

## GHS Classification

**ID1078**

**lead hydrogen arsenate**

**CAS 7784-40-9**

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	-	-	-	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 (HSDB, 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 (HSDB, 2003)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not combustible. (HSDB (2003))
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (insoluble in water)
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	UNRTDG No. 1617, Class: 6.1; PG II (Not 5.1).
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	Between 100mg/kg (RETCS, 2004) and 80mg/kg (HSDB, 2003), the lower level of 80mg/kg was adopted to classify as category 3.
1 Acute toxicity (dermal)	Classification not possible	-	-	-	It seems that it corresponds to Category 5 or outside of Category from rat dermal LD50 value >2400mg/kg (RETCS, 2004). But data is insufficient, it cannot be classified.
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 description that produces the redness of the skin (ICSC, 1997), and the inflammation of mucosa and skin (HSDB, 2003), and that stimulates the skin (HSFS, 2001), it was judged that this product had mild irritation, and it was set to Category 3.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Since there are the descriptions that this product irritates to the eye (ICSC, 1997; HSFS, 2001), inorganic arsenic compounds particulate irritates to the eye (HSDB, 2003), it was classified into Category 2B.
4 Respiratory/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 substance and an inorganic lead compound and skin sensitization may be indicated to humans as an inorganic arsenic (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) in Germany DFG. Trilead diarsenate (Pb3(AsO4)2, CAS 3687-31-8) which is the one of the lead arsenate is included in it 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 (2004), and MAK/BAT (2004), it was classified into Category 1A.
7	Toxic to reproduction	Category 1A	Health hazard	Danger	May damage fertility or the unborn child	It was considered as Category 1A since the potential which indicates reproductive toxicity in humans (ICSC, 1997), and inorganic lead compounds indicate reproductive toxicity to humans (ACGIH-TLV, 2005; ATSDR draft, 2005). In addition, in ACGIH-TLV (2005), for diarsenate trilead (Pb3 (AsO4) 2, CAS: 3687-31-8) which is one of the lead arsenates is supposed that it has serious influences on reproduction.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (digestive system, nervous system); Category 3 (respiratory tract irritation)	Health hazard	Danger	Causes damage to organs (digestive system, nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract)	The substance was classified as Category 1 (gastrointestinal system, nervous system) and category 3 (airway irritant). Based on the reports that it affects the gastrointestinal tracts and nervous system and causes irritation to the airways in short-term exposure (ICSC, 1997), that it affects the central nervous system, blood and kidneys in the form of an inorganic lead compound (ACGIH-TLV, 2005), and that it causes gastrointestinal tract symptoms, dysfunctions in the cardio-vascular and nervous systems, myelosuppression, alteration in the blood system and nephropathy in a form of an inorganic arsenic compound (EHC 224, 2001).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (digestive system, nervous system, blood system, kidneys, liver, respiratory organs, skin)	Health hazard	Danger	Causes damage to organs (digestive system, nervous system, blood system, kidneys, liver, respiratory organs, skin) through prolonged or repeated	This product affects a gastrointestinal tract, a nervous system, the kidney, liver, and blood by repeated exposure (ICSC, 1997), a central nervous systems, anemia, and the kidney are affected as one of the lead arsenates which is 2 arsenic acid three lead Pb3(AsO4) 2 [3687-31-8] (ACGIH-TLV, 2005), and there is the description about inorganic arsenic compound that "gastrointestinal tract disorder, neuropathy, effect on blood system, disorder of cardiovascular system, kidney and liver with long-term oral administration of inorganic arsenic were observed. Target organ are gastrointestinal, heart, brains and kidney. The skin, marrow and peripheral nervous systems are affected too." (EHC 224, 2001-IM, Poisons Information Monographs G042, WHO/IPCS, 1996), and the description of effect on upper respiratory tracts and lung (ACGIH 7th, 2001), and inorganic lead compounds affect a central nervous system, blood and the kidney (ACGIH-TLV, 2005). Therefore it was classified into Category 1 (a digestive tract, a nervous systems, blood systems, the
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