

Safety Advice No. 16

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Cylinder Safety Alert

Summary

The purpose of this alert is to advise industry of a recent incident where a cylinder ruptured during filling at the gas supplier's site as a result of damage to the cylinder which had been covered up by the end user. High pressure gas cylinders are commonly used across a number of industries and workplaces. Unfortunately this is not just a rare one-off incident within the global industrial gas industry.

Background

The cylinder was being filled at the gas suppliers facility in the normal manner following a cylinder pre-fill inspection which concluded that the cylinder was in good order. When the pressure reached 120 barg the cylinder ruptured resulting in debris and adjacent cylinders being thrown with force from the filling rig. Fortunately no-one was injured.

The contributing factors that led to this incident included:

- The aluminium alloy cylinder had been significantly heat affected prior to being returned to the gas supplier and this had significantly reduced the hardness and mechanical integrity of the cylinder,
- The end user was either unaware of or had no regard for the safety implications of a heat affected aluminium alloy cylinder being refilled,
- The end user had taken steps to carefully disguise the heat damage to the cylinder including repainting the cylinder and replacing the cylinder heat tag which is specifically designed to indicate exposure of the cylinder to heat as well as other plastic cylinder accessories,
- The cylinder was not rejected during pre-fill inspection checks.



Ruptured incident cylinder weakened by exposure to heat and heat damage covered up by end user

Control Measures

Following on from this incident, users of high pressure gas cylinders and their employees should be aware of the safety requirements involved in the use of high pressure gas cylinders.

- Keep in a cool, well ventilated area, away from heat sources, sources of ignition and combustible materials, especially in the case of flammable gases.
- Don't repaint or disguise cylinder markings and damage. If the cylinder is damaged, return to the gas supplier immediately if safe to do so.
- In case of emergency call 000 and the gas supplier on their emergency contact number.

Other good practices around cylinder safety include:

- Read labels and Material Safety Data Sheet (MSDS) before use.
- Store upright and use in well ventilated, secure areas away from pedestrian or vehicle thoroughfare.
- Guard cylinders against being knocked violently or allowed to fall.
- Wear safety shoes, glasses and gloves when handling & connecting cylinders.
- Always move cylinders securely with an appropriate trolley. Take care not to turn the valve on when moving a cylinder.
- Keep full and empty cylinders separate.
- Keep ammonia based leak detection solutions, oil and grease away from cylinders and valves.
- Never use force when opening or closing cylinder valves.

ANZIGA

ANZIGA is the peak industry group for the manufacture and distribution of gases in Australia and New Zealand. As a leading industry association, ANZIGA promotes the highest standards of safety, quality and reliability.

ANZIGA aims to:

- consult with government authorities and organisations that make policy or prepare regulations and standards which govern the production, transportation, storage, handling and use of gases
- collaborate with other industry and trade organisations on safety and technical matters, including public programs that relate to the gases industry
- produce information that promotes the safe storage, handling and use of gases

The members of ANZIGA produce and distribute gases for the health and medical industries, manufacturing, food, scientific, and hospitality industries.

Notice of Safety Advice

In general, a notice of Safety Advice is intended to provide information and relevant recommendations on a safety concern relating to the production, transportation, storage, handling and use of gases.

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