

STEP BY STEP

PACKING A COOLER WITH **COLD ZERO**™ DRY ICE FROM CENTRAL MCGOWAN

Using dry ice in a cooler is a great way keep food and beverages cold and/or frozen. Because dry ice is so cold (-109.3°F or -78.5°C), anything that touches it directly will freeze. Picking the right cooler and packing it correctly are critical to getting the results you want.

1

Choose the right cooler. Pick one that's right for what you'll be cooling and for how long. Be sure it has a lid that doesn't seal completely or a drain, so it can be ventilated to prevent a buildup of gas as the dry ice sublimates (instead of melting it goes from a solid directly to a gaseous state). Styrofoam coolers or urethane-insulated boxes work best for single-day applications; a molded or plastic cooler is ideal for larger and longer applications.

2

Prep your cooler. For plastic coolers, arrange Styrofoam or cardboard inside the cooler. This protects the plastic interior of your cooler from the extreme cold of the dry ice. Cut pieces of Styrofoam or cardboard and lay them on the bottom of the cooler. You'll also need to place them along the sides, if you'll have dry ice touching the inside walls.

3

Buy dry ice. Dry ice is available in blocks, slabs, nuggets and rice (pellets). Blocks and slabs last longer than nuggets or rice. Determine how much you need based on how long you'll need the dry ice to last, the size of your cooler, what you're putting in it, and external conditions. Measure your cooler to determine how much dry ice will fit. Use the chart below as a buying guide.



Duration	5- to 10-Quart Cooler	20-Quart Cooler	40-Quart Cooler	65-Quart Cooler	100-Quart Cooler
12 hours	1-5 lbs	1-5 lbs	5 lbs	5 lbs	5-10 lbs
1 day	5-10 lbs	5-10 lbs	5-10 lbs	5-10 lbs	10-15 lbs
2 days	10 lbs	10-15 lbs	10-15 lbs	10-15 lbs	15-20 lbs
3 days	N/A	20-30 lbs	25-30 lbs	25-30 lbs	30-50 lbs
4 days	N/A	30-40 lbs	30-40 lbs	30-40 lbs	50-70 lbs
5 days	N/A	N/A	50 lbs	50 lbs	70-100 lbs
7+ days	N/A	N/A	N/A	70-100 lbs	100-200 lbs

SOURCE: thecoolerbox.com

4

Wrap dry ice blocks/slabs in newspaper, or place smaller pieces in a brown paper bag.

This will help make it last longer by insulating it and slowing down sublimation. It will also prevent you and others from accidentally touching dry ice with bare hands while getting stuff out of the cooler.

MORE



WARNING! Wear gloves to protect your hands when handling dry ice. Because dry ice reaches extremely cold temperatures, it can burn bare skin. DO NOT put dry ice in any space that is not well ventilated OR store in an air-tight container. NEVER leave dry ice unattended. It should always be kept out of the reach of children and animals. Do not ingest or use in drinks or beverages.

5

Pack your cooler. How you pack it will vary, depending on whether you're storing drinks, fresh or frozen foods, or some of each.

FOR DRINKS: Place wrapped dry ice in bottom of cooler. Separate drinks from the dry ice to prevent them from freezing and possibly exploding by:

- Covering the dry ice with layers of newspaper or cardboard. This will create air pockets that insulate against the extreme cold.
- Using your cooler's dry baskets (if it has them).
- Using a divider, placing dry ice on one side and drinks on the other.

Then stack drinks on top of cardboard/paper barrier or to the side of dry ice for easy access.

If you're only using your cooler for drinks, putting regular ice on top of the dry ice is another option. This keeps the drinks from touching the dry ice, while making the regular ice last longer.

If you're storing other items like frozen meat or ice cream along with your drinks, place your frozen food in the cooler below the beverages. The frozen food will act as a buffer for the dry ice while keeping your beverages chilled.

FOR FRESH FOODS: If you're storing fresh foods, follow the same steps used for beverages to prevent fresh items from freezing. If you're storing fresh produce (or salads or other similar food items), it's critical that you have multiple layers of cardboard and/or paper to prevent freezing or wilting.

FOR FROZEN FOODS: If you want to use the cooler like a portable freezer, place the items you want to freeze and/or keep frozen in the bottom of the cooler instead of the dry ice. Game from a hunting trip, for example, can be put into storage bags, placed in the bottom of the cooler, and the dry ice set directly on top of it for rapid freezing.

PACKING LAYERS

(listed in order from top to bottom)

DRINKS

Beverages
Regular Ice (optional)
Cardboard
Crumpled Paper
Wrapped Dry Ice



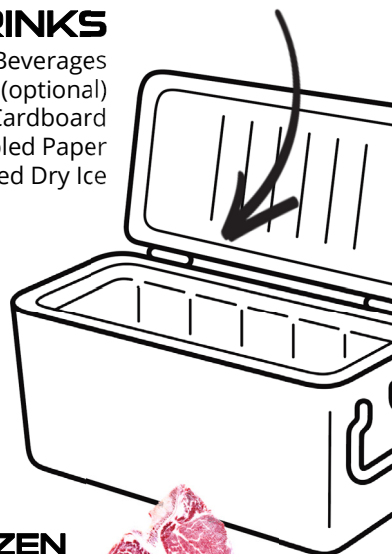
FRESH FOODS

Fresh Items
Multiple Cardboard Layers
Crumpled Paper
Wrapped Dry Ice



FROZEN FOODS

Crumpled Paper
Dry Ice
Frozen Items



6

Fill any gaps between chunks of dry ice with newspaper wadded up into loose balls. This will help the dry ice last longer by further slowing down sublimation.



WARNING! Be sure to dispose of dry ice properly. When finished using dry ice, unwrap it (if necessary) and leave it at room temperature in a well-ventilated area out of reach of animals or children. DO NOT leave it unattended. NEVER put it in the garbage or down a sink drain or toilet as the extremely cold temperature can damage plumbing. To dispose of dry ice in your cooler, simply set it outside with the lid off or open. If you can't leave the dry ice outside, set it on a solid surface that can withstand cold temperatures. Be sure to open windows in the room, and keep the room ventilated as the dry ice evaporates! It will take several hours or days for the dry ice to fully sublimate, depending on conditions.

IN CASE OF EMERGENCY: For accidental ingestion, seek medical attention immediately and call 911. Panting, headaches and blue lips and fingernails are signs of overexposure to carbon dioxide. If necessary, call 911. Seek medical attention as needed for treatment of dry ice burns.

**ColdZERO Dry Ice is Manufactured
at our St. Cloud & St. Paul Locations**

ST. CLOUD: 320-257-4800, OPTION #3 ST. PAUL: 651-645-6433

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PICKUP SITES: BURNSVILLE - ST. CLOUD - ST. PAUL - LITTLE FALLS - FARGO

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PICKUP & DELIVERY



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