GHS Classification

ID250 Diantimony trioxide

CAS 1309-64-4 Date Classified: Apr. 20, 2006 (Environmental Hazards: Jun. 20, 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	-	-	-	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,2003)
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,2003)
11	Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (ICSC,2003)
12	Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (water solubility: 1.4mg/100mL (30degC), (ICSC, 2003))
13	Oxidizing liquids	Not applicable	-	-	-	Classified as "solid" according to GHS definition
14	Oxidizing solids	Classification not possible	-	-	-	Classification not possible due to the absence of data, though being inorganic compounds containing oxygen.
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 5	-	Warning	May be harmful if swallowed	Based on the description in the report on human epidemiological studies (CERI Hazard Data 2001-7 (2002)): Acute effects on human health are observed, with fatal cases reported.
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:	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	-	-	-	"Irritative" according to EU Risk Phrase (2005), but data that can serve as evidence are unknown.
3	Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Based on the evidence of "mild irritation" from rabbit eye irritation tests (CERI-NITE Hazard Data 2001-7 (2002)).
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	Not classified	-	-	-	Based on the absence of data on multi-generation mutagenicity tests, negative data on germ cell multi-generation mutagenicity tests in vivo (chromosome aberration tests), somatic cell mutagenicity tests in vivo (chromosome aberration tests) show negative (the results of a single administration show negative, while those of 21-day administration show an increase in the incidence of bone marrow chromosome aberrations). The judgment conforms to that of experts (i.e., classification based on the information obtained from the search of literatures). described in PATTY (4th, 2000) CERI Hazard Data 2001-7 (2002), IARC 47 (1989).
6	Carcinogenicity	Category 1B	Health hazard	Danger	May cause cancer	Due to the fact that the substance is classified as Category A2 by ACGIH (2001).
7	Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	Based on the description in the report on rat teratogenicity and reproductive toxicity tests (IARC 47 (1989)): Infertility and an increase in absorbed embryos (during pre- and post implantation stages) are observed at dosing levels not toxic to dams. The judgment conforms to that of experts: Although the substance could be classified into Category 2 based solely on the results of animal studies, Category 1B should be appropriate because epidemiological data are not considered "reliable enough to provide evidence for the classification into Category 1A."
8	Specific target organs/systemic toxicity following single exposure	Category 1 (heart) Category 2 (respiratory organs)	Health hazard	Danger Warning	Causes damage to organs (heart) May cause damage to organs (respiratory organs)	Based on the human evidence including "a total of fifty-six inpatients developed burning pain in the stomach, colicky pain and nausea" (IRIS 6 (1987)), "heart muscle necrosis was observed in autopsy specimens" (CERI Hazard Data 2001-7 (2002)), and the evidence from animal studies including "mild and local discoloration of the lungs, white protuberant lesions" (CERI Hazard Data 2001-7 (2002)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2. Refer to the GHS classification of Antimony Chloride (Antimony Trichloride) (CAS 10025-91-9).

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (respiratory organs)	In humans, many observations are reported. Some of them are; "chest X-rays revealed pneumonitis", "workers were found to have antimony pneumoconiosis and were suspected of having pneumoconiosis", "(Author) reported a correlation between the degree of radiographic abnormalities, amount of antimony retained in the lungs, and duration of exposure", "the presence of diffuse, densely distributed punctate opacities having a diameter <1 mm and concentrated in the mid-lung region". In experimental animals, some of the reported observations are as follows; "Gross necropsy revealed lung discoloration ", lesions of the lungs observed included particle-laden macrophages, degenerating macrophages, and cellular debris in the lumen of the alveoli", "interstitial fibrosis, alveolar-wall cell hypertrophy and hyperplasia", "granulomatous inflammation and granulomas"(IRIS (2002)) and "a decrease in body weights, interstitial fibrosis, alveolar-wall cell hypertrophy and hyperplasia, cuboidal and columnar cell metaplasia of the lungs, and cholesterol clefts (CERI Hazard Data Book for Chemical Substances 2001-7 (2002)). Based on these observations, the respiratory organs and gastrointetinal tract are considered to be the target organs. The effects are observed within the guidance values for Category 1. Therefore, the substance was classified as Category 1 (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 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 72 hours EC50=67mg/L of the algae (Selenastrum) (CERI Hazard Data, 2002).
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.