

GHS Classification

ID1062

Selenium hexafluoride

CAS 7783-79-1

Date Classified: Mar. 15, 2007 (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	-	-	-	Gas (GHS definition)
2 Flammable gases	Not classified	-	-	-	Non-combustible (ICSC(J), 2000)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not classified	-	-	-	Not classified because it is UNRTDG No. 2194, Class: 2.3(8) but not Subsidiary risks Class: 5.1.
5 Gases under pressure	Liquefied gas(Low pressure liquefied gas)	Gas cylinder	Warning	Contains gas under pressure; may explode if heated	Low pressure liquefied gas because of "the triple point: -34.6degC" (Lide, 85th, 2004) and "the critical temp: 72.35degC"(HSDB, 2003)
6 Flammable liquids	Not applicable	-	-	-	Gas (GHS definition)
7 Flammable solids	Not applicable	-	-	-	Gas (GHS definition)
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Gas (GHS definition)
9 Pyrophoric liquids	Not applicable	-	-	-	Gas (GHS definition)
10 Pyrophoric solids	Not applicable	-	-	-	Gas (GHS definition)
11 Self-heating substances and mixtures	Not applicable	-	-	-	Gas (GHS definition)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	Gas (GHS definition)
13 Oxidizing liquids	Not applicable	-	-	-	Gas (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Gas (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Gas (GHS definition)
16 Corrosive to metals	Classification not possible	-	-	-	UNRTDG No. 2194, Subsidiary risks Class: 8.Test methods applicable to gaseous substances are not available.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Classification not possible	-	-	-	No data available
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	There was no data of LC50. So It was estimated by rat LCLo = 5ppm/4H (equivalent) (RTECS (2004)), and it was considered as Category 1. In addition, it support the category 1 that 10ppm/4H exposure was also lethal in any four sorts of the rat, the mouse, the guinea pig, and the rabbit (HSDB, 2003).
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Gas (GHS definition)
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	ICSC (J) (2002), HSDB (2003), and HSFS (2001) of Priority 2 document have description which indicates the skin irritation in humans, and it was set as Category 2.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Since there is the descripton that it indicates the causticity to the eye (in Priority 2 document, ICSC (J) (2000), and SITTIG (4th, 2002)) , it was classified into 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)-	Respiratory sensitization: no data available. Skin sensitization: although there is description which shows the possibility of skin sensitization in SITTIG (4th, 2002), there is no data which is supported, and since data is insufficient, it cannot classify.
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data available
6 Carcinogenicity	Not classified	-	-	-	As fluoride, it is categorized into A4 in ACGIH-TLV (2004), and as selenium compounds, it is categorized into Group 3 in IRIS (1993). It was out of the Category.
7 Toxic to reproduction	Classification not possible	-	-	-	No Data. (It has classified into C as an inorganic selenium compound, also as fluoride in MAK/BAT (2004). It is supposed that there is no fears of reproductive toxicity.)

8	Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory[inhalation])	Health hazard	Danger	Cause damage to organs (respiratory[inhalation])	There is a report in PATTY (5th, 2001), a Priority 1 document, that it caused pulmonary edema in 4 hours at 5ppm in inhalation exposure tests in 4 kinds of animals (rabbits, guinea pigs, rats and mice). When this result was compared with the guidance values, it was within the values for Category 1. There are also reports in ICSC (J) (1997), SITTIIG (4th, 2002), HSFS (2001), which are Priority 2 documents, that the substance has airway corrosivity properties and causes pulmonary edema, etc, in humans. The substance was classified as Category 1 (respiratory system [inhalation]) based on these reports.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (bone)	Health hazard	Danger	Causes damage to organs (bone) through prolonged or repeated	It is supposed that it has the influence (fluorosis) to a bone as fluoride on ACGIH-TLV (2004) of Priority 1 document . It was classified into Category 1 (bone). In addition, although effects on the central nervous systems, liver and renal in SITTIIG (4th, 2002) of Priority 2 document, and the effects on the respiratory system in HSFS (2001) were described, all did not have data which is supported.
10	Aspiration hazard	Not applicable	-	-	-	Gas (GHS definition)

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.