

Lab Hazard Warning Symbols



Corrosive

Corrosive chemicals cause destruction or irreversible alteration to living tissue at the site of contact. Corrosive effects can occur not only to the eyes and skin, but also to the respiratory tract, via inhalation, and to the gastrointestinal tract, via ingestion. Corrosive chemicals may also cause damage to non-living material, e.g. the lab bench, clothing.



Highly Flammable or Extremely Flammable

Chemicals with an extremely low flash point and low boiling point and gases that catch fire in contact with air (at room temperature and pressure) are classified as **extremely flammable**. **Highly flammable** chemicals include those that: may become hot and finally catch fire in contact with air at room temperature; only need brief contact with an ignition source; have a very low flash point or evolve extremely flammable gases when in contact with water or damp air. Chemicals that are classed as simply **flammable** have a low flash point and suppliers are not obliged to label them with the flammable symbol, however, they must bear the word “flammable”.



Harmful, Irritant or Sensitising

Harmful chemicals may cause damage to health if inhaled, swallowed or absorbed via the skin. Damage may be local or systemic, acute or chronic, reversible or irreversible: it depends upon the chemical, as does the severity of the damage. This category includes chemicals that confer a possible risk of cancer (carcinogens), heritable genetic damage (mutagens) or damage the unborn child or reproductive system (reproductive toxins). **Irritant** chemicals may cause inflammation to the skin or other mucous membranes. **Sensitising** chemicals are capable of causing an individual to develop a characteristic adverse reaction that, after the initial sensitisation, will occur every time they are exposed.



Toxic or Very Toxic

Toxic/very toxic chemicals cause damage to human health at low/very low levels if inhaled, swallowed or absorbed via the skin. The nature of the damage varies, as it does for harmful chemicals; worst case scenario being almost instant death! Chemicals which are **known or strongly suspected** to be carcinogens, mutagens or reproductive toxins are included in this category.



Dangerous for the Environment

Chemicals classified as dangerous for the environment may present an immediate or delayed danger to one or more components of the external environment.



Oxidising

Oxidising chemicals react exothermically with other chemicals, i.e. the reaction gives out heat. Fire or explosion is possible if an oxidising chemical comes into contact with an easily oxidisable substance, e.g. an organic compound.



Explosive

Explosive chemicals cause almost instantaneous release of pressure, gas and heat when subjected to certain adverse conditions, e.g. heat, light, mechanical shock, incompatible substance.



Radioactive Hazard - symbol still current

The radiation trefoil symbol indicates the presence of a **radioactive hazard** that emits ionising radiation, e.g. a radiolabelled chemical or equipment containing a sealed radioactive source. The risks to human health depend upon the quantity of radioactive substance and specific type of radiation emitted, i.e. α , β , γ or x-ray. Exposure to ionising radiation may have a “deterministic” effect, i.e. skin damage (radiation burns), cataracts, radiation sickness (in extreme circumstances), or “stochastic” effect, i.e. cancer, heritable genetic damage, damage to the unborn child or damage to the reproductive system.

Non-ionising radiation also presents a hazard. Laser and UV radiation falls into this category. The principal risks are damage to eyes and skin burns.

Such hazards will be indicated by one of the following symbols:



Biohazard - symbol still current

The biohazard symbol indicates the presence of a **biological hazard**, e.g. micro-organisms, human or animal tissue, that may cause infection, allergy, toxicity or otherwise create a hazard to health.