

the law

England, Wales and Scotland

The Dangerous
Substances and Explosive
Atmospheres
Regulations 2002
(DSEAR)

Northern Ireland

The Dangerous
Substances and Explosive
Atmospheres
Regulations (Northern
Ireland) 2003 (DSEAR)

Flammable and Explosive Substances

Work which involves the storage, use or creation of chemicals, vapours, dusts and other substances that can readily burn or explode is hazardous. Every year people are injured at work by flammable substances accidentally catching fire or exploding.

What are the hazards?

Many substances found in the workplace can cause fires or explosions. These range from fluids like flammable chemicals, petrol, cellulose paint thinners and welding gases to things like engine oil, grease, packaging materials and dusts from wood, flour and sugar.

It is important to be aware of the risks and to control or get rid of them to prevent accidents.

What do I have to do?

To help prevent accidental fires or explosions, employers first need to identify the following:

- The substances, materials and processes that have the potential to cause a fire or explosion; that is, substances that can burn or explode and what might set them alight
- The people who may be harmed or at risk

Once you have identified the risks, consider what measures are needed to reduce or remove the risk of people being harmed. This will include measures to prevent these incidents from happening in the first place, as well as precautions to protect people from harm if there is a fire or explosion.

Key Points

- Look at the risks of fire and explosions from the substances you use or create in your business and consider how you can remove or reduce them.
- Use supplier safety data sheets as a source of information about which substances are flammable.
- Consider reducing the number of flammable or explosive substances you store on-site.
- Keep sources of ignition (such as naked flames and sparks) and substances that burn (such as vapour and dusts) apart.
- Get rid of flammable or explosive substances safely.
- Review your risk assessment regularly.
- Maintain good housekeeping practices, such as avoiding build-up of rubbish, dust or grease that could start a fire or make one worse.

You also need to consider the presence of dangerous substances that can result in fires or explosions as part of your fire safety risk assessment.

Case Study

Scenario	How to Prevent the Incident
<p>A worker was using highly flammable cellulose thinners in an open-topped container to wash paint-spraying equipment. He knocked the container over, splashing the thinners over his trouser leg and shoe.</p> <p>He went into a nearby room to clean himself up, but the room happened to contain drying ovens. These ignited the flammable vapours coming from the thinners, which set his trouser leg and shoe on fire, causing serious burns to his leg and foot.</p>	<p>It could have been easily prevented if the employer had carried out a risk assessment to identify the dangers of using cellulose thinners and instructed the worker on how to use them and clean up after them correctly.</p>

