

GHS Classification

ID614

aldrin

CAS 309-00-2

Date Classified: Jul. 24, 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	-	-	-	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	Not classified	-	-	-	Non-combustible (ICSC (J) (1998))
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-combustible (ICSC (J), 1998)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not combustible (ICSC(J) (1998))
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	The chemical structure of the substance does not contain metals or metalloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Organic compounds containing chlorine (but not oxygen and fluorine) and the chlorine is chemically bonded only to carbon and hydrogen (but not to other elements).
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Although there is information that it corrodes metal by hydrochloric acid forms in long-term storages (HSDB (Access on Jan .2006)), test methods suitable for a solids material are not established.

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	Calculated based on rat LD50 values: about 67mg/kg, 45.9mg/kg and 50mg/kg (PATTY 4th, 1994), 38 to 67 mg/kg (EHC 91, 1989), 39mg/kg (MOE Risk Assessment the 1st volume, 2002), about 60mg/kg (ACGIH 7th, 2001), 39mg/kg, 63.5mg/kg and 48.3mg/kg (ATSDR, 2002). Since the calculated values was 45.7mg/kg, it was set 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 rat LD50 value: 98mg/kg (EHC 91, 1989, ATSDR, 2002, MOE Risk Assessment, the 1st volume, 2002) and rabbit LD50 value: about 150mg/kg (PATTY 4th, 1994, EHC 91, 1989).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	From description that nine among ten rats died from 1-hour exposure of 0.108mg/L (4-hour equivalent 0.027mg/L) in the vapors and particles inhalation exposure tests (ATSDR (2002)), it was set as Category 1.
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	It was classified as Category 3 from description that very slight erythema was observed with skin contacts on humans (PATTY (4th, 1994)).
3 Serious eye damage / eye irritation	Category 2B(48% emulsion)	-	Warning	Causes eye irritation	It was set as Category 2B from description that mild irritation was admitted in the test which was applied the 48% emulsion to the eye of the rabbit of EHC 91 (1989) and ATSDR (2002).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not classified (48% emulsion)	-	-	-	Respirator: No data Skin : From a description that a positive reaction was identified by three samples among 20 (15% positivity rate) in the maximization test using the guinea pigs on the 48% emulsion of EHC 91 (1989), it was judged that skin sensitization was negative, and it was put outside of the Category.
5 Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	We found the negative results in the dominant lethality tests using the mouse, which were the in vivo over generation mutagenicity tests using the germ cells (EHC 91 (1989), ATSDR (2002) and IARC Suppl.6 (1987)), found a positive result in the chromosomal aberration test using the rat and mouse marrow cells, which was the in vivo mutagenicity test using the somatic cells (IARC Suppl.7, 1987), and found no positive result for the in vivo genotoxicity study using the germ cells. Therefore we classified it as Category 2.

6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Classified into the group 3 according to IARC (IARC Suppl.7, 1987). But it was categorized into A3 by ACGIH (ACGIH 7th, 2001), into B2 by EPA in 1993 (IRIS, 2006), and into category 3 by EU (EU-Annex I, 2006). And it was set as category 2 according to ACGIH which is latest assessment document.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	There is no description about the general toxicity to parent animals. Since there are descriptions that fetal mortalities and increased malformation incidence were observed in oral administration examination during the fetal organogenetic period or in a multi-generation breeding examination of mouse or hamster (ACGIH (7th, 2001), PATTY (4th, 1994), EHC 91 (1989) and ATSDR (2002)), it was classified into Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	According to the descriptions that the influence on the nervous systems such as spasm etc. was identified in the large intake cases (ACGIH (7th, 2001), PATTY (4th, 1994), and ATSDR (2002)), and that shivering and spasm were identified by the dose of guidance value range of Category 1 in the oral medication test using the rat (PATTY (4th, 1994)), it was set as Category 1 (nervous systems).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system, liver, kidneys)	Health hazard	Danger	Causes damage to organs (nervous system, liver, kidneys) through prolonged or repeated exposure	It was classified to as Category 1 (liver, kidney, nervous system) according to the description that the effects on the fatty degeneration and necrosis of hepatocyte, the effects on the kidney as renal tubular degeneration, and convulsion were acknowledged with the given dose of the guidance value range of Category 1, in the long-term oral administration test using rats, mice and dogs of ACGIH (7th, 2001), PATTY (4th, 1994), EHC 91 (1989), ATSDR (2002), IRIS (2006), and NTP TR21 (1978), and the description that convulsion was acknowledged in human as a case of occupational exposure in EHC 91 (1989) and ATSDR (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 96-hour LC50=2.2microg/L of fishes (Rainbow trout) (EHC91, 1989).
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, not rapidly degrading (BOD: 0% (existing chemical substances safety inspections data)), and bioaccumulative (BCF=20000 (existing chemical substances safety inspections data)).