

Safer use of acetylene

BUSINESS
SAFETY

3

Important safety guidelines
and advice on the risks



Kent Fire &
Rescue Service

Dangers involving acetylene cylinders

Every year, fire and rescue services attend hundreds of fires and incidents involving 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 fireballs
- Projectile hazards
- Structural damage to nearby buildings
- Death and injuries

Impact

Any fire 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
- Schools and hospitals closed and evacuated

The law

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

Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 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 (FSO) 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 1 October 2006.

In addition, your insurance company may require you to inform them if you use acetylene on your premises.

In an emergency

Include the following points in your emergency plan:

- If safe to do so, remove acetylene

- cylinders whilst evacuating
- Store only what is required and not in bulk
- Store securely outside when the building is not occupied
- If used inside a building, ensure the trolley is close to an exit
- Keep plans of the location of acetylene cylinders
- Train staff on what to do in the event of fire

Alternatives

Some welding or cutting jobs can be done without the use of acetylene:

- Arc welding (electric)
- Oxy-propane
- Tungsten inert gas welding (TIG)
- Metal inert gas welding (MIG)
- Mechanical cutting
- Use of a sub-contractor for welding activities

Safe storage and use of acetylene

If you need to use acetylene you should:

- Carry out a risk assessment (FSO and DSEAR)
- Inform the local fire and rescue service (acetylene is classified as a dangerous substance)
- Store in accordance with Health and Safety Executive (HSE)

guidance

- Ensure cylinders are stored in the upright position
- Store cylinders in a well ventilated area away from heat sources, flammables and corrosive oils/materials
- Always use the correct personal protective equipment (PPE)
- Ensure flashback arrestors are fitted
- Read and understand the safety data sheets

Returning 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

Useful contacts

British Compressed Gases Association

Phone 01332 225 120

Fax 01332 225 101

Web www.bcga.co.uk

Health and Safety Executive

Phone 0845 345 0055

Fax 0845 408 9566

Web www.hse.gov.uk

Email hse.infoline@natbrit.com

Further information

For free practical business safety advice or information visit **Your safety > Business safety** on our website at www.kent.fire-uk.org or contact the Business Engagement Team. Our fire safety offices are open from 9am to 5pm Monday to Friday and an answer phone is in place for out of hours messages.

Business Engagement Team

For free, friendly advice on making your business compliant with fire safety regulations.

Email bet@kent.fire-uk.org

North Kent Fire Safety Office

2 St Michaels Road,
Sittingbourne ME10 2DN

Phone 01622 212 413

Email tfs.northgroup@kent.fire-uk.org

Mid Kent Fire Safety Office

Maidstone Fire Station, Loose Road,
Maidstone ME15 9QB

Phone 01622 212 430

Email tfs.midgroup@kent.fire-uk.org

West Kent Fire Safety Office

Dartford Fire Station, Watling Street,
Dartford DA2 6EG

Phone 01622 212 427

Email tfs.westgroup@kent.fire-uk.org

South Kent Fire Safety Office

Folkestone Fire Station,
Park Farm Road, Folkestone CT19 5LT

Phone 01622 212 474

Email tfs.southgroup@kent.fire-uk.org

East Kent Fire Safety Office

Canterbury Fire Station,
Upper Bridge Street,
Canterbury CT1 2NH

Phone 01622 212 451

Email tfs.eastgroup@kent.fire-uk.org

If you would like this information in another format or language, please ask for your local **Fire Safety Office** on **01622 692 121** or email bet@kent.fire-uk.org