

## GHS Classification

**ID1043**

**CAS 10311-84-9**

### Physical Hazards

**2-chloro-1-phthalimidoethyl O,O-diethyl phosphorodithioate**

Date Classified: Apr. 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	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
2 Flammable gases	Not applicable	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Classification not possible	-	-	-	No data available
8 Self-reactive substances and mixtures	Not applicable	-	-	-	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-pyrophoric when in contact with air at a room temperature and used as agricultural chemicals.
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to solid (melting point <= 140degC) substances are not available.
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (almost insoluble in water)
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	No data available
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available.

### 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	Considering the data of LD50= 21mg/kg obtained from statistical processing of 6 rat data of JMPR(Joint Meeting on Pesticide Residues-Monographs&Evaluations)363 (WHO/IPCS, 1976), which was equivalent to Priority 1, it was classified as category 2.
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	It was set as Category 2 based on rabbit LD50 = 145mg/kg (JMPR(Joint Meeting on Pesticide Residues-Monographs&Evaluations)363 (WHO/IPCS, 1976) equivalent to Priority 1).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Not applicable	-	-	-	The vapor pressure of this product is very low, and it was thought that steam exposure was almost impossible. Therefore it was out of classification.
1 Acute toxicity (inhalation: dust, mist)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	From rat LC50 = 0.13mg/L of JMPR(Joint Meeting on Pesticide Residues-Monographs&Evaluations)363 (WHO/IPCS, 1976) equivalent to Priority 1, it was set as Category 2.
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	There is description that indicate minor irritation to the result of 2 examinations of the rabbit (slight irritation) (JMPR(Joint Meeting on Pesticide Residues-Monographs&Evaluations)363 (WHO/IPCS, 1976)), and it was set as
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	There is the description of slight stimulative in the examination of rabbit (Mild irritation) (JMPR (Joint Meeting on Pesticide Residues - Monographs & Evaluations)363(WHO/IPCS, 1976)), it was classified into Category 2B.
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)-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Not classified	-	-	-	There are two reports of the carcinogenicity test in rats for two-year administration in JMPR(Joint Meeting on Pesticide Residues - Monographs & Evaluations)363(WHO/IPCS, 1976) corresponding to Priority 1, and no finding of tumorigenesis was observed in each report (the number of animals was small in one report). Therefore, it was out of the Category 1.

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	There are 5 reports of reproduction toxicity studies in JMPR (Joint Meeting on Pesticide Residues–Monographs & Evaluations) 363 (WHO/IPCS, 1976), RTECS (2003), and HSDB (2003), and in treatment groups, the rise of embryo and fetus lethality, and deformed generating are described. These are not necessarily dosage dependence. And it is considered that in one case of JMPR, the toxicity of chemicals is not the main causes for increased mortality of embryonic and fetus. Since any data did not have the descriptions on general toxicity of parent animals and reproductive toxicity had been manifestation. So it was considered as Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	The substance was classified as Category 2 (nervous system) based on the reports about the effects in humans in SITTIG (4th, 2002) and HSDB (2003), which are priority 2 references. (The substance inhibits cholinesterase, and causes various systemic symptoms resulting from its neurotoxicity.)
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system, liver)	Health hazard	Danger	Causes damage to organs (nervous system, liver) through prolonged or repeated exposure	We classified it into Category 1 (the nervous systems, liver) based on the description of JMPR (Joint Meeting on Pesticide Residues–Monographs & Evaluations) 363 (WHO/IPCS, 1976; equivalent to Priority 1) in rats and human.
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	Since a potential that relevant toxicity was discovered in the water solubility (0.18 mg/L(PHYSPROP Database, 2005)) of this substance cannot be denied from 96–hour LC50=1.80–8.30mg/L of fishes (Goldfish) (HSDB, 2004), it was classified into Category 1.
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity is Category 1, supposed not rapidly degrading (BIOWIN), and bioaccumulative (log Kow=4.69 (PHYSPROP Database, 2005)).