

## Advice and Definitions

### What is a Hazard?

The Health and Safety Executive define hazard as:

*'Something with the potential to cause harm e.g. chemicals, electricity, working from ladders, noise etc...'*

**In the context of process safety we can consider a hazard to be:**

Anything that can lead to catastrophic accidents particularly structural collapse, explosions, fires and toxic releases associated with loss of containment of energy or dangerous substances

Harm can be to people and / or the environment

## COMAH 2015

Defines hazard as:

“hazard” means the intrinsic property of a dangerous substance or physical situation, with a potential for creating damage to human health or the environment;

Define a Major Accident as:

“major accident” means an occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment to which these Regulations apply (COMAH 2015), and leading to serious danger to human health or the environment (whether immediate or delayed) inside or outside the establishment, and involving one or more dangerous substances;

Define Risk as:

“risk” means the likelihood of a specific effect occurring within a specified period or in specified circumstances;

### Major Accidents to the Environment

An incident will also be a major accident if it results in serious danger, whether realised or potential, to the natural or built environment. The effect may be immediate or delayed and may sometimes be relatively long-lasting but not necessarily irreversible. Operators should consider the potential for widespread loss or damage to the general environment as well as the risk of adverse effects on a rare, unique or otherwise valued component of our natural or built environment.

Serious danger to the environment includes accidents with the potential to result in:

- a. the death or adverse effects on local populations of species or organisms, with lower thresholds for high-value or protected species;

- b. contamination of drinking water supplies, ground or groundwater;
- c. damage to designated areas, habitats or populations of species within the areas;
- d. damage to listed buildings;
- e. damage to widespread habitats;
- f. damage to the marine or aquatic environment.

Source: HSE L111

## Classification of Chemicals

The CLP (Classification, Labelling and Packaging) Regulation ensures that the hazards presented by chemicals are clearly communicated to workers and consumers in the European Union through classification and labelling of chemicals.

Before placing chemicals on the market, the industry must establish the potential risks to human health and the environment of such substances and mixtures, classifying them in line with the identified hazards. The hazardous chemicals also have to be labelled according to a standardised system so that workers and consumers know about their effects before they handle them.

Thanks to this process, the hazards of chemicals are communicated through standard statements and pictograms on labels and safety data sheets. For example, when a supplier identifies a substance as "acute toxicity category 1 (oral)", the labelling will include the hazard statement "fatal if swallowed", the word "Danger" and a pictogram with a skull and crossbones.

CLP stands for Classification, Labelling and Packaging. The CLP Regulation entered into force in January 2009, and the method of classifying and labelling chemicals it introduced is based on the United Nations' Globally Harmonised System (GHS).

The Regulation replaces over time two previous pieces of legislation, the Dangerous Substances Directive and the Dangerous Preparations Directive. There is a transition period until 2015.

Source: <http://www.echa.europa.eu/web/guest/regulations/clp/understanding-clp>