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Hazardous substances



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HAZARDOUS SUBSTANCES

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What your site and employer should do for you

1. Assess the risks of using substances (control of substances hazardous to health (COSHH) assessments).
2. Use a less hazardous substance where possible.
3. Make sure there are facilities to store and dispose of substances correctly.
4. Control exposure by providing engineering methods (separation, insulation, isolation and local exhaust ventilation) and the use of safe systems of work.
5. Provide information and training on the hazards, risks and controls, and on safe systems of work.
6. Monitor the work and the workplace to make sure the controls are effective.
7. Have procedures and equipment in place to deal with incidents or spills.
8. Make sure workers are trained in incident and emergency procedures.
9. Provide health surveillance for employees, where required.

What you should do for your site and employer

1. Make sure you fully understand the hazards of using the substance, before you use it.
2. Follow the safe system of work and controls, as explained in the COSHH assessment.
3. Store, dispense and dispose of the substance correctly.
4. Wear the correct personal protective equipment (PPE), as identified in the COSHH assessment.
5. If you feel ill when using any substances, stop work and tell your supervisor or site management.
6. Report any incidents or spills to your supervisor or site management.
7. Attend health surveillance sessions, where you need to do so.

Introduction

A hazardous substance can be described in the following ways.

- Any substance (solid, liquid, gas, dust, fibre, fume, vapour, spray or mist) that could harm your health (including things such as solvents, paints, adhesives, exhaust fumes, cement, wood dusts and so on).
- Any dust, fibre or fume given off by a work process.
- Any substance that could harm the environment.

How hazardous substances can affect your health

Immediate (acute) – for example, burns to the skin from acids or chemicals.

Long-term (chronic) – for example, developing asthma from wood dust, or cancer from asbestos exposure.

Disease – for example, through contact with contaminated soil or water, or a skin sensitiser (such as cement) causing dermatitis.

Sensitising – over a period of time you start having more serious allergic reactions to lower levels of, or less exposure to, the substance, and/or a quicker reaction after exposure.

How hazardous substances can get into your body (routes of entry)

Inhalation – breathing in dust, fumes, vapours and fibres.

Absorption – contact with your skin or mucous membrane (lips, inside nose and eyelids), or open sores or wounds on your body.

Ingestion – being swallowed or eaten (usually from holding food or smoking with dirty hands).

Injection – needles, sharps or high pressure (such as water jetting), breaking the skin and forcing a substance into the body.

What your employer should be doing

Under the Control of Substances Hazardous to Health (COSHH) Regulations employers should undertake the following.

- Read and understand the manufacturer's information on the substance.
- Carry out a risk assessment on how and where it is to be used.
- Use a less hazardous substance, if available.
- Put in place measures to prevent or control any exposure.
- Make sure you know the controls.
- Monitor to make sure the controls are effective.

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! Some hazardous substances, such as those created by work processes (for example, fumes from welding or dust from cutting and sanding) do not have warning labels, as these are created by the work. Your employer has a legal duty to assess these hazards and complete a COSHH assessment in respect of the work, as part of the safe system of work.










If you are exposed to a workplace hazard your employer may ask you to attend regular health surveillance sessions, which you have a legal duty to attend.

Aa **Health surveillance is a system of ongoing health checks to detect possible ill health effects at an early stage.**

Employers can then introduce better controls to prevent any ill health effects from getting worse.

Identifying hazardous substances

The packaging or container of hazardous substances will carry one or more symbol, to indicate its hazardous properties. Some of the pictograms you will see on packaging and containers are shown in the table below.


Globally harmonised pictograms			
	Acute toxicity, very toxic or toxic. Can be fatal if swallowed or inhaled.		Hazardous to the environment and aquatic life.
	Contains gases under pressure. May explode if heated and can cause burns.		Oxidising gases, liquids and solids. May cause or intensify fire.
	Harmful skin, eye or respiratory irritation. May cause an allergic reaction, drowsiness or breathing difficulties.		Aspiration hazard. Damage to organs and may cause serious longer-term health hazards (such as carcinogenicity, respiratory sensitisation and reproductive toxicity).
	Flammable gases, liquids, solids and aerosols. Heating may cause a fire.		Corrosive and can cause severe skin damage or burns.
	Explosive, self-reactive. Heating may cause an explosion.		

-  **If you find a substance in a container with no label make sure that no-one else can come into contact with it, and report it to your supervisor.**

Disposal of hazardous substances

Hazardous substances can contaminate land, drains, sewers, rivers and the air.

They should **never** be mixed with general (non-hazardous) waste, or be poured down drains or sinks, onto the ground, or be buried, burnt or fly tipped.


-  **Your site or employer should have a procedure to dispose of hazardous waste, including empty or part-used containers.**

Highly flammable liquids

Highly flammable liquids (HFLs), such as thinners, solvents, petrol and adhesives, can be easily ignited, catch fire and burn fiercely.

If you have to use highly flammable liquids you must make sure of the following.

- Check there are no naked flames or other sources of ignition nearby.
- Only take the amount you need for your immediate needs.
- Always follow the storage procedures.
- Have the correct fire extinguisher at hand and make sure you are trained to use it.

-  **If a fire extinguisher is needed for hot-work activities it must be one specific for the work activity and the workplace. It should be issued or approved by the person authorising the hot work and you should be trained to use it. Fire extinguishers should not be taken from fire points to cover hot works, no matter how close the fire point is or how short the hot work will be.**

Liquefied petroleum gas

Liquefied petroleum gas (LPG) is a form of highly flammable gases held under high pressure to liquefy them. They will readily evaporate if released from the pressure vessel (cylinder). LPG is heavier than air so will sink into excavations, basements, drains and so on.

LPG cylinders must be stored upright in a well-ventilated area and in a secure cage.

There are separate regulations covering the safe carriage of LPG cylinders in vehicles.

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LPG has a distinctive smell. If you think there might be a leak make sure of the following.

- Others are warned to evacuate the area.
- The following is carried out, only if it is safe to do so.
 - Turn the cylinder supply valve off.
 - Open doors and windows.
 - Remove any source of ignition. **Do not** allow the switching (on or off) of electrical apparatus.
- It is reported immediately.



LPG store



Gas from a leaking LPG cylinder can expand to 250 times the cylinder's volume. It can catch fire at some distance from the original leak and flash (burn) back to the source of the leak.