

# Quick Guide

## The Dangerous Substances and Explosive Atmospheres Regulations 2002



### Summary

To create a fire or explosion, independent conditions are required to be in place at the same time (vapour release, ignition source and correct mixture of oxygen).

The primary legislation applying to the control of substances that can cause fires and explosions in the workplace is *The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR)*.

Fires and explosions can create harmful physical effects, including thermal radiation, overpressure effects and thermal runaway exothermic reactions involving chemicals or decomposition of unstable substances such as peroxides that cause similar effects.

Many workplaces may contain, or have activities that produce, explosive or potentially explosive atmospheres. Examples include places where work activities create or release flammable gases or vapours, such as vehicle paint spraying, or in workplaces handling fine organic dusts such as grain flour or wood.

Substances or mixtures that could create risks to people's safety from fires and explosions or similar events are dangerous substances in accordance with *DSEAR*. Liquids, gases, vapours, and dusts found in a workplace can all be dangerous substances.



### Legal perspective

In Great Britain, *DSEAR* put into effect requirements from two European directives: the chemical agents directive (98/24/EC) and the explosive atmospheres directive (99/92/EC).

It also puts into effect the requirements from the ATEX European directives for controlling explosive atmospheres in *DSEAR* regulations 7 and 11.

The regulations complement the requirements to manage risks, as detailed in *The Management of Health and Safety at Work Regulations 1999*.

The Approved Code of Practice (L138) provides practical advice on how to comply with *DSEAR*, giving advice on the design, storage, control and safe maintenance of dangerous substances.



### Why you must act

*DSEAR* requires employees to assess the risk of fires and explosions possible because of the use and storage of dangerous substances in the workplace.

**“if you fail to remediate the hazards identified in your *DSEAR* assessment and you have an incident at your organisation, you could be prosecuted.”**

These risks must then be carefully managed by elimination or mitigation as far as is reasonably practicable. The aim is to protect employees and other people with potential for exposure to explosive risk, such as visitors to the workplace and members of the public.

**DSEAR** is enforceable by law, but following the recommendations made in a report are not mandatory.

However, if you fail to remediate the hazards identified in your **DSEAR** assessment and you have an incident at your organisation, you could be prosecuted.

- › Including **DSEAR** regulations as part of the health and safety brief for all visitors to areas where a hazardous area is identified
- › Displaying and communicating zone classification drawings
- › Identifying any modification or changes in the substances stored. These must be effectively communicated, and the risk assessment updated, to determine if the hazardous zone classification requires modification

Identified hazards are given a priority rating of 1-5, allowing the organisation to build a risk matrix and manage remediation work.



## Practical application

The **DSEAR** risk assessment will assess your operation, review any existing **DSEAR** reports and make recommendations such as:

- › Requirements for periodic inspection and maintenance of electrical and mechanical apparatus within hazardous areas
- › Creating/updating emergency action plans
- › Providing staff training on working with and handling hazardous products



## What you should do

1

Identify if your organisation's workplace contains, or has activities that produce, explosive or potentially explosive atmospheres.

2

If required, complete a **DSEAR** risk assessment.

3

If risks are identified, action any recommendations made in the report according to the priority ratings.

4

If changes are made to the manufacture, storage, process, or use of a dangerous substance, conduct a new **DSEAR** risk assessment.

5

Work with an environmental partner who can guide you through the **DSEAR** risk assessment and action any recommendations to keep your sites safe and compliant.



For help and support in applying this legislation to your organisation, contact our experts today. Call 0800 592 827 or visit [adlerandallan.co.uk](http://adlerandallan.co.uk).