

GHS Classification

ID137

Propene, 1,3-dichloro-

CAS 542-75-6

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	-	-	-	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	Category 3	Flame	Warning	Flammable liquid and vapour	Category 3 because of its flash point: 25degC (ICSC(J), 2004)
7 Flammable solids	Classification not possible	-	-	-	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	-	-	-	It is used for farmland in large quantities as pesticide. Even if it contacts the air of normal temperature, it does not ignite spontaneously.
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not classified because of UNRTDG No. 2047, Class: 3, PG III (not Class: 4.2)
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	-	-	-	Organic compounds containing chlorine chemically bonded only to carbon (but not to other elements).
14 Oxidizing solids	Classification not possible	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Although ICSC (J) (2004), and HSDB (2005) have the statement which indicates corrosion behavior, there is no test data and it cannot be classified.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3	Skull and crossbones	Danger	Toxic if swallowed	Category 3 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: female224 mg/kg; REFERENCE SOURCE: Agricultural Chemicals Registration Data (1997)
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 from rabbit LD50 value 333mg/kg (Agricultural Chemical Registration Data, 1997).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 3	Skull and crossbones	Danger	Toxic if inhaled	Since there was almost no mist intermingled with the steam, it was classified by the ppm concentration standard value. It was classified as Category 3 from Rat LC50 value (Male = 855 - 1035ppm, and female = 904ppm: Agricultural Chemical Registration Data, 1997).
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Since slight erythema and dropsy was observed in rabbit skin irritation study and also seen 14 days afterward, as well as exfoliation on 4 out of 6 rabbits (Agricultural Chemical Registration Data, 1997), it was classified as Category 2.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Since the eye irritation which was equivalent to Category 2 in a rabbit eye irritation examination was admitted and it disappeared in 14 days (Agricultural Chemical Registration Data, 1997), it was set as Category 2A.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: No data. Skin sensitization: Classified as Category 1 because the guinea pig skin sensitization test (Buehler method) showed 90% of positive rate (Agricultural Chemical Registration Data, 1997).
5 Germ cell mutagenicity	Not classified	-	-	-	The substance was regarded as outside the categories because the results of the mouse bone marrow micronucleus test and the gene mutation test in transgenic mice were negative (Agricultural Chemical Registration Data, 1997). The Ames test and the chromosome aberration test, which were the in vitro mutagenicity tests, were positive, but the gene mutation test in mammalian cultured cells was negative (Agricultural Chemical Registration Data, 1997).

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)	It is classified into Group 2B according to IARC71 (1999) and it was also classified into L according to IRIS (2000). So it was set as Category 2.
7	Toxic to reproduction	Not classified	-	-	-	There was no effect in the two generation breeding toxicity test of rats, and in the teratogenicity test of rat and rabbit (Agricultural Chemical Registration Data, 1997). So it was considered as on the outside of Category.
8	Specific target organs/systemic toxicity following single exposure	Category 2 (respiratory organs)	Health hazard	Warning	May cause damage to organs (respiratory organs)	In the acute inhalation toxicity studies which prescribed at 750, 850 and 1030ppm in rat, although the life and death of animal is unknown (LC50 value is computed 855-1035ppm in male and 904ppm in female), irritative symptoms including lobe of lung bleeding was observed (Agricultural Chemical Registration Data, 1997). Although the concentration was equivalent to Category 1 based on the guidance, but the situation including the life-and-death of animal was unknown, it was classified into Category 2 (respiratory tract).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (stomach)	Health hazard	Warning	May cause damage to organs (stomach) through prolonged or repeated exposure	In the 13-week subacute oral toxicity examination (feeding administration) using rat, since hyperkeratosis or basal cell hyperplasia of the gastric hyperkeratosis were observed at more than the 15mg/kg/day, it was classified into Category 2 (gastric) (Agricultural Chemical Registration Data, 1997). The observed dose was within the guidance value of Category 2.
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=0.068mg/L of fishes (Sheepshead minnow) (CERI Hazard Data, 1997).
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 was Category 1 and not rapidly degrading (BOD: 3% (existing chemical safety inspections data)), though less bio-accumulative (BCF<82 of the 3-chloro- 2-propen- 1-ol (degradation product) (existing chemical safety inspections data)).