GHS Classification

ID1233 bis(2-chloro-1-methylethyl) ether

CAS 108-60-1 Date Classified: Oct. 23, 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 4	–	Warning	Combustible liquid	Since the flash point was 85 degC (Open Cup), it was classified as Category 4 (GHS standards: flash point being more than 60 degC, and 93 degC or less).
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	–	–	–	From 85 degC (o. c.) (ICSC (2003)) of flash points, ignition temperature is judged to be 70 degC or more.
10	Pyrophoric solids	Not applicable	–	–	–	Liquid (GHS definition)
11	Self-heating substances and mixtures	Not classified	–	–	–	Not classified because of UNRTDG Class: 6.1
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 metaloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13	Oxidizing liquids	Not applicable	–	–	–	Organic compounds containing oxygen and chlorine (but not fluorine) and these elements are chemically bonded only to carbon (but not to other elements).
14	Oxidizing solids	Not applicable	–	–	–	Liquid (GHS definition)
15	Organic peroxides	Not applicable	–	–	–	Organic compounds containing no -0-0- 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 4	Exclamation mark	Warning	Harmful if swallowed	Based on the rat LD50s : 503.6mg/kg (male) and 698. 2mg/kg (female) in the acute oral administration toxicity test (Agricultural Chemical Registration Data), we adopted the lower value (LD50 = 503.6mg/kg) to classify the substance as category 4.
1	Acute toxicity (dermal)	Not classified	–	–	–	It was set as the outside of Category based on the description (Agricultural Chemical Registration Data) that LD50 >2000mg/kg and no death was observed in rat acute pdermal dose toxicity studies.
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)	Not classified	–	–	–	Based on 4-hour exposure rat LC50 = 12.8mg/L (Agricultural Chemical Registration Data) in the acute inhalation toxicity study (Agricultural Chemical Registration Data), it was set as the outside of Category.
2	Skin corrosion / irritation	Classification not possible	–	–	–	There are no examination results of an agricultural-chemicals field object, and it cannot classify.
3	Serious eye damage / eye irritation	Classification not possible	–	–	–	There are no examination results of an pesticide ingredientsa, and it cannot classify.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: no data available. Skin sensitization: based on the publication (Agricultural Chemical Registration Data) that the examination of the Maximization method using a guinea pig did not indicate skin sensitization, it considered as the outside of Category.
5	Germ cell mutagenicity	Not classified	–	–	–	There is no result of human human multi generation epidemiology, multi generation mutagenicity test, and germ cell in vivo mutagenicity test, and there is the description that it is negative in the somatic cell in vivo mutagenicity test (small core test using mouse) (Agricultural Chemical Registration Data). So it is classified as the out of the Category.
6	Carcinogenicity	Not classified	–	–	–	It was carried out the outside of Category based on the statement (Agricultural Chemical Registration Data) that it did not admit the increase in the neoplastic lesion relevant to compound administrations in two carcinogenicity tests of rats, and a carcinogenicity test of mice.

7	Toxic to reproduction	Not classified	–	–	–	Based on the publication that the effects on reproductive potential was not acknowledged in the three-generation reproduction study of rats, and the effects on fetuses and embryos was acknowledged in the teratogenicity study of rats and rabbits (Agricultural Chemical Registration Data). So it was set as the outside of Category.
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	–	–	–	Insufficient data available.
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	–	–	–	Based on the description that only the decreased weight gains and feed intake reduction are observed in rat's four-week repeated oral administration neurotoxicity study with dosage of 100 mg/kg/day within a guidance value maximum of Category 2 (Agricultural Chemical Registration Data), it carried out the outside of Category.
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 3	–	–	Harmful to aquatic life	It was classified into Category 3 from 48-hour EC50=31.9mg/L of Crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2004).
11	Hazardous to the aquatic environment (chronic)	Category 3	–	–	Harmful to aquatic life with long lasting effects	Classified into Category 3, since acute toxicity was Category 3 and not rapidly degrading (BOD: 0% (existing chemical safety inspections data)), though less bio-accumulative (BCF=12 (existing chemical safety inspections data)).