

GHS Classification

ID283

CAS 2597-03-7

Physical Hazards

Ethyl 2-[(dimethoxyphosphinothioyl)thio]-2-phenylacetate; Phenthoate; PAP

Date Classified: Nov. 20, 2006 (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	—	—	—	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 165-170degC (HSDB (2006))
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	Classification not possible	—	—	—	No data available
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 (test temperature: 140degC).
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 10.29mg/L (20degC, pH6.05), Agricultural Chemical Registration Data)
13 Oxidizing liquids	Classification not possible	—	—	—	Classification not possible due to lack of data, though being organic compounds containing oxygen (but not chlorine and fluorine) bound to the elements other than 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	—	—	—	Classification not possible due to lack of data.

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 rat LD50 (oral route) value of 249mg/kg (Agricultural Chemical Registration Data (1978)).
1 Acute toxicity (dermal)	Category 5	—	Warning	May be harmful in contact with skin	Based on the mouse LD50 (dermal route) value of 2,620mg/kg (Agricultural Chemical Registration Data (1966)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a liquid according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: dust, mist)	Category 4	Exclamation mark	Warning	Harmful if inhaled	Based on the rat LC50 (inhalation route) value of 3.17mg/L (Agricultural Chemical Registration Data (1980)).
2 Skin corrosion / irritation	Not classified	—	—	—	Based on the description in the report on rabbit skin irritation tests (Agricultural Chemical Registration Data (1978)): Non-irritating to the skin.
3 Serious eye damage / eye irritation	Not classified	—	—	—	Based on the description in the report on rabbit eye irritation tests (Agricultural Chemical Registration Data (1975)): Non-irritating to the eye.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Not classified	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	Respiratory sensitization: No data available Skin sensitization: Based on a sensitization rate of 0% reported in guinea pig skin sensitization studies using the Buehler method (Agricultural Chemical Registration Data (1990)).
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data on in vitro chromosome aberration tests (Agricultural Chemical Registration Data (1989)), in vitro reverse mutation tests (Agricultural Chemical Registration Data (1976)) and in vivo micronucleus tests on mouse bone marrow cells (Agricultural Chemical Registration Data (2004)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in 2-year (rats) and 18-month (mice) carcinogenicity studies, reported in Agricultural Chemical Registration Data (1991).
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of increased pup death at doses causing adverse effects on parental animals in rat 2-generation reproduction studies (Agricultural Chemical Registration Data (1987)). Since it cannot be clearly demonstrated that the pup mortality is secondary to parental toxicity, the substance is classified into Category 2.
8 Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system)	In rat single dose toxicity studies, clinical signs and symptoms including reduced locomotor activity, tremors, salivation, lacrimation and clonic convulsions were reported (Agricultural Chemical Registration Data (1978)). These effects were observed at dosing levels within the guidance value ranges for Category 1.
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood system, liver)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (blood system)	In rat repeated dose toxicity studies, an increase in white blood cell counts, a decrease in acidophile/red blood cell counts, and vacuolization of centrilobular hepatocytes were found (Agricultural Chemical Registration Data (1973)). These effects 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 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 48 hours EC50=0.00025mg/L of the crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2005).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Although acute toxicity is Category 1 and bio-accumulation is low (BCF=34(Existing Chemical Safety Inspections Data,)), since there was no rapidly degrading (the decomposition by BOD: 2%(Existing Chemical Safety Inspections Data)), it was classified into Category 1.