

GHS Classification

ID255

Cadmium sulphate

CAS 10124-36-4

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 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	Classification not possible	-	-	-	No data available
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	Classification not possible	-	-	-	No data available
11 Self-heating substances and mixtures	Classification not possible	-	-	-	No data available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (water solubility: 75.5g/100mL (0degC), ICSC(2000))
13 Oxidizing liquids	Not applicable	-	-	-	Classified as "solid" according to GHS definition
14 Oxidizing solids	Not applicable	-	-	-	Cannot be classified 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 4	Exclamation mark	Warning	Harmful if swallowed	Based on the rat LD50 (oral route) of 357mg/kg (CaPSAR (1994)).
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
2 Skin corrosion / irritation	Classification not possible	-	-	-	Insufficient data available
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	Insufficient 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	Category 2	Health hazard	Warning	Suspected of causing genetic defects	Based on the absence of data on in vivo mutagenicity/genotoxicity tests and strong positive data on mutagenicity tests in vitro (cell gene mutation and chromosome aberration tests). Cadmium chloride (ID0254, CAS:10108-64-2), an analog of cadmium sulfate, is classified as Category 1B.
6 Carcinogenicity	Category 1A	Health hazard	Danger	May cause cancer	Due to the fact that the substance is classified as Category K (as Cadmium and Cadmium Compounds) by NTP (2005), Group 1 (as Cadmium and Cadmium Compounds) by IARC (1993) and Category 1 (as Cadmium and Cadmium Compounds) by the Japan Society for Occupational Health.
7 Toxic to reproduction	Classification not possible	-	-	-	Insufficient data available As for the reproductive toxicity, refer to "ID254, Cadmium Chloride, CAS: 10108-64-2."
8 Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	No data available The acute toxicity of cadmium compounds manifests in humans as "chemical pneumonia and pulmonary edema following inhalation exposure, and acute/severe nausea, vomiting and gastralgia after oral exposure" (EHC 134 (1992)).
9 Specific target organs/systemic toxicity following repeated exposure	Category 1 (bone, respiratory organs)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (bone, respiratory organs)	Based on the evidence from animal studies including "alveolar hyperplasia and fibrous stroma" (IARC 58 (1993)), "decreased blood calcium levels, radiologic evidence of osteoporosis," "multifocal bronchial alveolar hyperplasia" (EHC 134 (1992)). The effects were observed at dosing levels within the guidance value ranges for Category 1. The chronic toxicity of cadmium compounds manifests as "renal failure, pulmonary emphysema" (EHC 134 (1992)), "hypercalcinuria, decreased blood phosphate levels, nephrolithiasis, osteoporosis and osteomalacia" (CaPSAR (1994)).
10 Aspiration hazard	Classification not possible	-	-	-	No data available

Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
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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 LC50=0.001mg/L (Cadmium Sulfate Equivalent: 0.002mg/L) of the fish (King Salmon) (EHC135, 1992).
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 and it was a metallic compound, and since an underwater action and bio-accumulation were unknown, it was classified into Category 1.