GHS Classification

ID1005 Di-Butyl phenyl phosphate

CAS 2528-36-1 Date Classified: Feb. 20, 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	–	–	–	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	Classification not possible	–	–	–	No data available
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	Classification not possible	–	–	–	No data available
13	Oxidizing liquids	Classification not possible	–	–	–	No data available
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)	Category 5	–	Warning	May be harmful if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 2620 mg/kg REFERENCE SOURCE: ACGIH (7th, 2001)
1	Acute toxicity (dermal)	Not classified	–	–	–	Based on rabbit LD50 value: >5000mg/kg (ACGIH 7th, 2001), 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)	Classification not possible	–	–	–	No data available
2	Skin corrosion / irritation	Not classified	–	–	–	From description that irritation was not acknowledged by exposure for 24 hours in the test using the rabbit on ACGIH (7th, 2001), it was carried out the outside of Category.
3	Serious eye damage / eye irritation	Not classified	–	–	–	Based on the description that it did not show irritant property in the test applied to the eyes of the rabbits (ACGIH (7th, 2001)), we classified it as Out Of Category .
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	Respiratory organ: No data. Skin: There was description that based on the result of the patch test for humans, it is thought that there was no sensitizing in ACGIH (7th, 2001), however, sensitizing property was not negated clearly and there was also no animal test data, therefore we presupposed that we could not classify since data is insufficient for considering it to be Out Of Category.
5	Germ cell mutagenicity	Not classified	–	–	–	Since there is a negative result (ACGIH 7th, 2001) by the chromosome aberration test using the rat marrow cells which are the in vivo mutagenicity tests using a somatic, it carried out the outside of Category.
6	Carcinogenicity	Classification not possible	–	–	–	No data available
7	Toxic to reproduction	Classification not possible	–	–	–	Although there is description that teratogenic and fetus toxicity were not observed in the oral administration study using the pregnancy rat (ACGIH (7th, 2001)), since in this study, the general toxicity in parent animals is not observed, it was not sufficient data to be as out of Category. So it cannot be classified due to insufficient data.

8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Although there are no specific case reports, the substance was classified as Category 3 (airway irritant) because of the report that it caused irritation to nose and throat (ACGIH (7th, 2001)).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver, bladder, ovaries, blood)	Health hazard	Warning	May cause damage to organs (liver, bladder, ovaries, blood) through prolonged or repeated exposure	We classified it into Category 2 (liver, a bladder, ovary, blood) based on the description that in the feeding oral administration tests during 90 days using the rat, the influence on the liver, a bladder, the ovary, and blood was observed with the dosage of the guidance value range of Category 2 (ACGIH (7th, 2001)).
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 LC50=0.26mg/L of Crustacea (Daphnia magna) (ECETOC TR91, 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,not rapidly degrading (BOD of di-n-butyl phosphate: 2% (existing chemical substances safety inspections data)), and bioaccumulative (log Kow=4.27 (PHYSPROP Database, 2005)).