

Your guide to

Safer Acetylene

Advice on the risks posed
and important safety guidelines.



HAMPSHIRE
FIRE AND
RESCUE
SERVICE



We make life safer



“ I have been using
acetylene for years...
what’s the problem? ”

Acetylene cylinders are not like other cylinders

Many people do not realise how unstable acetylene is, or how sensitive the cylinder can be.

It is sensitive if involved in fire. This will cause decomposition of the gas, which cannot be seen. Hours later, this can cause venting or explosion all without warning. It is also:

- Extremely flammable
- Notorious for pollution
- Energy costly

Have you informed your insurance company that you use acetylene?

Your Insurance company may require you to inform them if acetylene is present on your premises.

Dangers involving acetylene cylinders

Fire and rescue services nationally attend many hundreds of fires and incidents each year which involve acetylene cylinders.

If a cylinder is involved in fire, the risk of explosion can last for up to 24 hours after the fire has been extinguished

If a cylinder explodes it can cause:

- Travelling fire balls
- Projectile hazards
- Structural damage to near by buildings
- Death and injuries

cylinders and fragments can travel up to 200 metres

Some other options available:

- Oxy propane
- Electric arc welding
- Tungsten Inert Gas welding (TIG)
- Metal Inert Gas welding (MIG)
- Mechanical cutting
- Use of a sub contractor for welding activities



A badly burnt acetylene cylinder at a fire in Waltham Chase, Hampshire. The cylinder never exploded, but the devastating impact it could have had, meant dozens of surrounding houses had to be evacuated causing significant disruption in the village.

What is the impact on the community and business if an acetylene cylinder is involved in fire?

Any fires involving acetylene will cause severe disruption.

This could involve a **200 metre radius hazard zone, for up to 24 hours**, where any people and businesses within this hazard zone will be evacuated. This could mean:

- People will have to leave their homes
- Businesses will have to close
- Roads closed, including motorways
- Rail services suspended
- Hospitals closed and evacuated
- Schools closed and evacuated

An incident like this would cause widespread disruption and cost millions of pounds.



An incident here would close Southampton Airport, the M27 and the main railway line

200 metre radius



Roads closed and traffic diverted - some of the effects of an acetylene cylinder fire.

The law

Businesses, including those that use acetylene, are required to comply with key laws that include:

Dangerous Substances and Explosive Atmospheres Regulations 2002

This requires businesses to assess the risks of work activities with dangerous substances and to eliminate, substitute, or reduce the risks as far as reasonably practical.

Regulatory Reform (Fire Safety) Order, 2005

This requires a responsible person (typically the business owner) to carry out a Fire Risk Assessment. The assessment should take account of the impact that a fire involving a cylinder might have on surrounding premises and people. The Order became law on 1st October 2006.

If kept, use cylinders safely

- Treat it as a person, evacuate it in the event of a fire if safe to do so
- Store only what you require and not in bulk
- Store outside when the building is unoccupied
- If stored inside, store on a trolley close to an exit
- Keep plans of the location of your cylinders
- Train the staff in what to do in the event of a fire

What do I do in the event of a fire?

- Evacuate building to assembly point
- If safe to do so, remove acetylene cylinders whilst evacuating
- Call 999
- Take plans of the building with you

Returning acetylene cylinders?

- Contact your supplier, they should remove it for free
- The details can normally be found on the shoulder of the cylinder
- Advice on disposal can be obtained from your supplier





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Further information

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