GHS Classification

ID916 Diethylphthalate

CAS 84-66-2 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	–	–	–	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	Not applicable	–	–	–	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9	Pyrophoric liquids	Not classified	–	–	–	Flash point: 457degC (ICSC (J), 2001)
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 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 (but not chlorine and fluorine) chemically bonded only to carbon and hydrogen (but not to other elements).
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)	Not classified	–	–	–	Rat LD50 value: 8600mg/kg (MOE Risk Assessment the 3rd volume (2004), NTP TR429 (1995)), 9200 – 9500mg/kg (CICAD 52 (2003)) and 9500 – 31000mg/kg (ACGIH 7th (2001), Advice of Sanei Society (1995)). Based on the values above, it was considered as out of category.
1	Acute toxicity (dermal)	Not classified	–	–	–	Based on rat LD50 value: >22400mg/kg and >11200mg/kg (IUCLID, 2000), it was set as the outside of Category.
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	–	–	–	From description that death was not acknowledged in the test using the rat (PATTY 4th (1994)) by 511ppm of 6-hour exposure (4-hour equivalent 6.95mg/L), it was set as the outside of Category.
2	Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	There is description that human skin is not stimulated (NTP TR429 (1995) and PATTY (4th, 1994)), and that the irritation in the examination which used the animal is slight (NTP TR429 (1995), ATSDR (1995), and PATTY (4th, 1994)). But also there is description that irritation was admitted in 2 examples among 143 examples by the patch test for the humans (the 3rd volume of MOE Risk Assessment (2004) and CICAD 52 (2003)), and that dermatitis and eczema were admitted by adhesion on the skin (the 3rd volume of MOE Risk Assessment (2004) and Occupational Health Recommendation of Occupational Exposure Limits (1995)). So it was judged that there was skin irritation in some humans, and it was set as Category 2.
3	Serious eye damage / eye irritation	Category 2B	–	Warning	Causes eye irritation	We found a description that it had no irritant property in the test applied to the eyes of the rabbits (CICAD 52 (2003)), and a description that very slight irritation was acknowledged in the eyes of the rabbits (CICAD 52 (2003) and ATSDR (1995)). However, we found a description that it stimulated the eyes of the rabbits slightly and it stimulated the human eyes (NTP TR429 (1995)). Therefore we classified it as Category 2B.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category1	(Respiratory sensitization)–; (Skin sensitization)Exclamation mark	(Respiratory sensitization)–; (Skin sensitization)Warning	(Respiratory sensitization)–; (Skin sensitization)May cause allergic skin reaction	Respiratory organ: No data. Skin : We found the description that sensitizing property was not acknowledged in Buehler test which used the guinea pigs, Draize test, Freund's complete adjuvant test, maximization test and open epicutaneous test in IUCLID (2000) or BUA 104 (1994), and we found the description that the allergic reactions was not acknowledged by the patch test for human in MOE Risk Assessment The 3rd volume (2004), CICAD 52 (2003), ATSDR (1995) and it is enrolled in PATTY (4th, 1994) that it has no sensitizing property, however, according to the descriptions of MOE Risk Assessment the 3rd volume (2004), CICAD 52 (2003), and ATSDR (1995), the allergic reactions was acknowledged by one example respectively in patch tests in different institutions, therefore we classified it as 1.

5	Germ cell mutagenicity	Classification not possible	–	–	–	Classification not possible due to lack of data
6	Carcinogenicity	Not classified	–	–	–	Since it was classified into A4 (ACGIH 7th, 2001) in ACGIH and D (IRIS, 2005)in EPA, 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 an oral administration examination during the pregnancy and a two-generation reproductive study using the rat and mouse (MOE Risk Assessment the 3rd volume (2004), CICAD 52 (2003), ACGIH (7th, 2001), NTP TR429 (1995), industrial hygene academic recommendation (1995) and ATSDR (1995)).
8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation, narcotic effects)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation, narcotic effects)	From description in MOE Risk Assessment the 3rd volume (2004), ACGIH (7th, 2001), Society for Occupational Health Recommendation of Occupational Exposure (1995) and PATTY (4th, 1994) that vapor stimulates respiratory tracts, description in MOE Risk Assessment the 3rd volume (2004) that when inhaling, giddiness and hypesthesia will be caused, and description in PATTY (4th, 1994) that the central nervous system may be restrained. So it was set as Category 3 (respiratory irritation, anesthesia action).
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	–	–	–	It was considered to be the Out Of Category based on the descriptions that toxic effects were not observed for the high doses which exceeds the guidance value range of Category 2 in oral or the dermal administration tests using the rat or mouse (MOE Risk Assessment 3rd volume (2004), CICAD 52 (2003), ACGIH (7th, 2001), NTP TR429 (1995), ATSDR (1995), and IRIS (2005)).
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 2	–	–	Toxic to aquatic life	It was classified into Category 2 from 96-hour LC50=1200microg/L of fishes (Rainbow trout) (MOE Risk Assessment No.3, 2004).
11	Hazardous to the aquatic environment (chronic)	Not classified	–	–	–	Since rapidly degrading (BOD: 88% (existing chemical safety inspections data)), and less bio-accumulative (log Kow=2.42 (PHYSPROP Database, 2005)).