

Practical Cryogen Safety

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Quick Conversion:
 $0\text{K} = -273.15^{\circ}\text{C}$

Common Cryogenics

CRYOGEN: A liquid that boils at a temperature below 110K (-160C) at atmospheric pressure.

- Liquid Natural Gas (boiling point 108K)
- Liquid Oxygen (boiling point 90K)
- Liquid Argon (boiling point 84K)
- Liquid Nitrogen (boiling point 77K)
- Liquid Hydrogen (boiling point 33K)
- Liquid Helium (boiling point 4.2K)

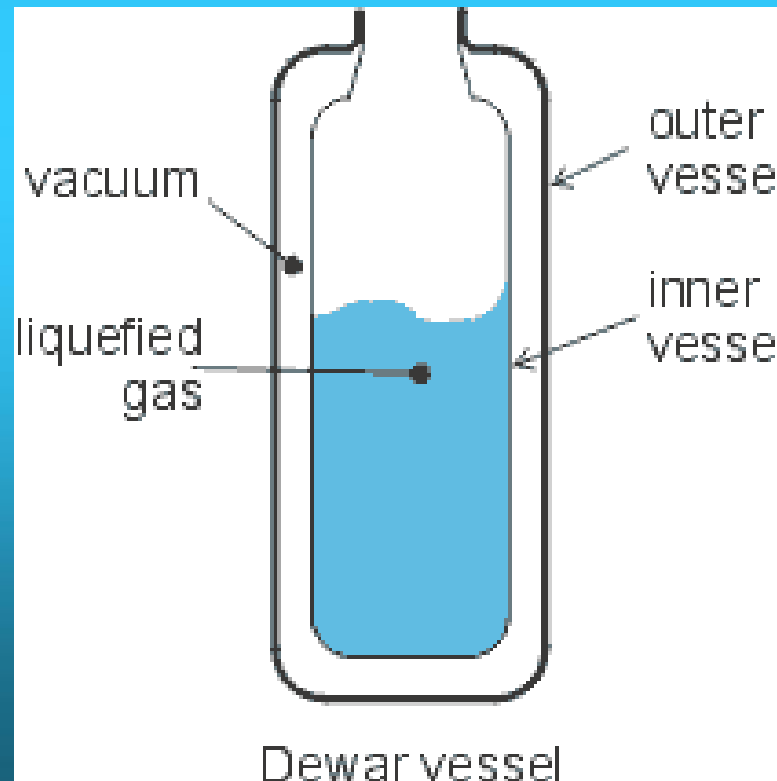
Ancillary Hazards

Every cryogenic liquid has an additional hazard other than being cold.

- Liquid Natural Gas - Flammable
- Liquid Oxygen - ***POWERFUL oxidizer***
- Liquid Argon - Asphyxiant
- Liquid Nitrogen - Asphyxiant, but if you have enough...
- Liquid Hydrogen - Remember Hindenburg?
- Liquid Helium - Asphyxiant

Dewars (AKA vacuum flasks)

From small benchtop dewars to giant transport trucks, this is the basic design.



That Whistling Noise

You may hear or see something like this while walking around:

<https://www.youtube.com/watch?v=K8EmSnMvbUk>

THIS IS OKAY



BLEVE

If you trap the evaporating gas and don't let it vent, you get this:

<https://youtu.be/sl-JgyQA7u0?t=1m24s>

THIS IS NOT OKAY