

GHS Classification

ID433

CAS 41198-08-7

Physical Hazards

O-4-bromo-2-chlorophenyl O-ethyl S-propyl phosphorothioate

Date Classified: Dec. 18, 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	—	—	—	Classification not possible due to lack of data. The reagent (purity: 98%) has the flash point of 100degC (c.c.) according to some reports, which could be "Not classified."
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	—	—	—	Considered non-pyrophoric when in contact with air at ordinary temperatures since the substance is stable to heat (up to 150degC) (Agricultural Chemical Registration Data)
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11 Self-heating substances and mixtures	Not classified	—	—	—	Stable to heat (up to 150degC) (Agricultural Chemical Registration Data)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 28mg/L (22degC, pH6.9) (Agricultural Chemical Registration Data))
13 Oxidizing liquids	Classification not possible	—	—	—	Cannot be classified though being organic compounds containing oxygen bound to 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 4	Exclamation mark	Warning	Harmful if swallowed	Based on the rat LD50 (oral route) value of 510mg/kg (Agricultural Chemical Registration Data (1984)).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the rat LD50 (dermal route) value of >4,000mg/kg, together with the absence of mortality (Agricultural Chemical Registration Data (1984)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a liquid according to the GHS criteria 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 4.45mg/kg (Agricultural Chemical Registration Data (1984)).
2 Skin corrosion / irritation	Category 3	—	Warning	Causes mild skin irritation	Based on the evidence of mild irritation observed in rabbit skin irritation tests (Agricultural Chemical Registration Data (1984)).
3 Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	Based on the evidence of mild irritation with the effects reversible within 4 days, observed in rabbit eye irritation tests (Agricultural Chemical Registration Data (1988)).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Category 1	(Respiratory sensitization) — (Skin sensitization) Exclamation mark	(Respiratory sensitization) — (Skin sensitization) Warning	(Respiratory sensitization) — (Skin sensitization) May cause an allergic skin reaction	Respiratory sensitization: No data available Skin sensitization: Based on positive results in guinea pig skin sensitization tests performed according to the Maximization method and OECD TG406 (Agricultural Chemical Registration Data (2004)).
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data in in vitro chromosome aberration tests, in vitro reverse mutation tests (Agricultural Chemical Registration Data (1984)) and mouse in vivo micronucleus tests (Agricultural Chemical Registration Data (2004)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in rat and mouse carcinogenicity studies (Agricultural Chemical Registration Data (1984)).
7 Toxic to reproduction	Not classified	—	—	—	Based on no evidence of adverse effects on reproduction or offspring development observed in rat 2-generation reproduction studies and rat/rabbit teratogenicity studies (Agricultural Chemical Registration Data (1984)).
8 Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	Based on the evidence from animal studies including "lacrimation," "convulsions," "salivation," and "reduced motor functions" (Agricultural Chemical Registration Data (1984)). These effects were observed at dosing levels within the guidance value ranges for Category 2.

9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	—	—	—	In repeat dose toxicity studies in animals, cholinesterase inhibition was detected, but no target organs were identified from evidence reported (Agricultural Chemical Registration Data (1984)).
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=0.84microg/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	Since acute toxicity was Category 1 and there was no rapidly degrading (BIOWIN), and since there was bio-accumulation (log Kow=4.68 (PHYSPROP Database, 2005)), it was classified into Category 1.