

## Dry Ice Safe Handling Instructions

### *Properties*

Dry ice is Carbon dioxide (CO<sub>2</sub>) in a solid state. Its temperature is  $-78,6^{\circ}\text{C}$

At room temperature it will transfer directly into gaseous form without residues. This procedure is known as sublimation. It is connected to an important increase in volume: 1 kg of dry ice will lead to approximately 541 l of CO<sub>2</sub> gas. CO<sub>2</sub> gas is not flammable and is without odour or taste. It is not toxic, approved as food additive. Since CO<sub>2</sub> is 1,5 times heavier than air, it usually sinks down to the floor level of any room. This property leads to some important rules that consequently need to be considered when using dry ice

### *Safety Precautions*

**Severe Burns Risk:** Dry Ice is extremely cold and can cause severe burns on contact with skin.

- Always use protective gloves when handling.
- When it comes to special uses such as blasting or cleaning with dry ice, eye and face protection is highly recommended

**Child Safety:** Keep Dry Ice out of the reach of children and always supervise them closely.

- Store dry ice safely away from children. Dry ice is not ice cream! Swallowing dry ice is extremely dangerous!

**Ingestion Warning:** Do not swallow Dry Ice. Ingesting it can cause severe injury or death due to freezing of tissues in the mouth, oesophagus, and stomach.

### *Storage Guidelines*

When dry ice sublimates CO<sub>2</sub> gas may cause difficulty breathing or suffocation. CO<sub>2</sub> is heavier than air and accumulates in poor ventilated areas.

- Do not store dry ice in confined rooms or spaces (including vehicles) without ventilation.
- Do not store dry ice in walk in cool rooms or freezers. Dry ice can release gas in these types of environments and displace oxygen, which can cause headaches, nausea, breathing difficulties and at worst asphyxiation.
- Do not place dry ice in an airtight container. If dry ice is packed in an airtight container, fridge, freezer, or anywhere that does not allow the release of gas, containers may explode as ice rapidly expands to a gas when exposed to temperatures above  $-78^{\circ}\text{C}$ .
- Dry ice containers should be kept only in places with good ventilation. Be sure the area is well ventilated when working with or storing dry ice. This includes transport and storage in vehicles. Ensure room doors and windows (where possible) are open to allow air exchange. If dry ice has been in a closed area, open doors and allow adequate ventilation for at least 5 minutes prior to entering.
- If shortness of breath is experienced or a headache develops, these may be signs of exposure to CO<sub>2</sub>. Leave the area immediately.

### *Ventilation Requirements*

**Carbon Dioxide Accumulation:** Carbon Dioxide (CO<sub>2</sub>) is heavier than air and can accumulate in low-lying areas, displacing oxygen. If CO<sub>2</sub> levels exceed 0.5%, it can be dangerous.

**Ventilate Closed Areas:** If Dry Ice has been in a closed environment (car, van, room, or walk-in refrigerator) for more than 10 minutes, open doors and ensure adequate ventilation before entering. Exit the area immediately if you have trouble breathing, dizziness, headaches, or light-headedness.

### *Pick Up & Transportation*

Collect Dry Ice as close as possible to when it is required.

Due to sublimation, and resulting distribution of CO<sub>2</sub>, dry ice must be transported in a well-ventilated vehicle or in a part of a vehicle separate to the occupants, for example in the rear of a utility vehicle where the storage area is separate from the cab. The most suitable container for the transport of dry ice is a foam esky or similar that is not tightly sealed. The better insulated the container, the slower the sublimation. The dry ice storage container should be kept as cool as possible during transport and out of direct sunlight as this will reduce sublimation. Dry Ice will sublimate at a rate of between 2% to 10% per day

**Insulation:** Dry Ice WA supply Dry Ice in low loss containers specifically designed to prolong dry ice in its optimum condition during transportation. For smaller quantities we will supply foam eskies which are well ventilated and ideal for dry ice transportation

### *Disposal*

Once the dry ice is no longer needed, open the container, and leave it at room temperature in a well-ventilated and secure area. The dry ice will readily sublimate from a solid to a gas.

- DO NOT leave dry ice in an unsecured area, dry ice needs to be kept away from the public and regularly monitored.
- DO NOT drain or flush in a sink, basin, or toilet, as the temperature difference may ruin the plumbing.
- DO NOT dispose into general waste.
- DO NOT place in a closed area or cool room or freezer.

### *First Aid*

- After inhalation: relocate to an area where there is fresh air. Seek medical attention if symptoms develop, such as breathing difficulty. To protect rescuer, use an Air-line respirator or Self-Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if available.
- After skin contact: flush affected area with lukewarm water (not hot water). Do not rub the affected area. seek medical attention especially if blisters start to form on skin.
- After eye contact: flush eyes with lukewarm water for 15 mins. Remove contact lenses if worn. Contact an eye specialist.

### *Emergency Contact*

In case of an emergency, please call 1800 800 055



[Dry Ice Dangerous goods UN NO 1845 Class 9](#)

*Dry Ice WA takes no responsibility for any misuse of this product. Every customer must abide by these Safety Instructions and must always ensure the safety of themselves and others when using Dry Ice*