



**LAKE BOONE ICE CO.  
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### **PHYSICAL PROPERTIES:**

- Carbon Dioxide (CO<sub>2</sub>) in a solid state
- A dense snow-like substance
- Being heavier than air, Carbon Dioxide accumulates in low areas
- It absorbs twice as much heat as regular ice but occupies less than half the volume
- Dry Ice temperature ranges between -109° F. to -130° F.

### **USAGE**

**For Cooling:** Place dry ice in the bottom of the cooler. Cover with wet ice then place food, cans. Etc. on top.

**For Freezing:** Pack cooler and place dry ice on top

5 lbs. = 18 hrs.

10 lbs. = 24 hrs.

15 lbs. = 36 hrs.

20 lbs. = 48 hrs.

**For Fog:** Use hot water and place 15 lbs. in water per hour.

### **SAFETY PRECAUTIONS**

- Always use gloves when handling dry ice.
- Never store dry ice in an air-tight container. Pressure build up may cause an explosion.
- Dry ice sublimates to form carbon dioxide gas, which does not support life.
- Do not breathe gas. Exposure can cause rapid suffocation.

## **SAFE HANDLING OF DRY ICE**

**Caution:** Keep dry ice away from children if they cannot be closely supervised at all times.

### **HANDLING**

Dry Ice temperature is extremely cold at -109° F to -130° F. Always handle Dry Ice with care and wear protective gloves when handling. An oven mitt or towel will work. If touched briefly it's harmless, but prolonged contact with the skin will freeze cells and cause injury similar to a burn.

### **BURN TREATMENT**

Treat Dry Ice burns the same as regular heat burns. See a doctor if the skin blisters or comes off. If skin is only red it will heal in time as any other burn. Apply antibiotic ointment to prevent infection and bandage only if the burned skin area needs to be protected.

### **STORAGE**

Store Dry Ice in an insulated container. The thicker the insulation, the slower it will sublimate. Do not store Dry Ice in a completely airtight container. The sublimation of Dry Ice to Carbon Dioxide gas will cause any airtight container to expand and possibly explode. Keep proper air ventilation wherever Dry Ice is stored. Do not store Dry Ice in unventilated rooms, cellars, autos or boat holds. The sublimated Carbon Dioxide gas will sink to low areas and replace the oxygenated air. This could cause suffocation if breathed exclusively. Do not store Dry Ice in a refrigerator freezer. The extremely cold temperature will cause your thermostat to turn off the freezer. It will keep everything frozen in the freezer but it will be used up at a faster rate. It is the perfect thing if your refrigerator breaks down in an emergency.

### **VENTILATION**

Normal air is 78% Nitrogen, 21% Oxygen and only 0.0035% Carbon Dioxide. If the concentration of Carbon Dioxide in the air rises above 5%, the Carbon Dioxide can become toxic. Smaller concentrations can cause quicker breathing but is otherwise not harmful. If Dry Ice has been in a closed auto, van, room, or walk-in for more than 15 minutes, open doors and allow adequate ventilation before entering. Leave area containing Dry Ice if you start to pant and breathe quickly. This is a sign that you have breathed in too much CO<sub>2</sub> and not enough oxygen. Dry Ice CO<sub>2</sub> is heavier than air and will accumulate in low spaces. Do not enter closed storage areas that have or have had Dry Ice before airing out completely.

### **PICK-UP TIME AND TRANSPORTING**

Plan to pick up the Dry Ice as close to the time it is needed as possible. It sublimates at 10%, or 5 to 10 lbs. every 24 hours, whichever is greater. Carry it in a well-insulated container such as an ice chest. If it is transported inside a car or van for more than 15 minutes, make sure there is fresh air. After 15 minutes, with Dry Ice in the passenger seat next to me, I started to breathe faster and faster as though I were running a race. I couldn't figure out why I was so out of breath until I saw the car air system was set to the re-circulated position, not fresh outside air.

### **DISPOSAL**

Unwrap and leave it at room temperature in a well-ventilated area. It will sublimate from a solid to a gas.

### **TILE COUNTERTOPS**

Do not leave Dry Ice on a tiled countertop as the extreme cold could crack it.

## **DRY ICE EXPERIMENTS TO TRY:**

- 1. Jack-o-Lantern:** Place a small piece of dry ice inside a cup of hot water and place it inside of a cut out pumpkin. Smoke will come out of the eyes, nose, and mouth areas.
- 2. Witches Brew:** Put small pieces of dry ice inside a kettle, bucket, or witches cauldron, 1/3 full of hot water. Stir smoky brew with witches broom for full effect (You will use approximately 20 pounds of dry ice per hour).
- 3. Bubble Effect:** Put dry ice into any good size plastic container filled with hot water. Put a small squeeze of dish detergent inside the container. Results will be large bubbles which when they pop will give off puffs of smoke.
- 4. Tombstones:** Make tombstones out of cardboard and place a few in your yard. Place dry ice inside a flat pan and add hot water. Place the pan in front of the tombstone for a creepy effect.
- 5. Fog:** Use flat pan and fill 1/3 full of hot water. Add 3-4 small dry ice chunks every 10-15 minutes. You will use approximately 40 pounds per hour (Keep water hot for best results).

\*\* Dry ice in hot water will create a low-lying fog effect. The problem is keeping the water warm. You will need to empty the cold water out and add hot water

- \* **ALWAYS WEAR GLOVES WHEN HANDLING DRY ICE!!**
- \* **USE IN A WELL VENTILATED AREA**
- \* **ADULT SUPERVISION IS RECOMMENDED**