

## GHS hazard statements

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) is an internationally agreed-upon standard managed by the United Nations that was set up to replace the assortment of hazardous material classification and labeling schemes previously used around the world. Core elements of the GHS include standardized hazard testing criteria, universal warning pictograms, and harmonized safety data sheets which provide users of dangerous goods with a host of information. The system acts as a complement to the UN Numbered system of regulated hazardous material transport. Implementation is managed through the UN Secretariat. Although adoption has taken time, as of 2017, the system has been enacted to significant extents in most major countries of the world. This includes the European Union, which has implemented the United Nations' GHS into EU law as the CLP Regulation, and United States Occupational Safety and Health Administration standards.

The key elements for the labeling of containers under the GHS includes:

- an identification of the product
- one or more hazard pictograms (where necessary)
- a signal word – either Danger or Warning – where necessary
- hazard statements, indicating the nature and degree of the risks posed by the product
- precautionary statements, indicating how the product should be handled to minimize risks to the user (as well as to other people and the general environment)
- the identity of the supplier (who might be a manufacturer or importer)

**Hazard statements** form part of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). They are intended to form a set of standardized phrases about the hazards of chemical substances and mixtures that can be translated into different languages. As such, they serve the same purpose as the well-known R-phrases, which they are intended to replace.

Each hazard statement is designated a code, starting with the letter H and followed by three digits. Statements which correspond to related hazards are grouped together by code number, so the numbering is not consecutive. The code is used for reference purposes, for example to help with translations, but it is the *actual phrase* which should appear on labels and safety data sheets.



## Physical hazards

### H-phrases Physical Hazards

Code	Phrase
H200	Unstable explosive
H201	Explosive: mass explosion hazard
H202	Explosive: severe projection hazard
H203	Explosive: fire, blast or projection hazard
H204	Fire or projection hazard
H205	May mass explode in fire
H206	Fire, blast or projection hazard: increased risk of explosion if desensitizing agent is reduced
H207	Fire or projection hazard; increased risk of explosion if desensitizing agent is reduced
H208	Fire hazard; increased risk of explosion if desensitizing agent is reduced
H209	Explosive
H210	Very explosive
H211	May be sensitive
H220	Extremely flammable gas
H221	Flammable gas
H222	Extremely flammable material
H223	Flammable material
H224	Extremely flammable liquid and vapour
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H227	Combustible liquid
H228	Flammable solid
H230	May react explosively even in the absence of air
H231	May react explosively even in the absence of air at elevated pressure and/or temperature
H240	Heating may cause an explosion
H241	Heating may cause a fire or explosion
H242	Heating may cause a fire
H250	Catches fire spontaneously if exposed to air
H251	Self-heating: may catch fire
H252	Self-heating in large quantities: may catch fire
H260	In contact with water releases flammable gases which may ignite spontaneously
H261	In contact with water releases flammable gas
H270	May cause or intensify fire: oxidizer
H271	May cause fire or explosion: strong oxidizer
H272	May intensify fire: oxidizer
H280	Contains gas under pressure: may explode if heated
H281	Contains refrigerated gas: may cause cryogenic burns or injury
H282	Extremely flammable chemical under pressure: May explode if heated
H283	Flammable chemical under pressure: May explode if heated
H284	Chemical under pressure: May explode if heated
H290	May be corrosive to metals



## Health hazards

<b>H-phrases Health Hazards</b>	
<b>Code</b>	<b>Phrase</b>
H300	Fatal if swallowed
H300+H310	Fatal if swallowed or in contact with skin
H300+H310+H330	Fatal if swallowed, in contact with skin or if inhaled
H300+H330	Fatal if swallowed or if inhaled
H301	Toxic if swallowed
H301+H311	Toxic if swallowed or in contact with skin
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled
H301+H331	Toxic if swallowed or if inhaled
H302	Harmful if swallowed
H302+H312	Harmful if swallowed or in contact with skin
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled
H302+H332	Harmful if swallowed or inhaled
H303	May be harmful if swallowed
H303+H313	May be harmful if swallowed or in contact with skin
H303+H313+H333	May be harmful if swallowed, in contact with skin or if inhaled
H303+H333	May be harmful if swallowed or if inhaled
H304	May be fatal if swallowed and enters airways
H305	May be harmful if swallowed and enters airways
H310	Fatal in contact with skin
H310+H330	Fatal in contact with skin or if inhaled
H311	Toxic in contact with skin
H311+H331	Toxic in contact with skin or if inhaled
H312	Harmful in contact with skin
H312+H332	Harmful in contact with skin or if inhaled
H313	May be harmful in contact with skin
H313+H333	May be harmful in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H315+H320	Causes skin and eye irritation
H316	Causes mild skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H333	May be harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation



### H-phrases Health Hazards

Code	Phrase
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H341	Suspected of causing genetic defects
H350	May cause cancer
H350i	May cause cancer by inhalation
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H360D	May damage the unborn child
H360Df	May damage the unborn child. Suspected of damaging fertility.
H360F	May damage fertility
H360FD	May damage fertility. May damage the unborn child.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H361	Suspected of damaging fertility or the unborn child
H361d	Suspected of damaging the unborn child
H361f	Suspected of damaging fertility
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H362	May cause harm to breast-fed children
H370	Causes damage to organs
H371	May cause damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure

## Environmental hazards

### H-phrases Environmental Hazards

Code	Phrase
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life
H420	Harms public health and the environment by destroying ozone in the upper atmosphere
H441	Very toxic to terrestrial invertebrates