GHS Classification

ID259 Silver nitrate

CAS 7761-88-8 Date Classified: May 24, 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 classified	–	–	–	No data available though being nitrates, containing chemical groups with explosive properties. Classified into Division 5.1 (UN#1493) (UN Recommendations on the Transport of Dangerous Goods)
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 classified	–	–	–	No data available, though being nitrates, containing chemical groups with explosive properties. Classified into "Division 5.1: oxidizing substances" (UN#1493) by UN Recommendations on the Transport of Dangerous Goods
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: 1g/0.4mL, Merck (13th, 2001))
13	Oxidizing liquids	Not applicable	–	–	–	Classified as "solid" according to GHS definition
14	Oxidizing solids	Category 2	Flame over circle	Danger	May intensify fire; oxidizer	Based on the classification by UN Recommendations on the Transport of Dangerous Goods: Division 5.1, oxidizing substances (no subsidiary risks), Packing group II (UN#1493).
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 4	Exclamation mark	Warning	Harmful if swallowed	Based on the rat LD50 (oral route) of 1,173mg/kg(CERI Hazard Data 2001-57 (2002)).
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	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Based on the testing data of guinea pig skin irritation tests (CERI Hazard Data 2001-57 (2002)):"Corrosive." Although classified into 1A-1C, the substance should be placed in Category 1A from the viewpoint of safety, if further subclassification is needed.
3	Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Based on the evidence of "moderate to severe irritation" in rabbit eye irritation tests (CERI Hazard Data 2001-57 (2002)), suggesting the substance is "severely irritating" to the eyes, and the evidence of skin corrosivity.
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	–	–	–	Insufficient data available
6	Carcinogenicity	Classification not possible	–	–	–	Due to the fact that current toxicity data are insufficient for classification and no existing classification is available.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of damage to the testes including seminiferous tubule necrosis, described in IUCLID(2000).
8	Specific target organs/systemic toxicity following single exposure	Category 1 (blood system) Category 3 (respiratory tract irritation)	Health hazard and Exclamation mark	Danger Warning	Causes damage to organs (blood system) (Respiratory tract irritation) May cause respiratory irritation	Based on the human evidence including "acute airway irritation" (PATTY (4th, 2000)), and the evidence from animal studies including "methemoglobinemia" (ICSC (J) (1998)), "cyanosis, diarrhea, increased locomotor activity and spasm"(CERI Hazard data 2001-57 (2002)). The effects on the central nervous system are considered as secondary, resulting from the effects on the blood system. The effects were observed at dosing levels within the guidance value ranges for Category 1.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (lung, kidneys, blood system)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (lung, kidneys, blood system)	Based on the human evidence including "lung and kidney damage and atherosclerosis" (CERI Hazard Data 2001-57 (2002)).

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 48 hours EC50=0.0006mg/L(Silver (I) Nitrate Equivalent: 0.0013mg/L) of the crustacea (Daphnia magna) (CERI Hazard Data, 2002).
11	Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Since acute toxicity was Category 1, there was bio-accumulation (BCF=600 (Existing Chemical Safety Inspections Data)) and it was a metallic compound and the underwater action was unknown, it was classified into Category 2.