

GHS Classification

ID1094

arsenic sulphides, natural

CAS 1303-33-9

Date Classified: Sep. 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 (NFPA, 13th, 2003)
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 (NFPA, 13th, 2003)
11 Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (NFPA, 13th, 2003)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Literature has the description "it is insoluble to water", and it carried out the outside of Category. (Although NFPA (13th, 2002) has the description that "it reacts with waters and vapors, and flammable gases hydrogen sulfide is generated", the mark which indicates a water reactive substances to ibidem is not attached, but it is indicated that volumes of water should be used in the case of fire extinction.)
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Inorganic compounds containing no oxygen and halogen.
15 Organic peroxides	Not applicable	-	-	-	Inorganic compound
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available.

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	Category 3 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 185 mg/kg; REFERENCE SOURCE: RTECS (2004); HSDB (2003)
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 from rat dermal LD50 = 936mg/kg (RTECS, 2004;HSDB, 2003).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	From the description that skin irritation is indicated as an arsenic compound of this product or of 3 values (HSDB, 2003;HSFS, 1998) and that description which shows that an inorganic arsenic had irritation (DFGOT 21, 2005), it was judged to have slight irritation, and it was set to category 3.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Due to the descriptions that this product irritates to human eye (HSDB, 2003; HSFS, 1998), and that the arsenic compounds particulate irritates to the eye (DFGOT 21, 2005), it was classified into Category 2B.
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 : it is not a deterministic conclusion (ATSDR, 2005; HSG, 1992) although there is no knowledge of the quality of a genuine article itself and skin sensitization may be shown to humans as an inorganic arsenic compound, in addition, it was presupposed that it cannot classify from the description in the humans of EHC 224 (2001) "development of the skin sensitization of inorganic arsenic is rare" since data is insufficient.
5 Germ cell mutagenicity	Not classified	-	-	-	Since it was negative in the mouse bone marrow micronucleus tests (EHC 224, 2001), it carried out the outside of Category.

6	Carcinogenicity	Category 1A	Health hazard	Danger	May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Arsenic and arsenic compound are categorized into the human carcinogens in IARC Suppl.7 (1987), ACGHI-TLV (2004), and MAK/BAT (2004). So it was classified into Category 1A.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Although the knowledge of this product was not observed, it was considered as Category 2 based on the description related to human of EHC 224 (2001) which is Priority 1 document, about arsenic and arsenic compound, "the effect on reproduction is suggested", and knowledge of animals "fetus toxicity and teratogenicity in dose in which maternal toxicity is observed". In addition, there is the description that "the conclusion which is inorganic arsenic is not teratogen in humans is advocated" in Catalog of teratogenic agents (2004) equivalent to Priority 1.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (digestive system, cardiovascular system, nervous system, kidneys, liver, respiratory)	Health hazard	Danger	Cause damage to organs (digestive system, cardiovascular system, nervous system, kidneys, liver, respiratory)	Although there was no information about this substance, the substance was classified as Category 1 (gastrointestinal system, cardio-vascular system, nervous system, kidneys, liver, respiratory system) based on the report that in the forms of the arsenic and inorganic arsenic compounds it causes "symptoms in the gastrointestinal organs, disorders in the functions of the cardio-vascular and nervous systems, myelosuppression, alteration in the blood system and nephropathy" in humans (EHC 224 (2001)), and based on a similar report in PIM (Poisons Information Monographs) G042 (WHO/IPCS, 1996). In addition, there is a report in ACGIH (7th, 2001) that it affects the liver, upper airways and lungs.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (digestive system, nervous system, blood system, cardiovascular system, kidneys, liver, skin, respiratory organs)	Health hazard	Danger	Causes damage to organs (digestive system, nervous system, blood system, cardiovascular system, kidneys, liver, skin, respiratory organs) through prolonged or repeated	Although the knowledge of this product was not observed, based on the description in the humans about arsenic and inorganic arsenics compounds, "gastrointestinal disturbances, neuropathy, affect to blood systems, and disorders of cardiovascular systems, kidney and liver were observed in the long term administration of inorganic arsenic. Target organ are gastrointestinal, heart, brains and kidney. The skin, marrow and peripheral nerves were also affected." (EHC 224 (2001), and PIM(Poisons Information Monographs) G042 (WHO/IPCS, 1996)) and the description of effect on the upper respiratory tract and lungs (ACGIH (7th, 2001)), therefore it was classified into Category 1 (digestive tract, cardiovascular systems, nervous systems, kidney, liver, blood systems, skin, respiratory system)
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	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Category 4	-	-	May cause long lasting harmful effects to aquatic life	Classified into Category 4, since it is a metallic compound, and behavior in water is unknown, though no acute toxicity is reported within the saturated aqueous solution.