# Health and Physical Hazard Classes

**Health hazard** means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.

<table>
<thead>
<tr>
<th>Health Hazard Class</th>
<th>Applicable Definition(s)</th>
<th>Pictogram(s)</th>
<th>Category Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td><strong>Acute toxicity</strong> refers to those adverse effects occurring following oral or dermal administration of a single dose of a substance, multiple doses given within 24 hours, or an inhalation exposure of 4 hours.</td>
<td>![Symbol]</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td><strong>Aspiration</strong> means the entry of a liquid or solid chemical directly through the oral or nasal cavity, or indirectly from vomiting, into the trachea and lower respiratory system.</td>
<td>![Symbol]</td>
<td>1</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td><strong>Carcinogen</strong> means a substance or a mixture of substances that induce cancer or increase its incidence.</td>
<td>![Symbol]</td>
<td>1A, 1B, 2</td>
</tr>
<tr>
<td>Eye damage/irritation</td>
<td><strong>Serious eye damage</strong> is the production of tissue damage in the eye, or serious physical decay of vision, following application of a test substance to the anterior surface of the eye, that is not fully reversible within 21 days of application.</td>
<td>![Symbol]</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Eye irritation</strong> is the production of changes in the eye following the application of test substance to the anterior surface of the eye that are fully reversible within 21 days of application.</td>
<td>![Symbol]</td>
<td>2A</td>
</tr>
<tr>
<td></td>
<td>No pictogram</td>
<td></td>
<td>2B</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td><strong>Mutation</strong> is defined as a permanent change in the amount or structure of the genetic material in a cell.</td>
<td>![Symbol]</td>
<td>1A, 1B, 2</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td><strong>Reproductive toxicity</strong> includes adverse effects on sexual function and fertility in adult males and/or females, as well as adverse effects on development of the offspring.</td>
<td>![Symbol]</td>
<td>1A, 1B, 2</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td><strong>Respiratory sensitizer</strong> means a chemical that will lead to hypersensitivity of the airways following inhalation of the chemical.</td>
<td>![Symbol]</td>
<td>1A, 1B</td>
</tr>
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<td>Pictogram(s)</td>
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<td>----------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td><em>Skin corrosion</em> is the production of irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following the application of a test substance for up to 4 hours.</td>
<td>![Image]</td>
<td>1A, 1B, 1C</td>
</tr>
<tr>
<td></td>
<td><em>Skin irritation</em> is the production of reversible damage to the skin following the application of a test substance for up to 4 hours.</td>
<td>![Image]</td>
<td>2</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td><em>Skin sensitizer</em> means a chemical that will lead to an allergic response following skin contact.</td>
<td>![Image]</td>
<td>1A, 1B</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure (STOT-SE)</td>
<td><em>Specific target organ toxicity - single exposure (STOT-SE)</em> means specific, nonlethal target organ toxicity arising from a single exposure to a chemical.</td>
<td>![Image]</td>
<td>1, 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>![Image]</td>
<td>3</td>
</tr>
<tr>
<td>Specific target organ toxicity - repeated exposure (STOT-RE)</td>
<td><em>Specific target organ toxicity - repeated exposure (STOT-RE)</em> means specific target organ toxicity arising from repeated exposure to a substance or mixture.</td>
<td>![Image]</td>
<td>1, 2</td>
</tr>
</tbody>
</table>

**Physical hazard** means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.

<table>
<thead>
<tr>
<th>Physical Hazard Class</th>
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<th>Pictogram(s)</th>
<th>Category Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals that, in contact with water, emit flammable gases</td>
<td><em>Chemicals that, in contact with water, emit flammable gases</em> are solid or liquid chemicals that, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.</td>
<td><img src="image" alt="Flammable Gases" /></td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Corrosive to metals</td>
<td>A chemical that is <em>corrosive to metals</em> means a chemical which by chemical action will materially damage, or even destroy, metals.</td>
<td><img src="image" alt="Corrosive" /></td>
<td>1</td>
</tr>
<tr>
<td>Explosives</td>
<td>* Explosive chemicals* are solid or liquid chemicals that are capable of self-reaction to produce gas at such a temperature, pressure and speed as to cause damage to the surroundings.</td>
<td><img src="image" alt="Explosive" /></td>
<td>Unstable explosive, 1.1, 1.2, 1.3, 1.4</td>
</tr>
<tr>
<td>Flammable aerosols</td>
<td><em>Aerosol</em> means any non-refillable receptacle containing a gas compressed, liquefied or dissolved under pressure, and fitted with a release device allowing the contents to be ejected as particles in suspension in a gas, or as a foam, paste, powder, liquid or gas.</td>
<td><img src="image" alt="Flammable" /></td>
<td>1, 2</td>
</tr>
<tr>
<td>Flammable gases</td>
<td><em>Flammable gas</em> means a gas having a flammable range with air at 20°C (68°F) and a standard pressure of 101.3 kPa (14.7 psi).</td>
<td><img src="image" alt="Flammable Gases" /></td>
<td>1</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td><em>Flammable liquid</em> means a liquid having a flash point of not more than 93°C (199.4°F).</td>
<td><img src="image" alt="Flammable" /></td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Flammable solids</td>
<td><em>Flammable solid</em> means a solid that is a readily combustible solid, or that may cause or contribute to fire through friction.</td>
<td><img src="image" alt="Flammable" /></td>
<td>1, 2</td>
</tr>
<tr>
<td>Gases under pressure</td>
<td><em>Gases under pressure</em> are gases that are contained in a receptacle at a pressure of 200 kPa (29 psi) (gauge) or more, or that are liquefied or liquefied and refrigerated.</td>
<td><img src="image" alt="Gases Under Pressure" /></td>
<td>Compressed gas, liquefied gas, dissolved gas, refrigerated liquefied gas</td>
</tr>
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<tr>
<td>Organic peroxides</td>
<td><strong>Organic peroxide</strong> means a liquid or solid organic chemical that contains the bivalent -O-O- structure and as such is considered a derivative of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals.</td>
<td><img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /></td>
<td>A</td>
</tr>
<tr>
<td>Oxidizing gases</td>
<td><strong>Oxidizing gas</strong> means any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does.</td>
<td><img src="image" alt="Pictogram" /></td>
<td>1</td>
</tr>
<tr>
<td>Oxidizing liquids</td>
<td><strong>Oxidizing liquid</strong> means a liquid that, while in itself is not necessarily combustible, may cause or contribute to the combustion of other material, generally by yielding oxygen.</td>
<td><img src="image" alt="Pictogram" /></td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Oxidizing solids</td>
<td><strong>Oxidizing solid</strong> means a solid that, while in itself is not necessarily combustible, may cause or contribute to the combustion of other material, generally by yielding oxygen.</td>
<td><img src="image" alt="Pictogram" /></td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Pyrophoric liquids</td>
<td><strong>Pyrophoric liquid</strong> means a liquid that, even in small quantities, is liable to ignite within five minutes after coming into contact with air.</td>
<td><img src="image" alt="Pictogram" /></td>
<td>1</td>
</tr>
<tr>
<td>Pyrophoric solids</td>
<td><strong>Pyrophoric solid</strong> means a solid that, even in small quantities, is liable to ignite within five minutes after coming into contact with air.</td>
<td><img src="image" alt="Pictogram" /></td>
<td>1</td>
</tr>
<tr>
<td>Self-reactive chemicals</td>
<td><strong>Self-reactive chemicals</strong> are thermally unstable liquid or solid chemicals liable to undergo a strongly exothermic decomposition even without participation of oxygen (air).</td>
<td><img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /> <img src="image" alt="Pictogram" /></td>
<td>A</td>
</tr>
<tr>
<td>Self-heating chemicals</td>
<td><strong>Self-heating chemicals</strong> are a solid or liquid chemicals, other than a pyrophoric liquid or solid, which, by reaction with air and without energy supply, is liable to self-heat; this chemical differs from a pyrophoric liquid or solid in that it will ignite only when in large amounts (kilograms) and after long periods of time (hours or days).</td>
<td><img src="image" alt="Pictogram" /></td>
<td>1, 2</td>
</tr>
</tbody>
</table>