

GHS Classification

ID598

Potassium hydroxide

CAS 1310-58-3

Date Classified: May 24, 2006 (Environmental Hazards: Mar. 31, 2006)

Physical Hazards

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not applicable	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
2 Flammable gases	Not applicable	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Not classified	-	-	-	Non-combustible substance (Hommel, 1991)
8 Self-reactive substances and mixtures	Not applicable	-	-	-	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-combustible (Hommel (1997)
11 Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (Hommel, 1991)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Although generation of heat will be carried out if it dissolves in water, combustible gases does not occur.
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	Classification not possible, though containing oxygen (but not halogen).
15 Organic peroxides	Not applicable	-	-	-	Inorganic compound
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3	Skin and respiratory	Danger	Toxic if swallowed	Category 3 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 284mg/kg; REFERENCE SOURCE: Priority 1
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 1B	Corrosion	Danger	Causes severe skin burns and eye damage	Since there are descriptions that it was corrosive in rabbit test (SIDS (2001)) and that it has corrosivity on humans (SIDS (2001)), and its UN classification is class 8II. Therefore it was classified as Category 1B.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Since there are statements of irreversible damage with humans (SIDS (2001)), and of corrosive in rabbit test (SIDS (2001)), and since skin caustic / stimulative GHS classifications are in Category 1B, it was categorized into Category 1.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Not classified	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	[Sensitization of respiratory organs]:It cannot be classified. Skin sensitization : There is a negative statement (SIDS (2001)) by guinea pigs test and, since the intravital existence of both potassium ions and hydroxide ion deny the cause of skin sensitization(SIDS(2001))., it was put outside of the division, although there is no report on humans.
5 Germ cell mutagenicity	Not classified	-	-	-	With regard to in vitro tests of potassium hydroxide, there are negative data from the Ames test (SIDS (2001)), but there are no in vivo test data. But sodium hydroxide is negative in in vivo mutagenicity tests in somatic cells (micronucleus tests) and it is also negative in in vivo mutagenicity tests in germ cells (detection of aneuploidy in oocytes), though under restricted conditions (SIDS (2001)). So by analogy we presumed that data from potassium hydroxide could be the same and we judge that it will be appropriate to regard potassium hydroxide as outside the categories
6 Carcinogenicity	Classification not possible	-	-	-	There is no reliable data and there is also no report of evaluation organizations, such as International Agency for Res. on Cancer. So it cannot classify.
7 Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data on potassium hydroxide.

8	Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory)	Health hazard	Danger	Cause damage to organs (respiratory)	It was classified into Category 1 (respiratory systems) according to the statement that inhalation exposure to the particles or the mist will cause such damages as burns to the nose and bronchial tube and result even in lung edemas (SIDS (2001), ACGIH (2001) and PATTY (5th, 2001)).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	The example for repeated dose in toxicity research of potassium hydroxide is not found. It cannot be classified without a report on humans.
10	Aspiration hazard	Category 1	Health hazard	Danger	May be fatal if swallowed and enters airways	It was classified into Category 1 based on the statement of die of pneumonia by aspiration (ACGIH (2001)).

Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Classification not possible	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data