

FACT SHEET

CUTTING FUEL DRUMS AND EMPTY CONTAINERS – EXPLOSION HAZARD

WHAT IS THE ISSUE?

Drums of various capacities – eg 205-litre (44 gallon) and smaller – are often recycled and reused as storage containers. This practice has been common in agricultural settings where empty drums are cut to create storage containers or feed troughs. Typically, drums are cut using an angle grinder, plasma cutter, oxyacetylene burner or welding equipment.

HOW WAS THE HAZARD IDENTIFIED?

A number of serious and fatal accidents have occurred at workplaces during the cutting of 20, 60 or 205-litre steel fuel drums.

More recently, in the school environment, a student was killed when a 205-litre drum exploded in an agricultural skills course. The student was using a plasma-arc cutting torch to convert the drum into a feeding bin. The drum had previously contained diesel engine oil, which exploded after contact with the heat of the cutting torch.

WHAT IS THE HAZARD?

Investigations into explosions reveal that:

- drums were not cleaned properly
- bungs were not removed when the drums were cleaned
- drums were used as trestles to support other steelworks – eg during oxyacetylene cutting work
- knowledge of the hazard associated with cutting drums was lacking.

WHAT ARE THE RISKS?

Drums that contain residual flammable or combustible substances or vapours may explode when exposed to heat.

Additionally, drums that have contained substances such as pesticides may release hazardous gases when exposed to heat.



WHAT ARE THE CONTROLS?

- Never cut drums that have contained flammable or combustible liquids or gases. Even drums that have been empty for a very long time can contain enough residue substances to explode and/or emit hazardous gas when exposed to heat. Be aware that rinsing drums with water is not a fail-safe method for purging vapours from containers.
- Do not apply heat to drums that have held other chemicals such as pesticides, as any gas emitted may cause serious harm to health. Never weld or grind near empty drums.
- Do not use drums as a welding or work platform.
- Correctly label all drums on-site.
- Have material safety data sheets (MSDS) available for all products.
- Dispose of drums appropriately.
- Store empty drums (with bungs removed) in a well-ventilated place, away from other work areas.
- If drums are to be recycled, use a specialist. There are companies that specialise in the correct cleaning, gas monitoring and cutting of drums.

CHECKLIST

1. What has the drum been used for?
2. Was it a flammable or combustible liquid or gas?
3. Was it a chemical?
4. Is there a hazard diamond on the label?

If you answered 'yes' to 2, 3 or 4, or you are unsure what has been previously stored in the drum, **do not apply heat to the drum.**

Do not use pressure – eg air pressure – to remove dents from drums, as they commonly overfill and burst.

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