



WG-TRA

PI /11 / 18/ E

PRODUCT INFORMATION**DRY ICE-(Carbon Dioxide-Solid)****UN No.** 1845
CLS 9
Trans Cat 3
EAC 2T
HIN -**TECHNICAL SPECIFICATION****SPECIFICATION**

Carbon Dioxide > 99%

PHYSICAL DATAChemical Symbol CO₂

Vapor Pressure (kPa @ 15°C) 5090

Relative Density (Air = 1) 1.53

Molecular Weight 44.01

Sublimation Point -78.5°C

Critical Temperature 31.0°C

Specific Volume (@101.3 kPa & 15°C) 0.535 m³/kg**PROPERTIES**

Colorless, odorless gas; white opaque solid (dry ice) It is a non-flammable gas and heavier than air.

USES

The most common use of dry ice is to preserve food using non-cyclic refrigeration. It is frequently used to package items that must remain cold or frozen, such as ice cream or biological samples, without the use of mechanical cooling. Dry ice can be used to flash-freeze food or laboratory biological samples, carbonate beverages, make ice cream, solidify oil spills and stop ice sculptures and ice walls from melting.

One of the largest mechanical uses of dry ice is blast cleaning. Dry ice pellets are shot from a nozzle with compressed air, combining the power of the speed of the pellets with the action of the sublimation. This can remove residues from industrial equipment.

Dry ice is also useful for the de-gassing of flammable vapors from storage tanks — the sublimation of dry ice pellets inside an emptied and vented tank causes an out rush of CO₂ that carries with it the flammable vapors.

SUPPLY & STORAGE

Dry Ice pellets, slices and blocks (various dimensions available). Dry ice is to be stored in a well-ventilated location and placed in a Styrofoam chest, insulated cooler, or a special cooler designed for the storage of dry ice.

HANDLING & SAFETY**HAZARDS**

Burns/frostbite: Dry ice can cause burns to the skin in short periods of times. Thermal gloves are to be used if it is necessary to handle dry ice.

Suffocation: Carbon dioxide is a simple asphyxiant. Always store dry ice in a well-ventilated area to minimize the buildup of carbon dioxide. Personnel must never stick one's head into the chest to obtain the dry ice.

Explosions: Placing dry ice into a tightly sealed container can permit sufficient gas build up to cause an explosion. Never place dry ice inside an ultra-low freezer or other enclosed space!

MATERIALS COMPATIBILITY

Carbon dioxide is non-corrosive and so any common metal is acceptable, provided equipment is designed to withstand process pressure.

PRECAUTIONS IN USE

Use only in well-ventilated area to prevent accumulation of high concentration of gas. Ensure that oxygen content of air is maintained between 19 to 23%.

PERSONAL PROTECTION

Safety eyewear complying with an approved standard & use a properly fitted, air-purifying or air-fed respirator complying with an approved standard when a risk assessment indicates this is necessary

FIRST AID

If victim is conscious:

- Move to uncontaminated area to breathe fresh air, Keep warm and quiet, and call doctor.

If victim is unconscious:

- Move to uncontaminated area and give assisted respiration, when breathing is restored, treatment as above.

Continued treatment should be symptomatic and supportive.

Frozen tissues should be flooded / soaked with tepid water.

Do not use hot water.

ADDITIONAL INFORMATION

The information, recommendations and data contained in this publication are intended to give basic guidance to users for their safe handling and use.

For Further information please refer Material Safety Data Sheets (MSDS)

It is essential for the safe use of gases that personnel are properly trained and are fully aware of the possible hazards.

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