



What?

- Ammonia is a colourless, pungent gas composed of nitrogen and hydrogen, chemical formula NH_3 , Refrigerant R717. It can be detected by the human nose.
- It is easily liquefied by compression when it then has cooling properties for use in refrigeration and air-conditioning equipment. It is lighter than air
- When ammonia turns to gas, it will expand 850 x its volume. It is toxic to humans in large quantities and flammable in high concentrations
- Anhydrous ammonia is widely used in industrial refrigeration applications because of its high energy efficiency and low cost

Why?

- Inhaling ammonia or getting liquid ammonia on your skin can cause burning, unconsciousness, or death, so always use caution when handling this chemical
- Ammonia is a hygroscopic compound (it seeks water from the nearest source as a gas, including the human body)
- This places the eyes, lungs, and skin at greatest risk because of their high moisture content
- Refrigeration systems are pressurised, this will accelerate a gas escape if containment is lost
- Severe alkali burns result when anhydrous ammonia dissolves into body tissue
- Ammonia gas is detected by sensors which will alarm at 2 levels. Air extraction systems are in place to remove ammonia gas from a plantrooms

Do



- ✓ Only work on ammonia systems if you have been trained and authorised
- ✓ Refer to the Safe Management of ammonia refrigeration systems before working on this type of system
- ✓ Remember to wear your approved RPE /PPE at all times during intrusive works
- ✓ Remember the dangers: it is toxic, colourless, lighter than air and highly corrosive
- ✓ Audible and Visual alarms will sound with an uncontrolled release. Exit the area and assemble in the designated assembly point
- ✓ Personnel monitors to be calibrated, switched on and used

Don't



- ✗ Take chances
- ✗ Use damaged equipment
- ✗ Forget to use or wear all the necessary RPE/PPE
- ✗ Start work until you have undertaken your risk assessment and implemented a suitable safe system of work
- ✗ Block ventilation inlets or outlets, walkways or emergency exits
- ✗ Switch ventilation fans off unless authorised to do so
- ✗ Touch or make any alterations to any ammonia system
- ✗ Remove mechanical or electrical isolations without authorisation and supervision