






## Ethanoic anhydride

Substance	Hazard	Comment
<b>Concentrated ethanoic anhydride</b> (acetic anhydride) <i>Liquid</i>	  <b>FLAMMABLE</b> <b>IRRITANT</b>  <b>CORROSIVE</b>	<p><b>DANGER:</b> flammable liquid and vapour; harmful if swallowed or if inhaled; causes severe skin burns and eye damage; may cause respiratory irritation.</p> <p>For 15-minute exposure, the concentration in the atmosphere should not exceed 10 mg m<sup>-3</sup>. The flash point is 49°C, ie the liquid gives off sufficient vapour at 49°C to ignite if a flame or spark is applied.</p>
<b>Moderately concentrated ethanoic anhydride</b> (acetic anhydride) <i>(if less than 25% (w/w) but 5% (w/w) or more)</i>	 <b>CORROSIVE</b>	<p><b>DANGER:</b> causes severe skin burns; irritant to the skin; may cause respiratory irritation.</p>
<b>Moderately dilute ethanoic anhydride</b> (acetic anhydride) <i>(if less than 5% (w/w) but 1% (w/w) or more)</i>	 <b>IRRITANT</b>	<p><b>WARNING:</b> irritant to the skin.</p>

## Typical control measures to reduce risk

- Wear splash-proof goggles.
- Dispense in a fume cupboard. Avoid inhaling the vapour. Ensure the laboratory is well ventilated.
- Take particular care to avoid skin contact.
- Use the lowest concentration and smallest volume possible
- Do not use the concentrated ethanoic anhydride near naked flames; if heating is necessary, use an electrically-heated water bath or hot water from a kettle.

## Assessing the risks

- What are the details of the activity to be undertaken? What are the hazards?
- What is the chance of something going wrong?  
*eg choking fumes if concentrated ethanoic anhydride is over-heated.*
- How serious would it be if something did go wrong?
- How can the risk(s) be controlled for this activity?  
*eg can it be done safely? Does the procedure need to be altered?*

## Emergency action

In all emergency situations, alert the responsible adult immediately. Be aware that actions may include the following:

- In the eye                      Irrigate the eye with gently-running tap water for at least 20 minutes. Call 999/111.
- Vapour breathed in        Remove the casualty to fresh air. Keep them warm. Call 999/111 if breathing is difficult.
- In the mouth/swallowed    Do no more than rinse and spit with drinking water. Do not induce vomiting. Call 999/111.
- Spilt on the skin/clothing    Remove contaminated clothing. Quickly use a dry cloth or paper towel to wipe as much liquid off the skin as possible. Irrigate the affected skin area with gently-running tap water for at least 20 minutes. If a large area is affected or symptoms occur, call 999/111.
- Spilt on the floor, bench, etc    Wipe up small amounts with a damp cloth and rinse it well.  
For larger amounts and if safe to deal with, especially for concentrated ethanoic anhydride, ventilate the area as much as possible. Cover the spill with absorbent material (eg cat litter). Scoop this into a **dry** bucket and take to a fume cupboard. Treat with a large excess of water (eg 4 L per 100 cm<sup>3</sup> of spill). Leave to hydrolyse for at least 12 hours. Thoroughly mop the spill area. After 12 hours, decant the liquid down a foul-water drain and rinse away with more water. Place the rinsed absorbent in the waste.