GHS Classification

ID1120 antimony pentafluoride

CAS 7783-70-2 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	–	–	–	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	Not classified	–	–	–	Non-combustible (ICSC(J), 1995).
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	–	–	–	Not combustible (ICSC (J), 1995)
10	Pyrophoric solids	Not applicable	–	–	–	Liquid (GHS definition)
11	Self-heating substances and mixtures	Not classified	–	–	–	Not combustible (ICSC(J) (1995))
12	Substances and mixtures, which in contact with water, emit flammable gases	Not classified	–	–	–	Although it reacts with water and hydrogen fluoride is produced, hydrogen fluoride is nonflammable. Moreover, UNRTDG is classified into 8 (6.1) and II according to the U.N. number (1732) peculiar to a substance. Since 4.3 (or 4.2) was not attached, it carried out the outside of Category.
13	Oxidizing liquids	Not classified	–	–	–	Not classified because of UNRTDG No. 1732, Class: 8(6.1), PG II (not Class: 5.1)
14	Oxidizing solids	Not applicable	–	–	–	Liquid (GHS definition)
15	Organic peroxides	Not applicable	–	–	–	Inorganic compound
16	Corrosive to metals	Classification not possible	–	–	–	UNRTDG is classified into 8 according to the UNRTDG No. (1732). Although there is description "copper and a lead are corroded" (ICSC (J) 1995), there is not steels or aluminum test data, and it cannot be classified.

Health Hazards

	Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Classification not possible	–	–	–	Although SITTIG (4th, 2002) mentions the estimated lethal dosage in humans, the data is an estimate. Thus we cannot classify this substance due to insufficient data.
1	Acute toxicity (dermal)	Classification not possible	–	–	–	No data available
1	Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Liquid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	LC50 of the mouse is 30.5ppm (RTECS (2004)). There is no statement about time of exposure. But assuming it was 24 hours, it can be converted for 4 hour exposure to 74.7ppm , and which corresponds to Category 1. Since it was thought that actual time of exposure is shorter than 24 hours, it was classified as Category 1.
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	Skin caustic is indicated from description that "reddening/seriousness of the skin burns/Hurt, and to the skin caustic, Corrosive and Severe effect are indicated"(ICSC, 1995;HSDB, 2002;SITTIG, 4th, 2002;HSFS, 2004). But it was set as Category 1A-1C since the examination data of the animal used as the further categorizing index was not found. [view] It is more desirable to be set as 1A from a viewpoint of safety, when further categorizing needs to be performed.
3	Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Due to the description of "it causes redness, pain, and severe burns, and shows causticty, corrosive, and severe effects to the eye (ICSC, 1995; HSDB, 2002; SITTIG, 4th, 2002; HSFS, 2004), 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)-	No data available
5	Germ cell mutagenicity	Classification not possible	–	–	–	Without data. (It has classified with 3A as inorganics antimony compounds according to MAK/BAT (2005). Germ-cell mutagenicity is suspected.)

6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	It is classified into 2B as antimony compounds in industrial hygene academic society advice (2004). It was classified into Category 2.
7	Toxic to reproduction	Classification not possible	–	–	–	No data available
8	Specific target organs/systemic toxicity following single exposure	Category 2 (respiratory, blood system, heart, kidneys, liver)	Health hazard	Warning	May cause damage to organs (respiratory, blood system, heart, kidneys, liver)	The substance was classified as Category 2 (respiratory system, blood, heart, kidneys, liver) based on the reports in Priority 2 documents of effects on the respiratory system, blood, heart, kidneys and liver in humans (ICSC, 1995; SITTIG, 4th, 2002; HSFS, 2004).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (bone, lung, cardiovascular system); Category 2 (liver)	Health hazard	Danger; Warning	Causes damage to organs (bone, lung, cardiovascular system) through prolonged or repeated exposure; May cause damage to organs (liver) through prolonged or repeated	It is supposed that it has the influence on a bone by as fluoride and the effects on lungs, the cardiovascular system by as antimony compound (ACGIH-TLV (2004) of Priority 1 document). Since there was the same description also in SITTIG (4th, 2002), HSFS (2004) of Priority 2 document, it was classified into Category 1 (a bone, lungs, cardiovascular system). Moreover, it is supposed that it has the effects on the liver (RTECS (2004) of Priority 2 document, SITTIG (4th, 2002), and HSFS (2004)). Therefore, it was classified into Category 2 (liver).
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.