

## GHS Classification

**ID358**

**CAS 36335-67-8**

### Physical Hazards

**O-Ethyl O-(6-nitro-m-tolyl) sec-butylphosphoramidothioate; Butamifos**

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	Classification not possible	—	—	—	Classification not possible due to lack of data on the decomposition energy, though the substance contains nitro groups with its oxygen budget calculated at -156, and decomposes at about 230degC (Agricultural Chemical Registration Data).
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. The flash point is reported to be about 192degC (Sumitomo Chemical (1984)), which is "Not classified."
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data, though containing nitro groups with explosive 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: 6.19mg/L (25degC) (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 4	Exclamation mark	Warning	Harmful if swallowed	Based on the rat LD50 (oral route) value of 630mg/kg (Agricultural Chemical Registration Data (1981)).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the rat LD50 (dermal route) value of >5,000mg/kg (Agricultural Chemical Registration Data (1981)).
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)	Classification not possible	—	—	—	Classification not possible, though no evidence of death was found at the highest dose of 1.2mg/L in rat acute toxicity studies using the inhalation route of exposure (Agricultural Chemical Registration Data (1983)).
2 Skin corrosion / irritation	Not classified	—	—	—	Based on the data on rabbit skin irritation tests (Agricultural Chemical Registration Data (1981)): "Non-irritating to the skin."
3 Serious eye damage / eye irritation	Not classified	—	—	—	Based on the data on rabbit eye irritation tests (Agricultural Chemical Registration Data (1981)): "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: No skin sensitizing potential was found in guinea-pig skin sensitization studies (Agricultural Chemical Registration Data (1981)).
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data on in vitro reverse mutation tests (Agricultural Chemical Registration Data (1981)) and chromosome aberration tests (Agricultural Chemical Registration Data (1989)), and in vivo micronucleus tests on mouse bone marrow cells (Agricultural Chemical Registration Data (1981)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related evidence of tumor formation observed in 2-year (rats) and 18-month (mice) carcinogenicity studies (Agricultural Chemical Registration Data (1981)).
7 Toxic to reproduction	Not classified	—	—	—	Based on no evidence of adverse effects on reproduction and offspring development in rat 3-generation reproduction studies (Agricultural Chemical Registration Data (1981)) and rat/rabbit teratogenicity studies (Agricultural Chemical Registration Data (1981, 1989)).
8 Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	In rat single dose toxicity studies, clinical signs and symptoms including reduced locomotor activity, abnormal respiration, piloerection, hypersensitivity, salivation, lacrimation, exophthalmos, muscular fasciculations, and limb or generalized ataxia were reported (Agricultural Chemical Registration Data (1981)). 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 the available rat and mouse subacute toxicity studies (Agricultural Chemical Registration Data (1981, 1985)), cholinesterase inhibition and reduced body weight gains were reported. However, classification is not possible since no evidence of other general symptoms or pathological findings was observed at the doses tested.
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 72 hours EbC50=17microg/L of the algae (Green Algae) (Agricultural Chemical Registration Data, 2004).
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=4.62 (PHYSPROP Database, 2005)), it was classified into Category 1.