

GHS Classification

ID106

Silver

CAS 7440-22-4

Date Classified: Apr. 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 (1997))
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 "Non-combustible" (ICSC, 1997)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not classified because of a non-combustible substance (ICSC, 1997)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Inorganic compounds containing no oxygen and halogen.
15 Organic peroxides	Not applicable	-	-	-	Inorganic substance
16 Corrosive to metals	Not classified	-	-	-	It does not corrode steel and aluminum from an ionization tendency.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	-	-	-	SPECIES: Rat ENDPOINT: LD50 VALUE: >5000 mg/kg REFERENCE SOURCE: DFGOTvol.19 (2003)
1 Acute toxicity (dermal)	Not classified	-	-	-	It was set as the outside of Category from the rat LD50: >2000mg/kg (HSDB (2003)).
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	Not classified	-	-	-	Since it is reported to be "Slightly irritating" on rabbits (IUCLID (2000)), it was classified as out of Category.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	It was referred to as Category 2B from the statement of mild irritation by rabbit test / recovered in 48 hours (IUCLID (2000)).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: No data. Skin sensitization: Classified as Category 1 because of the descriptions that powder exposure causes allergic contact dermatitis (ACGIH (2001)) and that contact to accessories containing silver produced allergic reactions (PATTY (5th, 2001)).
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Classification not possible	-	-	-	There are descriptions that carcinogenicity was not observed in the test in which powder was intramuscularly injected to rats (PATTY (5th, 2001)). And there is no carcinogenic evidence to humans (PATTY (5th, 2001), (HSDB (2003)). But there is no information of classification evaluation organizations such as IARC, so it was determined that it cannot be
7 Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data
8 Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory)	Health hazard	Danger	Cause damage to organs (respiratory)	The substance was classified as Category 1 (respiratory system). Based on the reports that lung disorders with pulmonary edema developed after exposure to heated metallic silver fumes for 4 hours (ACGIH (2001)), and that irritation to the airways develops after occupational exposure to the dust (ATSDR ToxFAQs (1997)).

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (eye); Category 1 (respiratory organs:inhalation)	Health hazard	Danger	Causes damage to organs (eye) through prolonged or repeated exposure; Causes damage to organs (respiratory organs:inhalation) through prolonged or repeated exposure	The argyrisms (argyria) which is pigmentation in the skin and mucosa is produced by occupational exposure to powders (ACGIH (2001)) (PATTY (5th, 2001)), but as the description of dysfunction of decreased night vision (ATSDR ToxFAQs (1997)), it was classified into Category 1 (eye). It was classified into Category 1 (respirator: inhalation) with the description that it became bronchitis by deposition to the lungs by prolonged inhalation of a dust (PATTY (5th, 2001))(HSDB (2003)) .
10	Aspiration hazard	Not applicable	-	-	-	Solid (GHS definition)

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