

Secure it. Ventilate it. Respect it.

The safe transportation of acetylene.



Capitalising on the benefits of acetylene. Without compromising safety.

The benefits of acetylene for welding and cutting applications are well established: acetylene has excellent thermal properties and high efficiency, which allows for faster processing, leading to significant reductions in time and costs.

Because of its high flammability, however, acetylene – like any fuel gas – can present a serious safety hazard if not handled and transported properly.

In fact, many accidents involving acetylene are reported across the industry every year, often resulting in serious injury or even death.

Our research indicates that up to one third of acetylene cylinders collected by customers from all retail outlets are not transported correctly and in accordance with best practice guidelines. It also shows that the two main causes of incidents are:

- an accumulation of leaked gas when cylinders have been stored within vehicles for prolonged periods;
- unguarded handwheel valves being knocked open in transit.

These incidents can be avoided if appropriate transport and storage practices are observed by all those who handle these cylinders.

Identifying sources of risk.

At Linde, safety is our number one priority. Inspired by our strict product stewardship policy, our aim is zero accidents and injuries, for customers and employees alike. This extends to the responsible transport and use of all our gases. Therefore, we have decided to take the global lead in helping acetylene users deliver on their duty of care towards themselves and all those around them. First and foremost, this means recognising potential sources of risk and encouraging best practices in the transport, handling and use of acetylene cylinders. We have identified the following three main factors that have a direct impact on the safety of acetylene transport and usage:

1. Secure it.

Ensure cylinders are fixed and secure before starting a journey

Many vehicles are not fitted with appropriate restraints to prevent cylinders from toppling over or moving around in the vehicle which introduces two potential hazards. During transportation, the cylinder handwheel valve can knock against something which opens the valve. This allows gas to escape, and can result in a fire or explosion. Also, if the driver brakes hard and the cylinders are not adequately secured, they can be propelled forward and cause severe damage or injury.

2. Ventilate it.

Use a well-ventilated vehicle to transport acetylene.

Many acetylene cylinders are collected and transported in unventilated vehicles. In the event of a leak – no matter how minor – gas can build up in an unventilated vehicle and result in a fire or explosion. This risk rises over prolonged storage periods. For instance, mobile workers – once they have finished their day's work – sometimes leave their cylinders in an unventilated vehicle over night. This gives gas leaks a chance to build up over time. This is especially dangerous if the regulator is used to shut off the gas supply. The regulator can easily leak so it is important that the cylinder shut-off valve is always used to stop the flow of gas.

3. Respect it.

If acetylene cylinders have been transported or stored horizontally, allow them to stand vertically for at least 30 minutes before use.

Acetylene cylinders contain a porous mass and liquid acetone that dissolves the gas. If a cylinder has been transported or stored horizontally, it must be left to settle in an upright position for at least 30 minutes before use. This gives the liquid acetone time to return to its correct place in the porous mass. This prevents the release of solvent which can quickly vaporise and lead to problems that affect both safety and quality.

Championing safety

We are committed to putting good practices in place and to supporting you with dedicated training and practical assistance. For instance, we offer special training courses to help close any awareness gaps among acetylene users. On the ground, we also offer a range of practical services to help you with your transport needs. For those who prefer to use their own vehicle for transporting acetylene, our trained retail staff will help identify potential hazards, and will recommend using the Linde delivery service if the vehicle is not ventilated or is in any other way thought to be unfit for the purpose. Furthermore, where there is a risk of a handwheel valve being knocked open, we can also provide a protective cover. Linde retailers can fit these disposable plastic covers to cylinder handwheels within seconds in order to prevent them being knocked open during transport. These caps can also be kept for re-use.

To extend the reach of our communication and training efforts, we have teamed up with local industrial gas associations – such as the British Compressed Gas Association (BCGA) in the UK, the European Industrial Gases Association (EIGA) in Europe, and the Australia New Zealand Industrial Gas Association (ANZIGA) in the South Pacific – to develop a campaign aimed at establishing good safety practices in the use of acetylene. We continue to work closely with trade associations and industry bodies to encourage maximum observance of applicable safety guidelines. As a leading supplier of acetylene with an excellent product stewardship record, we are ideally placed to contribute meaningful insights to these initiatives and help develop practical, workable safe handling guidelines.

For more information on delivery options, training and services talk to your local Linde representative or visit www.linde-gas.com/safe_da.



Our trained retail staff are on hand to provide practical advice and support to ensure that acetylene is transported safely and securely.

