

GHS Classification

ID276

CAS 640-15-3

Physical Hazards

S-2-(Ethythio)ethyl O,O-dimethyl phosphorodithioate; Thiometon

Date Classified: Aug. 22, 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	Classification not possible	—	—	—	No data available
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	—	—	—	Classified into Division 6.1 (UN#3018 (Organophosphorous Pesticide, liquid, toxic) (ICSC, 1999)) (UN Recommendations on the Transport of Dangerous Goods).
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 (water solubility: 0.02g/100mL (25degC), ICSC (1999))
13 Oxidizing liquids	Not classified	—	—	—	No data available, though being organic compounds containing oxygen bound to elements other than carbon and hydrogen. Classified into Division 6.1 (UN#3018 (Organophosphorous Pesticide, liquid, toxic) (ICSC, 1999)) (UN Recommendations on the Transport of Dangerous Goods).
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	Not classified	—	—	—	Classified into Division 6.1 (UN#3018 (Organophosphorous Pesticide, liquid, toxic) (ICSC, 1999)) (UN Recommendations on the Transport of Dangerous Goods).

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Skull and crossbones	Danger	Fatal if swallowed	Based on the LD50 value of 50mg/kg, calculated from the testing data of rat LD50 (oral route) of 40mg/kg (RTECS (2006)), 120mg/kg and 130mg/kg (HSDB (2003)).
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	Based on the rat LD50 (dermal route) value of 179mg/kg (RTECS (2006)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "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
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2 Skin corrosion / irritation	Category 3	—	Warning	Causes mild skin irritation	Based on the description in the report on rabbit skin irritation tests (RTECS (2006)): "Mild."
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Based on the description in the report on rabbit eye irritation tests (RTECS (2006)): "Severe." The substance is classified as Category 1 from the viewpoint of safety.
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: No data available Skin sensitization: No data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	No data available
6 Carcinogenicity	Classification not possible	—	—	—	No data available
7 Toxic to reproduction	Classification not possible	—	—	—	No data available
8 Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system, respiratory organs, cardiovascular system)	Health hazard	Danger	Causes damage to organs (central nervous system, respiratory organs, cardiovascular system)	Based on the evidence from animal studies including "tremor, spasm, reddish tear, dyspnea," "reduced cholinesterase activity in the brain, heart and adrenal accompanied by sinus bradycardia" (IPCS (1969) EVALUATIONS OF SOME PESTICIDE RESIDUES IN FOOD). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (kidneys)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (kidneys)	Based on the evidence from animal studies: "red blood cell, white blood cell and amorphous urate crystals were found in the urine" (IPCS PESTICIDE RESIDUES IN FOOD (1979)). 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 96 hours LC50=8mg/L of the fish (Rainbow Trout) (PDS, 1988).
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 (log Kow=3.15(PHYSROP Database, 2005)), since there was no rapidly degrading (BIOWIN), it was classified into Category 2.