

GHS Classification

ID1377

trizinc diphosphide

CAS 1314-84-7

Date Classified: Oct. 23, 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	-	-	-	Nonflammable (ICSC (J), 2001). (However, since it will decompose on contact with water, damp air or acid, and produce flammable fumes, such as phosphine, cautions are needed.)
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	-	-	-	Non-combustible (ICSC (J), 2001)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not combustible (ICSC(J) (2001))
12 Substances and mixtures, which in contact with water, emit flammable gases	Category 1	Flame	Danger	In contact with water releases flammable gases which may ignite spontaneously	Category 1 UNRTDG No. 1714, Class: 4.3, PG I
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 compound
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 2	Skull and crossbones	Danger	Fatal if swallowed	Based on the rat LD50 : 42.6mg/kg (99.9% purity), 43.8mg/kg (94% purity), 54mg/kg (87% purity) and 55.5mg/kg (83% purity) (Agricultural Chemical Registration Data, 1992), we adopted the LD 50 value with 99.9% purity to classify the substance as Category 2.
1 Acute toxicity (dermal)	Category 4	Exclamation mark	Warning	Harmful in contact with skin	It was set as Category 4 based on LD50 value of female rat (LD50 = 1123mg/kg) of the dermal administration test. (Rat LD50 = 1123mg/kg (female) and 1414mg/kg (male)(Agricultural Chemical Registration Data, 1992)).
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 four cases show the very slight redness 1 hour after eliminating coated gauze in the skin irritation test (3% zinc phosphites granules) using rabbits, but they were disappeared 24 hours afterward (Agricultural Chemical Registration Data, 1992), it carried out the outside of category.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	By the eye irritation tests (3% zinc phosphites granules) using a rabbit, inflammation of the iris, moderate stimulus to conjunctiva was accepted, and muddiness of the cornea of diffusion was accepted by one example in the ocular-mucous membrane of non-washing group. Although slowdown of the gloss of the cornea usually seen was accepted in 3 examples at 1 hour after medication, it became normal at 72 hours or at 7 days (Agricultural Chemical Registration Data). So it was set as Category 2B.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: no data available. Skin sensitization: by the skin sensitization study (3% zinc phosphites granules) in the Buehler method using a guinea pig, from the result that skin sensitization is negative (Agricultural Chemical Registration Data, 1992), it carried out the outside of Category.
5 Germ cell mutagenicity	Classification not possible	-	-	-	There is no test results of in vivo, and there is the negative result in in vitro gene mutagenicity test (Ames test) (Agricultural Chemical Registration Data, 1992). So it cannot be classified because of insufficient data.

6	Carcinogenicity	Classification not possible	-	-	-	No data available
7	Toxic to reproduction	Classification not possible	-	-	-	No data available
8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system)	Health hazard	Danger	Cause damage to organs (central nervous system)	Since it acts on the central nervous system by the hydrogen phosphide generated from zinc phosphide in the gastric as biological activity of zinc phosphide granules 3% and the lethal action was indicated (Agricultural Chemical Registration Data, 1992), it was considered as Category 1 (central nervous systems). In addition, although there is description that a mildest positive histologic changes was observed in the kidney and lungs in rat acute oral toxicity test (Agricultural Chemical Registration Data, 1992), data is insufficient only in these data.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver)	Health hazard	Warning	may cause damage to organs (liver) through prolonged or repeated	Since the small necrotic foci of liver was observed with high occurrence in male administration groups with 100 ppm (equivalent for estimate of 15mg/kg/day) in the three-month repeated oral feeding administration examination of a mouse, (Agricultural Chemical Registration Data, 1992), it was classified into Category 2 (liver) from comparison with a guidance value.
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)	Classification not possible	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data