

GHS Classification

ID32

disulfoton

CAS 298-04-4

Date Classified: Mar. 15, 2007 (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	-	-	-	As for the flash point, there were descriptions as 100 degC or more in BGIA GESTIS-database on hazardous substances (Accessed in 2006), and as 133 degC (technical grades) in PM (13th, 2003). Since they were approximately 100 degC or more, it was classified as out of Category.
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
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 classified	-	-	-	Uses are agricultural chemicals, and even if it contacts the normal temperature air, it does not spontaneous combustions.
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 (the water solubility is obtained)
13 Oxidizing liquids	Classification not possible	-	-	-	No data available
14 Oxidizing solids	Not applicable	-	-	-	Liquid (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	It was set as Category 1 according to LD50= 4.2mg/kg of the female rats of Agricultural Chemical Registration Data (1987).
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	It was set as Category 1 according to female rat LD50 = 7.3mg/kg of Agricultural Chemical Registration Data (1987).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Not applicable	-	-	-	This product has very low vapor pressure (7.2mPa at 20degC), and since vapor exposure was considered to be difficult, it was out of classification.
1 Acute toxicity (inhalation: dust, mist)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	It was set as Category 1 based on female rat LC50 = about 0.015mg/L (Agricultural Chemical Registration Data (1987)).
2 Skin corrosion / irritation	Not classified	-	-	-	In the primary skin irritation test of the rabbit in Agricultural Chemical Registration Data (1987), very slight stimulativeness (average score: 0.4) was recognized 1 hour after application removal. But impact was not seen in 24 hours after application removal, it was classified as out of Category.
3 Serious eye damage / eye irritation	Not classified	-	-	-	In the primary eye irritation examination with the rabbit in Agricultural Chemical Registration Data (1987), although very slight stimulativeness (the average score in a conjunctival: redness 0.6-1, edema 0.7-0.8) was accepted in after-apply 1 hour, the effect was not seen in after-apply 24 hours. So it was carried out the outside of Category.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: No data. Skin sensitization: Classified as out of category because the skin sensitization test (maximization method) using guinea pigs found no skin sensitization in Agricultural Chemical Registration Data (1987).
5 Germ cell mutagenicity	Not classified	-	-	-	The results of the in vivo dominant lethal test and the micronucleus test in Agricultural Chemical Registration Data (1987) were negative, and the substance was regarded as outside the categories.
6 Carcinogenicity	Not classified	-	-	-	In the carcinogenicity tests of rat and mouse of Agricultural Chemical Registration Data (1987), neoplastic lesions relevant to the this product were not observed. So it was set as the outside of Category. In addition, it is classified into A4 (considerable out of Category) according to ACGIH-TLV (2005).

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	The mild reproductive toxicity (reduction of copulatory female number and delivery female number, decreases in number of birth survival fetuses and mortality reduction at birth (pesticide registration application documents (1987)), and decrease in the number of implantations and decreases of litter number (EPA pesticide registration application documents)) with general toxicity dose in parental generation was observed in the two-generation study of rats (Agricultural Chemical Registration Data (1987) and EPA Agricultural Chemical Registration Data (undated)) . Therefore, it was classified into Category 2. In addition, teratogenicity was not observed in the examinations on rats and rabbits (Agricultural Chemical Registration Data (1987)).
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	In an acute toxicity test (oral, percutaneous and inhalational) in Agricultural Chemical Registration Data (1987), neurotoxicity (tremors, salivation, dyspnea, etc.) caused by cholinesterase inhibition were observed in each route of exposure. The substance was classified as Category 1 (nervous system) after comparing the oral and percutaneous maximum no-effect levels with the guidance level.
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 observed the cholinesterase activities inhibition in rat or mice of long-term exposure test (feeding administration) within the guidance value of Category 1 of Agricultural Chemical Registration Data (1987), and since it was observed tremors and cholinergic poisoning symptom during pregnancy / childcare for the female of P-generation's 9 ppm treatment groups (probable consumption: 0.45mg/kg/day) in the two-generation fecundity test (feeding administration) of rat, it was classified into Category 1 (nervous system) by comparison with guidance value.
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= 0.75ppb 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 (log Kow=5.48 (PHYSPROP Database, 2005)).