

GHS Classification

ID999

Sodium sulfide

CAS 16721-80-5

Date Classified: Mar. 23, 2006 (Environmental Hazards: Feb. 10, 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	-	-	-	UNRTDG Class: 4.2
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	-	-	-	UNRTDG Class: 4.2
11 Self-heating substances and mixtures	Category 1	Flame	Danger	Self-heating; may catch fire	UNRTDG Class: 4.2, PGII
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	UNRTDG Class: 4.2
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Containing no oxygen, chlorine and fluorine.
15 Organic peroxides	Not applicable	-	-	-	Inorganic substance
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 4.2

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3	Skull and crossbones	Danger	Toxic if swallowed	Rat LD50 value=96mg/kg, 115mg/kg and 200mg/kg (IUCILID(2000)). Calculated based on the data above. However, the calculation value was lower than the lowest value of the above data, the lowest value was adopted to classify as category 3.
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	-	-	-	Classification not possible due to lack of data
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Described only irritating as a result of a rabbit examination (IUCILID (2000)). But there is description with corrosive irritant to skin as human impact (HSDB (Access on Jun 2005)). And also there is description that it was corrosive chemical (HSFS (1999)), it was set as Category 1A-1C.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	It was described only as irritating as a result of the rabbit examination (IUCILID (2000)). However, we found the description that it is "corrosive irritant to skin" for effect on human body (HSDB (Access on Jun 2005)), and also we found a description that it was a corrosive chemical (HSFS (1999)). Therefore we classified it as Category 1.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	There is no data of a mutagenicity test and a genotoxicity study using the germ cell and somatic cell in the in vivo. And the result of the mutagenicity test in vitro is only the mutagenicity test (one each) using the bacteria indicated in RTECS of Priority2 (Access on Aug 2005) and IUCILID(2000). So it cannot classify.
6 Carcinogenicity	Classification not possible	-	-	-	No data available
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 2 (respiratory organs); Category 3 (respiratory tract irritation)	Health hazard	Danger	May cause damage to organs (respiratory organs); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	The substance was classified as Category 2 (respiratory organs) because it is reported in HSFS(1999) that it has irritant properties to nose, throat and lungs, and it causes shortness of breath and pulmonary edema at higher concentrations. Because there is also a report of the substance showing corrosive properties to skin, eyes and mucosa as effects on humans in HSDB (Access on Jun 2005), it was judged that the substance has airway irritant properties and it was classified as Category 3.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Classification not possible due to lack of data
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)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 96-hour TLm=0.0071-0.55mg/L of fishes (Fathead minnows) (HSDB, 2004).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Toxicity factor is considered to be strong base as aqueous solution, but toxic effect is eased by the buffer action in the environmental water.