

GHS Classification

ID313

CAS 1303-28-2

Physical Hazards

Diarsenic pentaoxide

Date Classified: Jul. 24, 2006 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not applicable	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "solid" according to GHS definition
6 Flammable liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
7 Flammable solids	Not classified	—	—	—	Non-flammable (ICSC, 2004)
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Non-combustible (ICSC, 2004)
11 Self-heating substances and mixtures	Not classified	—	—	—	Non-combustible (ICSC, 2004)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 65.8g/100mL (20degC), ICSC (2004))
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Not classified	—	—	—	No data available, though being inorganic compounds containing oxygen. Classified as Division 6.1 (UN#1559) (UN Recommendations on the Transport of Dangerous Goods)
15 Organic peroxides	Not applicable	—	—	—	Not organic compounds
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 2	Skull and crossbones	Danger	Fatal if swallowed	Based on the rat LD50 (oral route) value of 8mg/kg (RTECS (2006)).
1 Acute toxicity (dermal)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	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: No data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	No data available As for the health hazards, refer to "ID1075, Sodium Arsenate, CAS: 13464-38-5," "ID1088, Sodium Arsenite, CAS: 7784-46-5," "ID54, Arsenic, CAS: 7440-38-2" and "ID55, Diarsenic Trioxide (Arsenious Acid), CAS: 1327-53-3."
6 Carcinogenicity	Category 1A	Health hazard	Danger	May cause cancer	Due to the fact that the substance is classified as Category K (Arsenic Compounds, Inorganic) by NTP (2005), Group 1 (ARSENIC AND ARSENIC COMPOUNDS) by IARC (1987), Category A1 (Arsenic and inorganic compounds) by ACGIH (2001) and Category 1 (Arsenic and inorganic compounds (as As)) by Japan Society for Occupational Health.
7 Toxic to reproduction	Classification not possible	—	—	—	No data available As for the health hazards, refer to "ID1075, Sodium Arsenate, CAS: 13464-38-5," "ID1088, Sodium Arsenite, CAS: 7784-46-5," "ID54, Arsenic, CAS: 7440-38-2" and "ID55, Diarsenic Trioxide (Arsenious Acid), CAS: 1327-53-3."
8 Specific target organs/systemic toxicity following single exposure	Category 1 (gastrointestinal tract, cardiovascular, nervous, blood system, respiratory organs, skin, kidneys, bone marrow, liver)	Health hazard	Danger	Causes damage to organs (gastrointestinal tract, cardiovascular, nervous, blood system, respiratory organs, skin, kidneys, bone marrow, liver)	Based on the human evidence: "acute toxicity of arsenic compounds manifests in humans as symptoms in the gastrointestinal tract and cardiovascular/nervous/blood systems, conjunctivitis and dermatitis along with nasal mucosal/pharyngeal/respiratory irritation, pollakiuria or anuria due to renal tubular blockage by hemoglobin coagulation" (IARC 84 (2004)) and "bone-marrow failure and hepatic hypertrophy" (EHC 224 (2001)).

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs, skin, liver, cardiovascular system)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (respiratory organs, skin, liver, cardiovascular system)	Based on the human evidence including "upper respiratory symptoms such as nasal catarrh, pharyngitis and nasal septum perforation," "respiratory disorder following exposure via drinking water," "pigmentation and keratosis," "cirrhosis," "cardiovascular abnormalities" and "peripheral vascular disorder" (IARC 84 (2004)).
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 3	—	—	Harmful to aquatic life	It was classified into Category 3 from 96 hours LC50=30.5 mg As/L(Diarsenic Pentoxide Equivalent: 46.8mg/L) of the fish (Morone Saxatilis) (EHC224, 2001).
11 Hazardous to the aquatic environment (chronic)	Category 3	—	—	Harmful to aquatic life with long lasting effects	Since acute toxicity was Category 3 and it was a metallic compound and an underwater action and bio-accumulation were unknown, it was classified into Category 3.