

GHS Classification

ID254

Cadmium chloride

CAS 10108-64-2

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	Not classified	-	-	-	Non-flammable (ICSC,1999)
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,1999)
11 Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (ICSC,1999)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (water solubility: 140g/100mL (20degC), HSDB (2006))
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 chlorine.
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 3	Skull and crossbones	Danger	Toxic if swallowed	Based on the testing data of 88mg/kg representing the lowest value of rat LD50 (oral route) of 88-302mg/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	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description in HSDB (2005) of the human health effects: Short-term exposure causes smarting of the skin and first degree burns. The substance is considered "irritating" to the skin, although should be placed in Category 2 from the viewpoint of safety.
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	Category 1B	Health hazard	Danger	May cause genetic defects	Based on the description in IARC 58 (1993), multi-generation mutagenicity tests (dominant lethal tests, translocation tests) generally show negative; germ cell mutagenicity tests in vivo show weak negative (aneuploidy is detected in oocytes and sperm mother cells); somatic cell mutagenicity tests in vivo (chromosome aberration tests, micronucleus tests) show positive.
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	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the description in the report on rat and mouse teratogenicity tests (ATSDR (1999), CaPSAR (1994), IARC 58 (1993)): an increase in the incidence of abnormal sperm, a delay in the growth of the embryo, a decrease in copulation rates, seminiferous tubule necrosis.
8 Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory organs, liver, testes)	Health hazard	Danger	Causes damage to organs (respiratory organs, liver, testes)	Based on the human evidence including "damage to the liver (ATSDR (1999)), and the evidence from animal studies including "pulmonary edema, pneumonia, alveolar cell damage and necrosis (Type 1), focal degeneration/necrosis of parenchyma cells, necrosis of the testes" (ATSDR (1999)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1. And based on the human evidence including "acute toxicity following inhalation (chemical pneumonia, pulmonary edema) and ingestion (acute/severe nausea, vomiting, gastralgia)" (EHC 134 (1992)) (cadmium compounds).

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs, bone, liver, kidneys, blood system, heart)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (respiratory organs, bone, liver, kidneys, blood system, heart)	Based on the evidence from animal studies including "pulmonary inflammation, induction of hyperplastic changes in the lungs" (CaPSAR (1994)), "changes in calcium metabolism, osteomalacia (EHC 61 (1988)), necrosis of centrilobular hepatocytes and renal tubules, anemia, myocardial congestion, muscle fiber separation" (ATSDR (1999)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.
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 96 hours LC50=0.00205mg/L of the crustacea (Mysid Shrimp) (ECETOC TR91, 2003).
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.