GHS Classification

ID578 Phosphorus pentachloride

CAS 10026-13-8 Date Classified: Apr. 20, 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	–	–	–	Non-combustible (ISCS (1997))
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	–	–	–	Not classified because of "Non-combustible" (ICSC, 1997)
11	Self-heating substances and mixtures	Not classified	–	–	–	Not classified because of a non-combustible substance.(ICSC (1997))
12	Substances and mixtures, which in contact with water, emit flammable gases	Not classified	–	–	–	Although it reacts violently with water, what are generated is phosphates and hydrogen chlorides, and is all nonflammable.
13	Oxidizing liquids	Not applicable	–	–	–	Solid (GHS definition)
14	Oxidizing solids	Not classified	–	–	–	Not classified in UNTDG Class: 5.1
15	Organic peroxides	Not applicable	–	–	–	Inorganic substance
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	SPECIES: Rat ENDPOINT: LD50 VALUE: 600 mg/kg REFERENCE SOURCE: IUCLID (2000)
1	Acute toxicity (dermal)	Classification not possible	–	–	–	No data available
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	–	–	–	There was a statement of rat LC50: 0.205mg/L (RTECS (2004)). But it was presupposed that test time is unstated. Therefore, it cannot be classified since data is insufficient. However, when there are necessities, such as a display, handling similar to category 2 is recommended from a viewpoint of safety.
2	Skin corrosion / irritation	Category 1B	Corrosion	Danger	Causes severe skin burns and eye damage	Based on the descriptions that it is corrosive in rabbit test (IUCLID (2000)) and that it is corrosive to skin (ICSC (1997)), and the fact its UN Transportation Classification is class 8-II, it was classified as Category 1B.
3	Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	It was categoried into Category 1 from skin corrosivity / irritation being categoried into Category 1B.
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)–	No data available
5	Germ cell mutagenicity	Classification not possible	–	–	–	Classification not possible due to lack of data
6	Carcinogenicity	Classification not possible	–	–	–	Classification not possible due to lack of data and reports

7	Toxic to reproduction	Classification not possible	–	–	–	Classification not possible due to lack of data
8	Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory); Category 2 (circulatory system)	Health hazard	Danger; Warning	Cause damage to organs (respiratory); May cause damage to organs (circulatory system)	Due to the description that it irritates the airway and causes bronchitis (ACGIH (2001)) and lung edema (ICSC (1997)) by inhalation of fume, it was classified into Category 1 (respiratory system). Although there is the description that oral intake, coldness of skin by skin contact, change of pules, and the cardiovascular system collapse with shallow breathing are the major cuases for immediate death (HSDB (2005)). And it is in priorty 2, therefore, it was classified into Category 2(circulatory organ).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (bone)	Health hazard	Warning	May cause damage to organs (bone) through prolonged or repeated exposure	Although there is the statement that the disability of bone is caused by inhaling over a long times (HSDB (2005)) , since it was priority 2, it was classified in Category 2 (bone).
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