

GHS Classification

ID1073

potassium dihydrogenarsenate

CAS 7784-41-0

Date Classified: Nov. 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 (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 value of aqueous solubility is acquired.) In addition, HSDB (2003) has a statement that solution heat (1.1*10 ⁵ J/kg) occurs.
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	UNRTDG No. 1677, Class: 6.1; PG II (Not 5.1).
15 Organic peroxides	Not applicable	-	-	-	Inorganic compound
16 Corrosive to metals	Classification not possible	-	-	-	Test methods suitable for a solids material are not established. In addition, ICSC (J) (1999) have the description "it corrodes much metal, such as iron, aluminum and zinc under presence of water, and toxic fumes (arsenic, arsine) is generated".

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Exclamation mark	Danger	Fatal if swallowed	Category 2 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 14mg/kg; REFERENCE SOURCE: HSDB (2003)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
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 2	Exclamation mark	Warning	Causes skin irritation	This product was set to Category 2 from description with redness, the pain 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: no data available. Skin sensitization : although there is no data of this substance itself, skin sensitization may be indicated to humans as an inorganic arsenic, but it is not a deterministic conclusion (ATSDR, 2005; HSG, 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 DFG (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), ACGHI-TLV (2004), and MAK/BAT (2004), it was classified into Category 1A.

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	In "a possibility that the human baby will cause malformation in an animal experiments" in ICSC (J) (1999) of Priority 2 document, and 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 it affects gastrointestinal tracts, cardio-vascular system, central nervous systems and kidneys, and may cause serious gastroenteritis, body fluid and electrolyte losses, cardiac and renal obstacle, collapse and shock (ICSC (J) 1999), and 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)).
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	Since this product itself affects the peripheral nervous system, the skin, mucosa, marrow, the kidney, and liver, and may occur neuropathy, pigmentation disorder, nasal septal perforation, damage to blood cells, kidney disorders, and cirrhosis (ICSC (J) 1999), and the description in human of EHC 224 (2001) about arsenic and inorganic arsenic compounds, "the disorders of gastrointestinal, neuropathy, and the effect on blood systems, abnormalities of a cardiovascular systems, the kidney, and liver were observed. Target organ are gastrointestinal, heart, brains and kidney. Skin, marrow and peripheral nerves were also affected", and in addition, based on description with the effect of the top respiratory tract and lungs on influenced (ACGIH (7th, 2001)), it was classified into Category 1 (digestive systems, 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)	Classification not possible	-	-	-	Classification not possible due to lack of data