

GHS Classification

ID812

caesium hydroxide

CAS 21351-79-1

Date Classified: Jun. 20, 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
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
11 Self-heating substances and mixtures	Not classified	-	-	-	Not combustible
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Although it reacts violently with water, what is generated is heat and is not flammable gas. (Sitting (47th. 2002))
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	Although it contains oxygen, cesium is the most stable metal in the state of monovalence, and does not give oxygen to other substances.
15 Organic peroxides	Not applicable	-	-	-	Inorganic substance
16 Corrosive to metals	Classification not possible	-	-	-	Although it is a caustic substances to the extent that it can be stored only with the container of silver or platinum (Sittig (47th. 2002)), the corrosion-rate data about steel and aluminum are not obtained. It is estimated to be in Category 1.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 4	Exclamation mark	Warning	Harmful if swallowed	Since data of 570mg/kg (RTECS (2004)) and 1026mg/kg (ACGIH (2001)) were found in rat LD50, they were set as Category 4.
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	-	-	-	Steam inhalation cannot be performed because it is a nonvolatile solid.
1 Acute toxicity (inhalation: dust, mist)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	The value of 0.02mg/L was found in the inhalation LC50 data in which the animal and time of exposure was unknown (RTECS (2004)), it was considered as dust inhalation "category 1". Data that human LC50 (?): 0.005mg/L was also in the same former literature.
2 Skin corrosion / irritation	Category 1B	Corrosion	Danger	Causes severe skin burns and eye damage	There are Mild reports when it attaches to the skin of a rabbit in the state of the dry crystal (RTECS (2004)). But it indicates significant corrosive (ACGIH (2001)) when it is absorbed moisture, or in aqueous solutions. So it was set as Category 1. The warnings and the cautions about corrosion behavior for humans are also indicated by individual references (ACGIH (2001), HSFS (1998), Sitting (47th, 2002)). It is referred to as class 8PG II in the U.N. transportation advice. GHS Category for the purpose of transportation is set as 1B.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	It is indicated that putting into the eyes of the rabbit causes the intense stimulus (ACGIH (2001)), and into people's eyes also causes stimulating and burns (Sitting (47th,2002), HSFS (1998)). Moreover, since skin corrosivity and irritation were set to "Category 1", eyes were also set as "Category 1".
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: There were no data and we could not classify it. About skin sensitization, we classified it as "Out Of Category" since we have a report (ACGIH (2001)) that skin sensitization was not acknowledged for the experiment with the guinea pigs.
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
7 Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data

8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	-	-	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	No case reports are found that should make us classify it into Category 1 or 2. SITTING (54th, 2002) and HSFS (1998) have the descriptions about stimuli to upper respirators (nose, throat and trachea). Although the description is listed in the data sheet that does not clarify the basis and source, we adopted "Category 3 (respiratory irritant)" since this substance is the strongest alkali.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	The influence on the respiratory systems, such as lungs and a trachea, by prolonged exposure of humans is indicated (SITTING (47th, 2002) and HSFS (1998)). Moreover, in the two inhalation experiments of rats, effects on the central nervous systems, on heart and blood by the exposure concentration within the guidance value of Category 1 are separately reported (RTECS (2004)), but use was withheld since there was no detailed description.
10	Aspiration hazard	Classification not possible	-	-	-	No data available

Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Classification not possible	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.