

GHS Classification

ID834

Silicic acid, (H4SiO4), tetraethyl ester

CAS 78-10-4

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	-	-	-	Liquid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Liquid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Liquid (GHS definition)
6 Flammable liquids	Category 3	Flame	Warning	Flammable liquid and vapour	Flash point: >=23degC and <=60degC
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
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 classified	-	-	-	It is classified into the UNRTDG class 3.
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to liquid substances are not available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	UNRTDG Class: 3
13 Oxidizing liquids	Not classified	-	-	-	UNRTDG Class: 3
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 3

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	-	-	-	Not classified because of SPECIES: Rat; ENDPOINT: LD50; VALUE: :6270mg/kg; REFERENCE SOURCE: DFGOT vol.3 (1992)
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on rabbit LD50 value: 6300uL/kg (reduced values = 5859mg/kg) (RTECS, 2006), it was set as the outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	There was description about the rat mortality rate in the steam exposure test (DFGOT (vol.3, 1992) and Industrial Hygiene Society advice (1993)). But there was no data of LC50 value, and since Category could not be specified, it cannot be classified due to data insufficiency.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	There was description in DFGOT (vol.3, 1992) about the mortality rate in the mist atmospheric exposure test which used rats. But there was no data of LC50 value, and category could not be specified. Therefore, it cannot be classified since data is insufficient.
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	There was no concrete case report. But it was set to Category 2 from description that the skin is stimulated in ICSC (J), (1998), HSFS (1999), and SITTIG (4th, 2002).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	If based on description that the change acknowledged by applying to the eye of the rabbit was recovered within 24 hours (HSDB (2006)), it will be judged that there is no irritation in practice. But based on the description that mild irritation was acknowledged by applying to the eye of the rabbit (RTECS (2006)), it was set as Category 2B.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data available
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 1 (blood system); Category 3 (respiratory tract irritation, narcotic effects)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (blood system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation, narcotic effects)	It was set as Category 1 (blood) from description that severe anemia was acknowledged by the concentration of the guidance value range of Category 1 in the inhalation exposure test using the guinea pigs of DFGOT (vol.3, 1992). Moreover, it was set as Category 3 (respiratory irritant, anesthetic actions) from description that the anesthetic actions was admitted in the inhalation exposure tests using a guinea pigs and, respiratory irritant was admitted in the exposure tests to the humans of DFGOT (vol.3, 1992).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (kidneys, liver, respiratory organs)	Health hazard	Warning	May cause damage to organs (kidneys, liver, respiratory organs) through prolonged or repeated exposure	Based on description that in the inhalation exposure test using the rat of PATTY (4th, 1994), ACGIH (7th, 2001), DFGOT (vol.3, 1992), and Japan Society for Occupational Health Recommendation of Occupational Exposure Limits (1993), the influence on kidney, liver and lungs was observed at the concentration a little exceeding the guidance value range of Category 2, and that renal and intranasal changes were observed within guidance value of Category 2 in the inhalation exposure test using mice by Japan Society for Occupational Health Recommendation of Occupational Exposure Limits (1993), it was classified into Category 2 (the kidney, liver, respiratory systems)
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.