Hazards not included in CLP

Some hazards are currently ignored under CLP. This does not mean that they do not exist, but that they are not identified on the label.

It is possible to identify these hazards on the Safety Data Sheet (and sometimes on the CLP label as "supplementary information"), and it is considered good practice to include information on these hazards if you are aware of them.

Asphyxiant gas

Asphyxiant gases kill through asphyxiation/ displacement of oxygen. For example, Nitrogen, which acts through displacing oxygen out of the atmosphere. This can also occur where other inert gases are released to a confined atmosphere, such as a room, or a vessel.

As well as removing oxygen from the atmosphere, asphyxiant gases can also work through poisoning mechanisms. It is not widely known is that carbon dioxide acts as a toxin, as well as an asphyxiant, see National Center for Biotechnology Information- Carbon dioxide poisoning. Carbon monoxide affects people because it is preferentially absorbed by haemoglobin and transported round the body instead of oxygen.

Interestingly, asphyxiant gases used to be a label hazard in the USA, and these may be brought into GHS at some stage.

Dust explosion

Flammable dusts (which includes many organic dusts such as flour or wood dust) can form a suspension in air, which can create a very energetic explosion if ignited. (Dust explosions are generally stronger than gas or vapour explosions because a higher mass of explosive material is usually involved).

A small dust explosion in a dusty environment, e.g. a dusty room, can cause the other dust to move into the air, and create a much larger secondary explosion.

Hazards not included in CLP

Dust explosions kill in the same way as any other explosion, that is through overpressure effects directly affecting the body, or through the collapse of a building.

The most recent example of dust explosion in the UK is the dreadful incident at Bosley Mills Wood Flour Mill on 17th July 2015, see http://www.bbc.co.uk/news/uk-england-33887081 . Four people lost their lives, and the business closed completely, putting a further 20 people out of work.

Dust explosion risks are included in EH40, as they have workplace exposure limits, so a Safety Data Sheet is required for materials with this hazard.

Non-hazardous materials which are stabilised with a stabiliser or antioxidant

There are two types of product which are likely to be stabilised:

- liquid monomers, which often need stabilising before they are polymerised. An uncontrolled polymerisation can result in a violent exotherm, which can cause an explosion.
- organic powders e.g. some dyes, or other products which are self-reactive or self-heating may require antioxidant additives, otherwise they may react internally to smoulder, potentially releasing smoke (which can be toxic) or even causing fire

An example of an exotherm incident from a polymerisation process is given at https://www.icheme.org/communities/subject_groups/safety%20and%20loss%20prevention/resources/hazards%20archive/~/media/Documents/Subject%20Groups/Safety_Loss_Prevention/Hazards%20Archive/XVII/XVII-Paper-46.pdf .

Hazards not included in CLP

Products requiring stabilisation can be classified for CLP as either non-hazardous, hazardous. In some cases, when stabilised, they are classified as being non-hazardous, but if the stabilisation methods fail, they become hazardous.

It is considered good practice to identify stabilised products on the label (together with instructions for keeping the product stabilised, e.g. if continuous stirring is required), and also in the SDS. For more information, see https://www.ttenvironmental.co.uk/clp-knowledgebase/stabilised-products/ .

Biological hazards

Biological hazards are those which can infect people with diseases, e.g. bacteria, viruses etc. The classic example of this is medical wastes, which contain blood, and other bodily fluids.

Although biological hazards are not covered under CLP, they are covered under Transport of Dangerous Goods, and are required to be labelled for this regulation.

Light Non Aqueous Phase Liquids

Light Non Aqueous Phase Liquids, LNAPLs, can cause environmental incidents to surface water (or groundwater) by floating on the water surface and forming an oxygen-impermeable barrier. In e.g. a slow moving stream, or pond, the oxygen in the water below the LNAPL is quickly depleted by organisms e.g. fish, which then asphyxiate once the oxygen has been used up.

LNAPLs are not identified specifically on the label or SDS, but can be inferred from the properties of the product itself:

- immiscible or very slightly soluble in water
- less dense than water

Hazards not included in CLP

Examples include cooking oils or other oils, including fuel oils. Products which have the potential to create LNAPLs can either be hazardous or non-hazardous to the aquatic environment for CLP purposes.

Dense Non Aqueous Phase Liquids

Dense Non Aqueous Phase Liquids, DNAPLs, can cause environmental incidents to groundwater (or surface water) by sinking to the bottom of water, and staying there for many years.

DNAPLs are not identified specifically on the label or SDS, but can be inferred from the properties of the product itself:

- immiscible or very slightly soluble in water
- significantly more dense than water
- usually chlorinated solvents, eg perchloroethylene, trichloroethylene

DNAPLs are always classified as toxic to the aquatic environment under CLP, but the DNAPL risk itself is not identified on the label or SDS specifically.

Non hazardous materials with high BOD/COD

When released to environment, organic liquids can de-oxygenate waters through bugs breaking down the material, and causing it to de-oxygenate.

A classic example is foodstuffs, such as milk, soft drinks, or beer, which can all cause de-oxygenation incidents if released in large quantities (e.g. through a bulk tanker spill after a road traffic accident).

Many readily-degradable liquids have the ability to cause this type of incident.

Alloys which are prone to sparking

Hazards not included in CLP

Some alloys are prone to sparking, and can ignite flammable vapour or liquids to start a fire. This hazard is not covered under CLP or Transport.