

GHS Classification

ID625

Diphosphorus pentasulfide

CAS 1314-80-3

Date Classified: Mar. 23, 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	Classification not possible	-	-	-	Although it is classified into the class 4.1 as subsidiary risks in UNRTDG, there is no data with defined test for Category classification.
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	-	-	-	UNRTDG Class: 4.3 Subsidiary risks Class: 4.1
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 4.3, Subsidiary risks Class: Class: 4.1
12 Substances and mixtures, which in contact with water, emit flammable gases	Category 2	Flame	Danger	In contact with water releases flammable gases	UNRTDG Class: 4.3; PG II
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Containing no oxygen, chlorine and fluorine.
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 4.3, Subsidiary risks Class: Class: 4.1

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	Category 4 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: VALUE:389mg/kg; REFERENCE SOURCE: RTECS(2005)
1 Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	It was set as Category 5 based on rabbit LD50 value = 3160mg/kg (RTECS (2005)).
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	Category 2	Exclamation mark	Warning	Causes skin irritation	There are descriptions which suggest severe skin irritations on humans (HSFS (2001), ICSC (J), and (2004)) and moderate irritation with 24 hour exposure in rabbit skin irritation test (RTECS (2005)). Therefore, it was classified as
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	From description that strong stimulativeness, eye damage, a severe burn, and corrosiveness are indicated in humans (HSDB (2005), HSFS (2001), ICSC (J) (2004)), and from description that the moderate irritation is indicated by eye irritation test with a rabbit (comparing with the OECD Guidelines dosage is 1/5) (RTECS (2005)), it was judged that there was strong stimulative and critical lesional to an eye. So it was set as Category 1.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data available
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 2 (respiratory organs, systemic toxicity)	Health hazard	Warning	May cause damage to organs (respiratory organs, systemic toxicity)	Based on the description that it has respiratory irritation of the inhalation exposure (Priority 1, ACGIH (2001)), and since the possibilities of respiratory and systemic toxicity such as pulmonary edemas, salivation, nausea, vomiting, diarrhoea, tachypnea, palpitation, abnormal heart rhythm, perspiration, and exhaustion are indicated by the exposure to the gas/steam of hydrogen sulfide and phosphoric acid generated from phosphorous pentasulphide by hydrolysis besides airway irritationin (Priority 2, HSDB (2005)). So it was set as Category 2.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Classification not possible due to lack of data
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	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.