

GHS Classification

ID1075

trisodium arsenate

CAS 13464-38-5

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	-	-	-	Not classified because of UNRTDG No. 1685, Class: 6.1, PG II (not Class: 4.1) though "Flammable" (Sax, 11th, 2004)
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	-	-	-	Not classified because of UNRTDG No. 1685, Class: 6.1, II (not Class: 4.2)
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG is classified into 6.1 and II according to the U.N. number (1685) peculiar to a substance. Since 4.2 which indicates self-ferbrility was not attached, it carried out the outside of Category.
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Not classified because of UNRTDG No. 1685, Class: 6.1, PG II (not Class: 4.3)
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	UNRTDG No. 1685, 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)	Classification not possible	-	-	-	Without data. [Note] Although Sodium arsenate includes several substances whose molecular formulas differ each other, investigation was conducted by the molecular formula of ASNa3O4 (CAS No.13464-38-5).
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	Classification not possible	-	-	-	No data available
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	No data available
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 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 knowledge of this product used as classification indicators was not found, in ACGIH (7th, 2001), ATSDR (draft, 2005), EHC 224 (2001), and DFGOT vol.21 (2005), there was an opposite report. Since the reproductive and developmental toxicity knowledge by inorganic arsenic was indicated to laboratory animals, 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	Causes 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 reports that it affects the kidneys in dogs through intravenous administration (EHC 224, 2001), 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 repetition administration to mouse for 28 days and rat for 320 days affect the kidney and liver (EHC 224, 2001), the description of EHC 224 (2001) in human about arsenic and inorganic arsenic compounds "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. Skin, marrow and peripheral nerves were also affected" and in addition, based on the description of effect on the upper respiratory tract and lungs (ACGIH (7th, 2001)), 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)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 96-hour EC50=159.3microg/L of algae (Scenedesmus) (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1, and it is a metallic compound, behavior in water and bioaccumulative potential are unknown.