

GHS Classification

ID1306

CAS 78-48-8

Physical Hazards

S,S,S-tributylphosphorotrithioate

Date Classified: Jan. 23, 2007 (Environmental Hazards: Mar. 31, 2006)

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	-	-	-	Liquid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Liquid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Liquid (GHS definition)
6 Flammable liquids	Not classified	-	-	-	The statement that flash point was 93.3 degC (closed cup) was in All Data for Poisonous and Violent Substances Control Law MSDS controlled substance (Chemical Daily, 2001), and it was considered as out of Category.
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
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 classified	-	-	-	The flash points is 93.3 degC (closed cups) (the substance all data for Poisonous and Violent Substances Control Law MSDS, Chemical Daily, 2001), and even if it contacts the air of normal temperatures, it does not ignite spontaneously.
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (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 (the water solubility is obtained)
13 Oxidizing liquids	Classification not possible	-	-	-	No data available
14 Oxidizing solids	Not applicable	-	-	-	Liquid (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 3	Skull and crossbones	Danger	Toxic if swallowed	Based on the value LD50 = 150mg/kg calculated by the rat oral LD50 values: 150mg/kg (RTECS (2004)), 200 and 325mg/kg (HSDB (2002)), the substance was classified as Category 3.
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	Rat LD50 = 168mg/kg (RTECS (2004)). Rabbit LD50 = 97mg/kg (RTECS (2004)). The lower value (LD50 = 97mg/kg) was adopted, and it was set as Category 2.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Category 3	Skull and crossbones	Danger	Toxic if inhaled	It was set as Category 3 based on mouse inhalation LC50 (1hr) = 3804mg/m3 (RTECS (2004)) (4-hour equivalent 0.951mg/L). The saturated concentration of this product is 0.0168ppm (equivalent 0.22mg/m3), and it is presumed that the experiment was conducted in mist conditions.
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	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data. In addition, there is that negative report an in vitro sister-chromatid-exchange test (HSDB (2002)).
6 Carcinogenicity	Classification not possible	-	-	-	No data available

7	Toxic to reproduction	Classification not possible	-	-	-	Although there are studies of medication in pre-mating and pregnancy term to female rats (RTECS (2004)), it cannot be classified due to inadequate description and insufficient data. In addition, teratogenicity has not been observed (sourcebook given in RTECS (2004)).
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	Although the influence on a nervous system and a cholinergic action are suggested as organophosphate insecticides (HSDB (2002)), there is no specific knowledge, and it cannot be classified due to insufficient data.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system) through prolonged or repeated exposure	Since the influence on a nervous system (paralysis) was observed in delayed neurotoxicities studies for 90 days using hens (IRIS (1992)), it was classified into Category 2 (nervous system). In addition, since the effect was observed within 20-80 mg/kg, it was handled like the Category guidance value of a rat.
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 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 96-hour LC50=4.55microg/L of Crustacea (Mysid shrimp) (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity is Category 1, supposed not rapidly degrading (BIOWIN), and bioaccumulative (log Kow=5.7 (PHYSPROP Database, 2005)).