

GHS Classification

ID1006

(E)-3-(dimethylamino)-1-methyl-3-oxoprop-1-enyl dimethyl phosphate

CAS 141-66-2

Date Classified: Jun. 20, 2006 (Environmental Hazards: Mar. 31, 2006)

Physical Hazards

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	-	-	-	Liquid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Liquid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Liquid (GHS definition)
6 Flammable liquids	Not classified	-	-	-	Flash point: >93degC
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Type G	-	-	-	UNRTDG Non-hazardous Substance
9 Pyrophoric liquids	Not classified	-	-	-	Not ignite spontaneously on coming into contact with air at normal temperatures
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (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
13 Oxidizing liquids	Classification not possible	-	-	-	No data available
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	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 2	Skull and crossbones	Danger	Fatal if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 16 mg/kg REFERENCE SOURCE: ACGIH (2002)
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	Rat LD50 value = 42mg/kg (ACGIH, 2002), and rabbit LD50 value = 225mg/kg (ACGIH, 2002). The lower rat LD50 value was adopted and it was set as Category 1.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Calculation was done based on rat LC50 (4 hours) value: 0.09mg/L (ACGIH, 2002) and LC50 (1 hour) value: 0.61-0.91mg/L (4-hour equivalent 0.15-0.23mg/L) (ACGIH, 2002). Since the calculated values were 0.09mg/L, they were set to category 2.
2 Skin corrosion / irritation	Classification not possible	-	-	-	No data available
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	No data available
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	Although there is a positive result (RTECS, 2006, HSDB, 2006) by the reverse mutation test using bacteria, there is no strong positive result at other indices of the in vitro mutagenicity test. So it cannot classify.
6 Carcinogenicity	Not classified	-	-	-	Since it was classified into A4 (ACGIH, 2002) in ACGIH, it was considered as the outside of Category.

7	Toxic to reproduction	Not classified	-	-	-	It was considered as out of Category based on the description that specific reproductive toxicity was not observed at the dose in which general toxicity is observed in parental animals in the three-generation reproduction study by the oral administration using rat (ACGIH (2002), IRIS (2006)), the description although there was no description about the general toxicity of parental animals, specific reproductive toxicity was not observed in the teratogenicity test by the oral administration using rat (ACGIH (2002), IRIS (2006)), and the description that specific reproductive toxicity was not observed at the dose in which general toxicity is observed in parental animals in intraperitoneal administration test to the pregnant mice (ACGIH (2002)).
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	It was judged that the target organ was the nervous system because of the reports indicating inhibition of cholinesterase activity in oral ingestion cases in humans (ACGIH (2002)), and of inhibition of cholinesterase activity in plasma, hemocytes and brains in laboratory animals (HSDB (2006)), so the substance was classified as Category 1 (nervous system).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system) through prolonged or repeated exposure	It was classified into Category 1 (nerve systems) based on the description that in an oral study for two years using the dog the cholinesterase activities inhibition accompanied by the symptom which suggests the effects on the nerve systems was observed with the dose of the guidance value range of Category 1 (ACGIH (2002) and IRIS (2006)), and based on the description that the cholinesterase activities inhibition accompanied by symptom was observed in human repeated exposure examples (ACGIH (2002)).
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-hour EC50=12.7ppb of 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	Classified into Category 1, since acute toxicity is Category 1, supposed not rapidly degrading (BIOWIN), and bioaccumulative potential is unknown..