

UN No. 1845	Hazard No. 1(R)
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Dry Ice (Solid CO₂)



Pellets

PELLET SIZES
3mm
10mm
16mm



Blocks and Slices

BLOCK SIZES	SLICE SIZES
2.5Kg	1Kg
5Kg	2Kg

Currently available only in the Melbourne and Adelaide Metro areas

Typical Analysis

Carbon Dioxide (Solid) - 100%

Description

Carbon Dioxide Solid is produced by allowing liquid CO₂ to expand to a lower pressure thereby forming a mixture of 'snow' and CO₂ gas. The mixture is then compressed into solid Carbon Dioxide (Dry Ice) in the form of pellets or blocks.

Typical uses

Some of the more common applications:

- Transit refrigeration of perishables – meat, fruit, vegetables, etc.
- Airline catering – chilling of prepared meals and drinks
- Dry Ice blasting – efficient 'no mess' cleaning
- Hospitals and laboratories – pathological samples, removal of skin growths

- Engineering – shrink fitting of metal parts
- Freeze branding of animals
- Rubber industry – 'deflashing' of rubber goods
- Pastry/biscuit manufacturers – to regulate mix temperatures
- Theatres, discos – special effects
- Restaurants – novel food and drink presentation
- Ice cream distribution
- Cleaning/stripping of animal hides (by dry ice blasting)
- Domestic leisure market refrigeration – fish, food, drink, etc.
- Plumbing – pipe freezing allows "in situ" cutting, jointing
- Semen freezing

Main hazards

Low temperature solid (sublimation at -78.5°C), avoid skin contact and wear gloves when handling.

Additional protective clothing maybe required (ie. face shield, apron) which are resistant to low temperatures to prevent freeze burns and frostbite. Ventilate areas especially when using larger quantities. Carbon Dioxide is present in air in concentrations varying from 0.03% to 0.06%. Toxic effects are due to asphyxiation in oxygen deficient atmospheres and its powerful cerebral vasodilator effects.

Storage and handling

Insulated containers for solid CO₂ should be handled and transported upright at all times. Store containers in dry, naturally ventilated areas and not in an enclosed room or area. Keep water/rain away from containers to minimise losses, keep out of direct sunlight and away from heat sources.

SPILLS

Evacuate all personnel from affected area. As released to atmosphere it will generate vapour fog clouds. These clouds will displace air in confined areas, provide good ventilation and monitor oxygen concentration. Use appropriate personnel protective equipment.

DISPOSAL

Allow solid Carbon Dioxide to sublime in a well ventilated area. The insulated storage container should be located in an area where there is adequate ventilation so as to prevent the accumulation of Carbon Dioxide vapours above the TLV. Carbon Dioxide vapours are approximately one and a half times heavier than air. **DO NOT PUT DRY ICE IN A CLOSED CONTAINER WHERE EVOLVED GAS CANNOT ESCAPE.**

Materials Compatibility

Dry Solid Carbon Dioxide is non corrosive but Dry Ice evaporates giving off CO₂ gas which will form acidic corrosive conditions with atmospheric moisture. Equipment

should thus be acid resistant – stainless steel, aluminium, fibreglass are often used. Some plastics and many rubbers become brittle at the low temperature involved.

Precautions for Use

Solid CO₂ should be stored in insulated containers constructed of material compatible with the -78.5°C low temperature. Workers should use gloves and may require additional protective clothing which is resistant to low temperatures to prevent freeze burns and frostbite. Do not freeze water or liquids in glass receptacles which are likely to shatter. Do not bend over into bins or containers containing solid CO₂ gas displaces oxygen and may cause asphyxiation.

Fire

Carbon Dioxide will not support combustion. It is a fire extinguishing medium.

First Aid

Rescue personnel entering enclosed areas should wear self contained breathing apparatus.

If swallowed drink large volumes of water and seek medical attention.

EYE

Immediately flush with tepid water in large quantities, or with a sterile saline solution. Seek urgent eye specialist attention.

SKIN

Cold Burns: Irrigate affected area with tepid water (30-35°C) for 15 minutes. Apply sterile dry dressing and treat as thermal burn. If tepid water unavailable, use tap water. Do not apply any form of direct heat.

INHALED

Move to open air. If breathing has ceased, give artificial respiration immediately, preferably using an oxygen resuscitator if available.

SDS

Safety Data Sheets (SDS) are available for products supplied by Supagas, please check our website www.supagas.com.au or contact your local Supagas outlet.

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