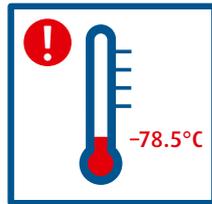


AGA Safety instructions for dry ice.

Cryogenic gases are very cold, and so is dry ice. The temperature of solid carbon dioxide (CO₂) gas is -78.5°C. Unlike water ice, dry ice does not melt. Instead, it sublimates (changes directly from solid state to gas), releasing CO₂ vapour, which is heavier than air. CO₂ suppresses the oxygen in confined spaces. In poorly ventilated rooms, it can displace air, causing asphyxiation. In order to avoid/reduce the risk of injury to skin, eyes and respiratory system, some general precautions for the handling of dry ice have to be followed. Below we have outlined the safety instructions for you.



Very cold. Dry ice has a temperature of -78.5°C. Any contact with skin and eyes could lead to burns.



Protect your eyes. Always use face protection and safety glasses with patches when handling dry ice.



Always use special insulated gloves. Never handle dry ice with your bare hands. A long-sleeved shirt, long trousers and shoes are also recommended.



Ingestion. Do not put dry ice in your mouth or otherwise ingest it. If dry ice is accidentally ingested, it can cause severe internal injury.



Keep away from children. Dry ice is not ice-cream. It should only be handled by adults.



Handling in general. Obtain dry ice in the form and size in which it will be used. Never saw a block of dry ice and never use a hammer to break a block of dry ice into smaller pieces. Beware of shattered dry ice. Handle with care when taking dry ice from a bigger package to a smaller one, as dry ice could splinter off. Do not use dry ice in confined areas. Dry ice releases heavy CO₂ vapour, resulting in high CO₂ concentrations in the box. Even one breath of pure CO₂ can cause rapid suffocation. It is therefore essential that you never lean into the box.



Transport. Transport dry ice in the boot of your vehicle or truck bed. It must never be stored in the passenger compartment of the vehicle without proper ventilation. Never leave dry ice in a parked passenger vehicle. Sublimation of dry ice in a closed passenger vehicle can result in the accumulation of dangerous concentrations of asphyxiating carbon dioxide vapour. Dry ice can be safely transported without special ventilation in the closed cargo area of a truck if all occupants are restricted to the cab. When opening a closed cargo area containing dry ice, allow the closed space to ventilate for 5 minutes before entering.



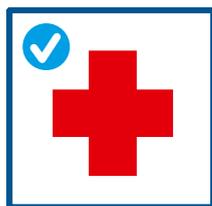
Proper ventilation and monitoring CO₂ concentrations. When storing dry ice, always ensure proper ventilation. CO₂ gas distributed near the ground is asphyxiating because it displaces the oxygen in the atmosphere. It is even possible for CO₂ vapour to accumulate in low-lying areas, out-of-doors, under zero or very light wind conditions. It is recommended to install a gas detector/alarm device and to measure the carbon dioxide and oxygen concentration both inside and outside the room where dry ice is being stored.



Appropriate storing. Dry ice must only be stored in specified packing material. Do not place dry ice in direct contact with perishable foods or bottled/canned beverages. Produce may sustain severe freezer burns and bottled/canned beverages may split. Do not place dry ice inside hermetically sealed containers, bottles or coolers. (Dry ice sublimates into gas, which can result in a rupture of the container from over-pressurisation.)



Disposal of unused dry ice. Do not attempt to dump unused dry ice. Allow the dry ice to sublimate or evaporate to the atmosphere in a wellventilated area where no build-up of carbon dioxide vapour can occur. Do not dispose of dry ice in sewers, sinks or toilets. The extreme cold will harm sink disposal and toilet parts and pipes. Also do not dispose of dry ice in rubbish bins, garbage chutes or in areas accessible to the general public.



Safety check-up. We recommend that you carry out an annual safety audit of your procedures when using transport with dry ice on a regular basis. Familiarise yourself with the correct first aid measures to be taken in case of an accident. Always read our safety instructions. In case of accidents with dry ice, always call for medical assistance immediately.

Further information

In case of questions, please contact AGA in your country.