

GHS Classification

ID334

Bis(2-ethylhexyl) adipate

CAS 103-23-1

Date Classified: Apr. 20, 2006 (Environmental Hazards: Jun. 20, 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	-	-	-	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
6 Flammable liquids	Not classified	-	-	-	The flash point is 181degC (open cup flash test) (ICSC, 2001)
7 Flammable solids	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not classified	-	-	-	Not pyrophoric when in contact with air at ordinary temperatures; the auto-ignition temperature is 395degC (ICSC, 2001)
10 Pyrophoric solids	Not applicable	-	-	-	Classified as "liquid" according to 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	-	-	-	Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At)
13 Oxidizing liquids	Not applicable	-	-	-	Organic compounds containing oxygen (but not fluorine and chlorine), with the oxygen bound to carbon and hydrogen (but not to other elements)
14 Oxidizing solids	Not applicable	-	-	-	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	-	-	-	Organic compounds 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	-	-	-	Based on the rat LD50 (oral route) value of 9,100mg/kg representing the lower of the two testing data, 9,100mg/kg (MOE Risk Assessment vol. 2, 2003) and 25,000mg/kg (IARC 77 (2000)).
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on the rabbit LD50 (dermal route) of 14,752mg/kg (MOE Risk Assessment vol. 2 (2003)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Due to the fact that the substance is "liquid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Based on the description in CERI Hazard Data 97-12 (1998) (Rabbit primary skin irritation tests indicate slight erythema, which disappears after 72 hours of exposure: Category 3) and MOE Risk Assessment vol. 2 (2003) (Animal studies indicate no skin irritation: Not Classified). Classified as "Category 3" from the viewpoint of safety.
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	Based on the text in MOE Risk Assessment vol. 2 (2003); Animal studies indicate no skin/eye irritation. However, classification is not possible because of the lack of data serving as a basis for "Not Classified."
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible	(Respiratory sensitization) - (Skin sensitization) -	(Respiratory sensitization) - (Skin sensitization)	(Respiratory sensitization) - (Skin sensitization) -	Respiratory sensitization: No data available Skin sensitization: Guinea pig skin sensitization tests (CERI Hazard Data 97-12 (1998), MOE Risk Assessment vol. 2 (2003)) indicate no skin sensitization. However, classification is not possible because of a limited number of test results (with details of which unknown) and the absence of epidemiological findings.
5 Germ cell mutagenicity	Not classified	-	-	-	Based on the slight positive data on germ cell multi-generation tests in vivo (dominant lethal tests). However, the dosage is 9,220mg/kg (which exceeds the upper limit of the current guidelines) and the results are based on intraperitoneal administration; the biological significance of slight responsiveness, if any, should be negligible, and hence should be considered "negative." Also based on the absence of data on germ cell mutagenicity tests in vivo, and the negative data on somatic mutagenicity tests in vivo, described in IARC 29 (1982) and IARC 77 (2000).
6 Carcinogenicity	Not classified	-	-	-	Due to the fact that the substance is classified as Category 3 by IARC 77 (2000) and Group C by EPA (1994).
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the description in MOE Risk Assessment vol. 2 (2003) and IARC 77 (2000): rat one-generation test suggested body weight/length reduction of the embryo at dosing levels toxic to parental animals; rat teratogenicity tests in suggest dose-dependent ureteral malformations (expansion and convolution) in the embryo, with no description of the general toxicity to parental animals.
8 Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	No data available
9 Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Insufficient data available
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)	Not classified	-	-	-	Since acute toxicity is not reported within the aqueous solubility concentrations (0.0032mg/L (SIDS (2002))), it was classified into Not classified.
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since there was rapidly degrading (the decomposition by BOD: 71% (Existing Chemical Safety Inspections Data)) and the bio-accumulation was low (BCF=27 (CERI/NITE Hazard Assessment Report (preliminary version), 2006)), it was classified into Not classified.