limit

Local exhaust ventilation and/or general dilution ventilation should be used to meet OSHA TWA 5,000PPM.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state

Appearance and Odor

White opaque solid;slight pungent odor. No odour warning properties.

Molecular weight: 44 g/mol

Melting point [°C]: -56.57, [°F]: -69.83 @ 75.1 PSIA

Boiling point/Sublimation point [°C]: -79 [°F]: -109

Specific Gravity (water=1): 1 ATM 1.014@2°F

Vapor Pressure (mm Hg.): @70°F (21°C)= 845PSIA

Vapor Density (air=1): @70°F (21°C)=.1144lb/ft³

Solubility in Water: @68°F (20°C) = 87%

Evaporation Rate: Not available

Flammable Limits: Not available

Section 10: STABILITY AND REACTIVITY

Stability and reactivity

Stable under normal conditions of storage and use.

Section 11: TOXICOLOGICAL INFORMATION

Toxicological information

Higher concentrations cause circulatory insufficiencies which cause headache, nausea, vomiting and unconsciousness.



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Section 12: ECOLOGICAL INFORMATION

General

When discharged in large quantities may contribute to the greenhouse effect.

Global warming potential [CO₂=1]: 1

Section 13: DISPOSAL CONSIDERATIONS

Waste disposal method

Move waste to a well ventilated and isolated area and allow to sublime. Area must be supervised until sublimation of all dry ice. DO NOT PUT DRY ICE IN SEALED CONTAINERS UNLESS SPECIFICALLY DESIGNED FOR THAT PURPOSE.

Section 14: TRANSPORT INFORMATION

IMDG

Shipping Name: Carbon dioxide, solid

DOT#: UN1845 **Hazard Class:** 9

Required Label(s): 9

Other transport information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Ensure adequate ventilation.

Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture: Ensure all national/local regulations are observed.

Section 16: OTHER INFORMATION

Other information

The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Advice

Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in preparation of such information, American Dry Ice extends no warranty, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or consequences of its use. Since American Dry Ice has no control over the use of this product, it assumes no liability for damage or loss of product resulting from proper (or improper) use or application of the product. Data sheets may be changed from time to time. Be sure to consult the latest edition.

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