

# Safety Slide: Carbon Dioxide (CO<sub>2</sub>)



- **CO<sub>2</sub>:** Colorless, essentially odourless and tasteless, non-flammable, under atm conditions, chemically stable and inert. Combustion reactions are inhibited or completely suppressed by CO<sub>2</sub>. Can react vigorously with certain substances, such as ammonia or amines.
- **Hazards:** Considered non-toxic (0.03 vol.% in air)
  - Harmful at high concentrations.: 3-5 vol.% -headache, respiratory disturbances and discomfort.  
8-10 vol.% -cramps, unconsciousness, respiratory arrest, and death can occur.
  - Cold (Dry ice): Cryogenic burns – Sensitive areas (cornea). Large areas of freeze burning can cause death.  
Asphyxiation - 1kg -300–400 litres of CO<sub>2</sub> gas. Closed spaces. High pressure.
- **Safe Handling :**
  - Dry Ice: Gloves or tongs, Goggles when crushing (PPE) , Not edible. Proper containers. Ventilation.
  - Gas cylinders: Should be stored upright, valve protection cap in place, firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use.
- **Emergency Procedures:**
  - **Eye Contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
  - **Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if adverse health effects persist or are severe.
  - **Skin Contact:** Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.