

GHS Classification

ID1074

calcium arsenate

CAS 7778-44-1

Date Classified: Oct. 23, 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 (ICSC (J) (1999))
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 (ICSC (J), 1999)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not combustible (ICSC(J) (1999))
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (the water solubility is obtained)
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	UNRTDG No. 1573, Class: 6.1; PG II (Not 5.1).
15 Organic peroxides	Not applicable	-	-	-	Inorganic compound
16 Corrosive to metals	Classification not possible	-	-	-	Although HSDB (2002) has the description "corrosion behavior is slightly", test methods suitable for a solids material are not established.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Skull and crossbones	Danger	Fatal if swallowed	From rat LD50 value of 20mg/kg and 298mg/kg (HSDB, 2002) of the oral study, the lower value of 20mg/kg was adopted to classify as category 2.
1 Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	It was set as Category 5 based on rat LD50 = 2400mg/kg (HSDB, 2002) of the dermal administration test.
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	This product was set to Category 3 from description with redness which stimulated the skin (ICSC(J), 1999; SITTING, 4th, 2002).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Since there are the descriptions that this product irritates to the eye, causes redness and pain (ICSC(J)1999; HSDB, 2003; SITTING, 4th, 2002), 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, although there is no knowledge of this product and skin sensitization may be indicated to humans as an inorganic arsenic (ATSDR, draft, 2005; HSG, 70, 1992), 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	Classification not possible	-	-	-	Without data. In addition, arsenic and inorganic arsenic compound are classified into the germ-cell mutagenicity category 3A (equivalent for GHS Category 1B-2) according to MAK/BAT (2005).
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)	Since arsenic and arsenic compound are categorized into the human carcinogens in IARC Suppl.7 (1987), ACGIH-TLV (2005), and MAK/BAT (2005), 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 specific data of this product was not observed within the range of investigation, since there is the description that this product is suggested the teratogenicity in humans based animal studies (ICSC (1999)), in addition, in ACGIH (7th, 2001), ATSDR (draft, 2005), EHC 224 (2001), and DFGOT vol.21 (2005), although there was an opposite report, the reproductive and developmental toxicity knowledge by inorganic arsenic was indicated to laboratory animals. So it was considered as Category 2.
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)	The substance was classified as Category 1 (gastrointestinal system, cardio-vascular system, nervous system, kidneys, liver, respiratory system) based on the following reports 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 that it affects the liver, upper airways and lungs (ACGIH (7th, 2001)), and that it affects digestive tracts, circulatory system, central nervous system and kidney, and may cause serious gastroenteritis, body fluid and electrolyte losses, cardiac and renal problems and shock (ICSC (J) 1999).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (digestive system, cardiovascular system, nervous system, kidneys, liver, blood system, skin, respiratory organs)	Health hazard	Danger	Causes damage to organs (digestive system, cardiovascular system, nervous system, kidneys, liver, blood system, skin, respiratory organs) through prolonged or repeated exposure	The description in the humans of EHC 224 (2001) about arsenic and inorganic arsenics compounds, "disorders of gastrointestinal, neuropathy, effect to blood systems, abnormalities of cardiovascular systems, kidney, and liver were observed in the long term oral administration of inorganic arsenic. Target organ are gastrointestinal, heart, brains and kidney. The skin, marrow, and peripheral nerves are affected." It was classified into Category 1 (a digestive tract, a cardiovascular systems, a nervous systems, the kidney, liver, blood systems, skin, respiratory system) based on above discription and, in addition, the description of the effect on upper respiratory tracts and lungs (ACGIH (7th, 2001)), and the description that it affects the skin, mucosa, the peripheral nervous systems, marrow, and liver, pigmentation disorder, nasal septal perforation, neuropathy, damage to blood cells, and liver damage may occure (ICSC (J), 1999).
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)	Classification not possible	-	-	-	Classification not possible due to lack of data