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Weekly Safety Meeting

Handling Dry Ice

Dry ice is solidified carbon dioxide (CO_2). When dry ice melts, it turns into carbon dioxide gas. Carbon dioxide gas is always present in the environment, but in low concentrations. It is colorless and odorless.

Symptoms of overexposure to carbon dioxide include headaches, and in fresh air, difficulty breathing, and with greater exposure, nausea, and vomiting.

The surface temperature of dry ice is –109.3° F (–57° C). Above this temperature, dry ice sublimes, or sublimates. Both words describe the same thing—when a substance turns directly into a gas without first becoming liquid. This means that dry ice will evaporate without leaving moisture or wetness.

Because dry ice is very cold but disappears without getting things wet or leaving liquid behind, it has many industrial applications. It's used to preserve foods, chemicals and medical samples and supplies, especially during transportation. It's also used for dry ice blasting, a cleaning process used on machinery and tools and for removing mold and graffiti.

CO_2 is about one and a half times heavier than air and can displace oxygen in small or enclosed spaces. Even a relatively small piece of dry ice can produce a large quantity of CO_2 gas if it sublimes quickly.

Special Precautions:

There are several important precautions to take when handling dry ice:

- Dry ice is much colder than regular ice and can burn the skin like frostbite. You should wear insulated gloves when handling it;
- Wear safety glasses and a face shield if you are cutting or chipping it;
- Keep dry ice out of the reach of children;
- Never eat or swallow dry ice; and
- Avoid inhaling carbon dioxide gas.

Dry ice can be a very serious hazard in a small space that isn’t well-ventilated. As dry ice melts, it turns into carbon dioxide gas. In a small space, this gas can build up.

If enough carbon dioxide gas is present, a person can become unconscious, and in some cases, die.

It is very dangerous to use dry ice in a walk-in freezer, cooler, closed truck bed, or other small space with poor ventilation.

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A large amount of dry ice in a walk-in cooler or freezer can produce a great deal of dioxide gas which is heavier than carbon dioxide and can possibly be fatal to someone entering that space.

An increased amount of exposure in an enclosed area could cause lightheadedness, and even suffocation. When transporting dry ice in a vehicle, always make sure to have your vehicle windows open. This will prevent the carbon dioxide gas from replacing the oxygen in your car completely with carbon dioxide.

First Aid for Dry Ice Burns:

Skin contact with dry ice can cause frostbite or ice burn. OSHA recommends these first aid steps for treating dry ice contact injuries:

- Get medical assistance as soon as possible;
- Remove clothing that is not frozen to the skin;
- Put the affected body part in a bath of warm water—not above 40° C, or 104° F;
- Do not use dry heat to warm the area; and
- Do not rub the affected area.

Summary:

Dry ice is much colder than regular ice and can burn the skin like frostbite. You should wear insulated gloves when handling it. Keep dry ice out of the reach of children. Never eat or swallow dry ice and avoid inhaling CO_2 gas.

KNOW THE DANGERS OF HANDLING DRY ICE!!

Safety Meeting Sign-In Sheet

Supervisor:	Subject:
Location:	Date:
Conducted By:	Trainer Signature:

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests