

GHS Classification

ID628

phosphine

CAS 7803-51-2

Date Classified: Jul. 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	-	-	-	Gas (GHS definition)
2 Flammable gases	Category 1	-	Danger	Extremely flammable gas	Ignitable when in a mixture of 13% or less by volume in air. UNRTDG Subsidiary risks Class: 2.1
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not classified	-	-	-	UNRTDG Class: 2.2, Subsidiary risks Class: 2.1
5 Gases under pressure	Compressed gas or Liquefied gas	Gas cylinder	Warning	Contains gas under pressure; may explode if heated	According to its physical state when packed, classified in; Compressed gas: entirely gaseous at -50degC or, Liquefied gas: partially liquid at temperatures above -50degC (a critical temp. >-50degC)
6 Flammable liquids	Not applicable	-	-	-	Gas (GHS definition)
7 Flammable solids	Not applicable	-	-	-	Gas (GHS definition)
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Gas (GHS definition)
9 Pyrophoric liquids	Not applicable	-	-	-	Gas (GHS definition)
10 Pyrophoric solids	Not applicable	-	-	-	Gas (GHS definition)
11 Self-heating substances and mixtures	Not applicable	-	-	-	Gas (GHS definition)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	Gas (GHS definition)
13 Oxidizing liquids	Not applicable	-	-	-	Gas (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Gas (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Gas (GHS definition)
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 2.3, Subsidiary risks Class: 2.1

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not applicable	-	-	-	Gas (GHS definition)
1 Acute toxicity (dermal)	Not applicable	-	-	-	Gas (GHS definition)
1 Acute toxicity (inhalation: gas)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	It was considered as Category 1 based on rat LC50 (4 hours) level: 11ppm (EHC 73, 1988, ACGIH 7th, 2001, industrial hygiene academic society recommendation, 1998).
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Gas (GHS definition)
2 Skin corrosion / irritation	Classification not possible	-	-	-	No data available
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	-	-	-	No data available
5 Germ cell mutagenicity	Not classified	-	-	-	We found the negative results (IRIS and 2006, Japan Society for Occupational Health Recommendation of Occupational Exposure Limits, 1998) by the dominant lethality tests using the mouse, which were in vivo over generation mutagenicity tests using the germ cells, and found the negative results (NTP DB, 2006, Japan Society for Occupational Health Recommendation of Occupational Exposure Limits, 1998) by the micronucleus tests which used the rat or the mouse marrow cells and peripheral blood, which were the in vivo mutagenicity tests using the somatic cells. Therefore we classified it as Out Of Category.
6 Carcinogenicity	Not classified	-	-	-	Since it was classified into D according to EPA in 1996 (IRIS, 2006), it carried out the outside of Category.
7 Toxic to reproduction	Not classified	-	-	-	Based on description that specific reproductive toxicity was not observed at least 3 ppm (about 1/2 of LD50 value) considered to be the highest dosage in which a repeated administration is possible without mortality in a maternal animals in an inhalation atmospheric exposure test to the pregnancy rat (IRIS (2006)), it was considered as on the outside of Category.

8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system, respiratory, liver, gastrointestinal tract, cardiovascular system)	Health hazard	Danger	Cause damage to organs (nervous system, respiratory, liver, gastrointestinal tract, cardiovascular system)	Based on the descriptions that in the inhalation exposure test using rat or mouse, strong airway irritation and effects on nerve systems such as lying in prone positions and tremors were observed within the guidance value range of Category 1 (ACGIH (7th, 2001) and Japan Society for Occupational Health Recommendation of Occupational Exposure Limits (1998)), that effects on nerve systems, digestive canals and respiratory systems are identified in the acute human exposure (EHC 73 (1988) and IRIS(2006)), and that pulmonary edema, jaundice, hepatomegaly, abnormal sensation, shivering, localized myocardial necrosis, nausea, vomiting and diarrhea were identified in the human evidence of exposure including fatal cases (IRIS (2006), Japan Society for Occupational Health Recommendation of Occupational Exposure Limits(1998)). So it was set as Category 1 (nervous systems, respiratory systems, liver, digestive canals, cardiovascular
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	Based on the description that the serious toxic effect by the highest dosage within a repeatedable doses was not acknowledged and no acknowledgement of death in the inhalation exposure test using a rat, a mouse or a guinea pig of EHC 73 (1988), IRIS (2006) and industrial hygiene academic society advice (1998), and the discription that in occupational evidence of exposure, symptom was acknowledged for every exposure, but there is no a chronic effects in ACGIH (7th, 2001) and industrial hygiene academic society advice (1998), so it was classified to as the outside of Category.
10	Aspiration hazard	Not applicable	-	-	-	Gas (GHS definition)

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.