



Healthy
Workplaces
MANAGE
DANGEROUS
SUBSTANCES



Legislative framework on dangerous substances in workplaces

Key Points

- There is a comprehensive legislative framework in the European Union to protect workers from the risks of dangerous substances in workplaces.
- The most relevant pieces of legislation at the EU level are the OSH Framework Directive, the Chemical Agents Directive and the Carcinogens and Mutagens Directive. These directives and their transposition into national law aim to reduce the exposure of workers to dangerous substances in workplaces.
- Legislation in other policy areas contributes to the reduction of risks from dangerous substances in workplaces, such as EU legislation on chemical substances and mixtures and also specific EU and international legislation on waste, storage and transport.
- Achieving a high level of implementation of the legislation in practice is a key challenge, including following the principle of preferentially applying the most effective preventive measures.

Healthy Workplaces Manage Dangerous Substances

The European Agency for Safety and Health at Work (EU-OSHA) is running a Europe-wide campaign from 2018 to 2019 to promote the prevention of risks from dangerous substances in workplaces. The aim is to reduce the presence of and exposure to dangerous substances in workplaces by raising awareness of the risks and of effective ways of preventing them.



The issue

Dangerous substances continue to be a major safety and health issue in workplaces. The effects of exposure to dangerous substances range from temporary and mild health impairments, such as skin irritation, to severe acute and chronic diseases, such as lung obstruction, and potentially fatal diseases, such as asbestosis and cancer.

A number of dangerous substances are also inflammable or explosive, posing additional safety risks. Furthermore, some substances have acute toxic and fatal effects, e.g. gases that develop from waste water or gases that leak from cooling systems.

The range of legislation

Comprehensive EU legislation is in place to control and reduce the risks to safety and health in workplaces. With regard to dangerous substances, the most specific and overarching European directives are the Chemical Agents Directive (CAD) and the Carcinogens and Mutagens Directive (CMD). The basic occupational safety and health (OSH) requirements for an enterprise are set by the OSH Framework Directive.

There are some specific OSH directives that regulate, for example, workplace exposure to asbestos or set exposure limits for specific substances. Other directives aim to protect specific groups, e.g. breastfeeding or pregnant workers, from certain substances.

Further details on the EU legislation can be found on the EU-OSHA website (<https://osha.europa.eu/en/safety-and-health-legislation/european-directives>) or on the EUR-Lex website: <http://eur-lex.europa.eu/homepage.html>

The main EU OSH directives on dangerous substances

Directive 98/24/EC (the Chemical Agents Directive, CAD) of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

Directive 2004/37/EC (the Carcinogens and Mutagens Directive, CMD) of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work

Directive 89/391/EEC (the OSH Framework Directive) of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work — the 'Framework Directive'

Other EU OSH legislation on dangerous substances

Directive 92/85/EEC (the Breastfeeding and Pregnant Workers Directive) of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding

Directive 2009/148/EC (on exposure to asbestos at work) of 30 November 2009 on the protection of workers from the risks related to exposure to asbestos at work

There are also various directives on binding and indicative occupational exposure limit values <https://osha.europa.eu/en/legislation/directives/exposure-to-chemical-agents-and-chemical-safety/>

There is also EU legislation on chemicals and related information requirements that contribute to safety and health in the workplace, including the CLP Regulation (on the classification, labelling and packaging of substances and mixtures). Furthermore, under the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) legislation, comprehensive information on chemical substances on the European market is available. Moreover, according to this legislation, substances and mixtures can be used for only defined purposes, and many substances are restricted in their use or completely prohibited.

Basic information and the main safety and health requirements related to the use of chemicals have to be communicated to enterprises via safety data sheets. Safety data sheets are one of the most important information sources on substances and mixtures and should provide employers with the information they need to carry out risk assessments, inform and instruct workers, and adopt appropriate measures for mitigating risks.

Regulations on the use of chemicals

Regulation (EC) No 1907/2006 (the REACH Regulation) of 18 December 2006 concerning the *Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)* The regulation on *safety data sheets* is *part of the REACH Regulation*; see Title IV, Articles 31-36

Regulation (EC) No 1272/2008 (the CLP Regulation) of 16 December 2008 on *classification, labelling and packaging* of substances and mixtures. guidance and extensive information is available at from ECHA (European Chemicals Agency): <https://echa.europa.eu/information-on-chemicals/cl-inventory-database>

There is other relevant legislation that has an impact on dangerous substances, for instance directives on waste, electric and electronic waste, the storage and transport of dangerous goods and major accident prevention, and also many pieces of environmental and product-specific legislation, e.g. the Battery Directive (2006/66/EC).



What actions does the OSH legislation require?

Basics

The **Framework Directive** defines the basic organisational prerequisites for OSH in companies. This includes the delegation of responsible persons by the management/owner; the assignment of safety and health delegates or representatives, including their OSH education and training; the installing of the legally prescribed participatory and consultative processes on OSH, including committees if required; instructing and training workers; and performing mandatory risk assessments. Very basic technical OSH preconditions are regulated in a directive on minimum requirements for workplace safety and health, e.g. building safety, fire safety, work spaces, temperature and ventilation (Directive 1989/654/EEC of 30 November 1989 concerning the minimum safety and health requirements for the workplace).

The starting point and key to risk reduction and prevention is risk assessment. Every company in Europe must perform risk assessments according to the Framework Directive.

Risk assessment is the first and key step towards risk prevention

As legislation at EU and Member State levels makes clear, workplace risk assessment is an absolutely essential precondition for successful prevention. For small and medium-sized enterprises (SMEs) in particular, it is helpful to break the risk assessment process down into steps, which makes it more manageable. A risk assessment for dangerous substances should involve the following seven steps:

1. An inventory should be made of dangerous substances in the workplace and those generated by work processes, i.e. combustion processes, diesel exhaust in warehouses, dust from drilling or grinding (rocks, stone, wood, metals, etc.), fumes from welding or soldering, degeneration products from recycling and waste industries, etc.
2. Information should be collected on the specific hazards, e.g. on chemical products from safety data sheets and on process-generated substances (https://oshwiki.eu/wiki/Process-generated_contaminants).
3. The exposure to the identified dangerous substances should be assessed by looking at the type, intensity, length, frequency and occurrence of exposure to workers.
4. An action plan should be drawn up that lists the steps that must be taken, in order of priority, to reduce the risks to workers. It should specify by whom, how and by when each step should be taken. The possibility of elimination or substitution has to be considered first.
5. Risk assessment should also take into account any workers that may be particularly at risk. The measures necessary to protect them and any additional training and information needs should be specified. Furthermore, workers can also be exposed, when doing maintenance or repair work or accidentally, to, for example, intermediary products from a chemical production process that is usually closed.
6. The risk assessment should be regularly revised and updated.
7. The impact and improvement of the preventive measures should be assessed, and they should be revised if necessary.

Free interactive e-tools for an easier risk assessment:

Healthy Workplaces Manage Dangerous Substances e-tool: EU-OSHA's interactive, user-friendly tool, designed to help workplaces manage dangerous substances <https://eguides.osha.europa.eu/dangerous-substances/>

OiRA: EU-OSHA provides a tool for online risk assessment for different sectors and occupations; it covers many areas, including risks from dangerous substances (in different languages) <https://oiraproject.eu/oira-tools>

COSSH Essentials: provided by the UK Health and Safety Executive (HSE) (in English) <http://www.hse.gov.uk/coshh/essentials/coshh-tool.htm>

EMKG: provided by the German National Institute for Safety and Health (BauA) (in English and German) http://www.baua.de/en/Topics-from-A-to-Z/Hazardous-Substances/EMKG/EMKG_content.html

KemiGuiden: provided by Prevent Sweden (in Swedish) www.kemiguident.se; www.kemiguident.dk

SEIRICH: provided by the French National Institute for Safety and Health (INRS) (in French) <http://www.inrs.fr/publications/outils/seirich.html>

Stoffenmanager: provided by a Dutch consortium; the basic version is freely available (in six languages) <https://stoffenmanager.nl/>



Measures to be taken after hazard identification and risk assessment

European OSH legislation prescribes a 'hierarchy' of measures to prevent or reduce the exposure of workers to dangerous substances (Article 6 of the Chemical Agents Directive). This 'order of priority' — as it is called in the Directive — is also known as the STOP principle:

S = Substitution (also covering the complete elimination of a dangerous substance)

T = Technological measures

O = Organisational measures

P = Personal protective measures.

The Directorate-General for Employment, Social Affairs and Inclusion has published related guidance, 'Minimising chemical risk to workers' health and safety through substitution' ⁽¹⁾.

If a substance or process cannot be eliminated or substituted, then exposure may be prevented or reduced by technical or organisational measures, such as:

- the enclosure or encapsulation of the operation/process to avoid emissions, e.g. from open cleaning baths;
- technical solutions that minimise the concentration in the exposure zone, e.g. dipping instead of spraying or better ventilation;
- organisational measures such as minimising the number of exposed workers by the better separation of workplaces, or minimising the duration and intensiveness of the exposure.

In some Member States, for standard working operations such as filling, pumping, drilling, grinding or welding, practical information on tested control techniques is available (direct advice or control guidance sheets) ⁽²⁾.

If these measures cannot be applied, the final option is the use of adequate personal protective equipment (PPE). PPE has to be designed so that it protects the worker from exposure with an 'optimum level of protection'. PPE must be ergonomic and well maintained. A specific EU regulation exists for PPE (Regulation (EU) 2016/425 of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC).

Member States and national legislation

When the EU issues directives, the Member States are entitled to include additional, more detailed or more stringent provisions for the protection of workers, such as restrictions on the use of some work processes, as the corresponding European directives often lay down only minimum requirements or general prescriptions.

Consequently, many detailed provisions for the OSH management of dangerous substances are laid down in national regulations. It is therefore strongly recommended that **clarification is sought of the requirements of specific national legislation in relation to the use and management of dangerous substances in the workplace.**

The STOP principle a hierarchy of prevention measures:



Further information

Further information on dangerous substances is available through the Agency's website at: <https://osha.europa.eu/en/themes/dangerous-substances>



(1) <http://bookshop.europa.eu/en/minimising-chemical-risk-to-workers-health-and-safety-through-substitution-pbKE3012758/?CatalogCategoryID=K4KABstjN4AAAEj8pAY4e5L>

(2) See HSE UK for direct advice sheets: <http://www.hse.gov.uk/coshh/essentials/>