

## GHS Classification

**ID325**

**CAS 25311-71-1**

### Physical Hazards

**O-Ethyl O-2-(isopropoxycarbonyl)phenyl N-isopropylphosphoramidothioate; Isofenphos**

Date Classified: Oct. 23, 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 >115degC (IUCLID (2000))
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.
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 23.8ppm (20degC), Merck (13th, 2001))
13 Oxidizing liquids	Classification not possible	—	—	—	Classification not possible due to lack of data, though being organic compounds containing oxygen 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	—	—	—	No data available

### Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 1	Skull and crossbones	Danger	Fatal if swallowed	Based on the LD50 value of 4.2mg/kg calculated from the testing data of rat LD50 (oral route) of 2.11mg/kg (RTECS (2006)), 20mg/kg (IUCLID (2000)) and 28mg/kg (HSDB (2006)).
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	Based on the rabbit LD50 (dermal route) value of 162mg/kg (RTECS (2006)) and 162mg/kg (HSDB (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
1 Acute toxicity (inhalation: dust, mist)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Based on the LC50 value of 0.144mg/L calculated from the testing data of rat LC50 (inhalation of dust/mist) of 0.144mg/L (4 hours) (RTECS (2006)), 0.2mg/L (4 hours) (IUCLID (2000)) and 0.3mg/L (4 hours) (HSDB (2006)).
2 Skin corrosion / irritation	Category 3	—	Warning	Causes mild skin irritation	Based on the description in the report on rabbit skin irritation tests (4 hour application) (IUCLID (2000)): "Slightly irritating."
3 Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	Based on the description in the report on rabbit eye irritation tests (IUCLID (2000)): "Slightly irritating."
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: The substance could be "Not classified" based on the negative results obtained in a guinea pig Maximization test (IUCLID (2000)). However, classification is not possible with only one set of data available.
5 Germ cell mutagenicity	Classification not possible	—	—	—	Insufficient data available
6 Carcinogenicity	Classification not possible	—	—	—	Classification not possible based on expert judgment in the absence of existing classification, though some data are available on carcinogenicity studies with mice and rats.
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of adverse effects on the offspring at doses inducing parental toxicity, described in IUCLID (2000).
8 Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system)	Based on the human evidence: "late progressive polyneuropathy followed by pyramidal findings in a 20-year old agricultural laborer who ingested Isofenphos solution during his work" (HSDB (2003)). Also based on the evidence from animal studies including "delayed neuropathy" (EHC 63 (1986)). The effects on humans are classified into Category 2 as the priority rating of the referenced studies is 2, whereas the effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1 (nervous system), and thus classified into Category 1.
9 Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system, testes)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (nervous system, testes)	Based on the evidence from animal studies: "toxic signs, such as salivation and muscle twitching, were observed." "hypoplasia of the testis were observed in several males; some exhibited foci of softening ("degeneration processes") in the brain stem" (JMPR 552, 1982). "pathological lesions, such as severe degeneration of the pathways in the spinal cord and axonal degeneration in the medulla oblongata and cerebellum, which are typical of delayed neuropathy" (JMPR 744, 1986). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.

10	Aspiration hazard	Classification not possible	—	—	—	No data available
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### 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=1.6ppb of the crustacea (Daphnia magna) (AQUIRE, 2003).
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=4.12 (PHYSPROP Database, 2005)), it was classified into Category 1.