

# Carbon Dioxide Intoxication

EPSC Learning Sheet , September 2019

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## What Happened:

In a laboratory environment residual solid CO<sub>2</sub> (dry ice) was stored in a bin in a cooled storage room. When entering this room, a person felt ill due to the CO<sub>2</sub> gas



## Aspects:

- Solid CO<sub>2</sub> or dry ice is often used in laboratories for the cooling of substrates. Solid CO<sub>2</sub> will evaporate over time (sublimation at ca -78 °C) and will release hazardous CO<sub>2</sub> that will also displace oxygen
- Proper ventilation is essential when working with dry ice to keep CO<sub>2</sub> gas concentration low. CO<sub>2</sub> will result in hyperventilation (1%) and becomes a direct threat to life (10%)
- Closed boxes or storage rooms containing chemicals that can evaporate are “Restricted Areas” and need access control. Gas detection (O<sub>2</sub> or CO<sub>2</sub>) on the inside with warning on the outside and inside. Access by trained personnel only.
- Make sure all such area's, locations where chemical gases can accumulate, are well identified and well controlled

Recognise Restricted Areas and take appropriate action