

GHS Classification

ID217

Tributyl phosphate

CAS 126-73-8

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	-	-	-	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
6 Flammable liquids	Not classified	-	-	-	The flash point is 146degC (open cup flash test) (ICSC, 1999)
7 Flammable solids	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not classified	-	-	-	Not pyrophoric when in contact with air at ordinary temperatures; the auto-ignition temperature is 410degC (ICSC, 1999)
10 Pyrophoric solids	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to liquid substances are not available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (insoluble)(ICSC,1999)
13 Oxidizing liquids	Classification not possible	-	-	-	Classification not possible due to the absence of data, though being organic compounds containing oxygen bound to carbon and hydrogen.
14 Oxidizing solids	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no "-O-O-" structure
16 Corrosive to metals	Classification not possible	-	-	-	No data 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	Based on the LD50 value of 1,430mg/kg calculated from the testing data of rat LD50 (oral route) of 1,390mg/kg (SIDS (2004)), 1,400mg/kg (EHC 112 (1991)), 1,552mg/kg (EHC 112 (1991)), 3,000mg/kg (EHC 112 (1991)), and 3,350mg/kg (SIDS (2004)).
1 Acute toxicity (dermal)	Classification not possible	-	-	-	Insufficient data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Due to the fact that the substance is "liquid" according to the GHS definition.
1 Acute toxicity (inhalation: vapour)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Based on the rat LC50 (4 hours) value of 152ppm, calculated from the testing data of rat LC50 (inhalation of vapour) of 1,359mg/L (4 hours) (EHC 112 (1991)), was lower than 90% of the saturated vapour concentration (26,300ppm) under a saturated vapour pressure of 2,66kPa (20degC) (CERI Hazard Data 2000-56 (2001)), the substance was considered as "vapour containing substantially no mist" and was classified based on standard values expressed in ppm.
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 the report on rabbit skin irritation tests (EHC 112 (1991)): Erythema and edema are observed, along with severe irritation (though the results are not those of 4-hour application).
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the description in the report on rabbit eye irritation tests (EHC 112 (1991)): "moderate irritant."
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: Insufficient data available Skin sensitization: Insufficient data available
5 Germ cell mutagenicity	Not classified	-	-	-	Based on the absence of data on germ cell multi-generation mutagenicity tests/mutagenicity tests in vivo and negative data on somatic cell mutagenicity tests in vivo (chromosome aberration tests), described in SIDS (2004), EHC 112 (1991).
6 Carcinogenicity	Classification not possible	-	-	-	Cannot be classified due to lack of existing classification.
7 Toxic to reproduction	Not classified	-	-	-	Based on the description in the report on rat two-generation and developmental toxicity tests (SIDS (2004)): No reproductive toxicity is observed, while the developmental toxicity is considered a secondary effect of maternal toxicity.
8 Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	No data available
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (testes, bladder, nervous system)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (testes, bladder, nervous system)	Based on the evidence from animal studies including "seminiferous tubule degeneration, epithelial hyperplasia in the mucous membrane of the bladder, a mild but significant decrease in the nerve conduction velocity in the tail, a reduction of the Schwann cell process in nonmyelinated sciatic nerves (observed through scanning electron microscopy)" (EHC 112 (1991)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2.
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 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 48 hours EC50=2.6mg/L of the crustacea (Daphnia magna) (SIDS, 2004).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Although acute toxicity was Category 2 and the bio-accumulation potential was low (BCF=20(Existing Chemical Safety Inspections Data)), since there was no rapidly degrading (the decomposition by BOD: 0%(Existing Chemical Safety Inspections Data)), it was classified into Category 2.