GHS Classification

ID435 Decabromodiphenyl ether

CAS 1163-19-5 Date Classified: Aug. 22, 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	—	—	—	Containing no chemical groups with explosive properties
2	Flammable gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
3	Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4	Oxidizing gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
5	Gases under pressure	Not applicable	—	—	—	Classified as "solid" according to GHS definition
6	Flammable liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
7	Flammable solids	Not classified	—	—	—	Used as a flame retardant additive for polystyrene products etc. (HSDB, 2006)
8	Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9	Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10	Pyrophoric solids	Not classified	—	—	—	Not pyrophoric when in contact with air at ordinary temperatures (Used as a flame retardant additive for polystyrene products etc. (HSDB, 2006)).
11	Self-heating substances and mixtures	Classification not possible	—	—	—	No data 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	—	—	—	Classified as "solid" according to GHS definition
14	Oxidizing solids	Not applicable	—	—	—	Organic compounds containing oxygen (but not fluorine and chlorine), with the oxygen bound to carbon and hydrogen (but not to other elements)
15	Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16	Corrosive to metals	Classification not possible	—	—	—	Test methods applicable to solid substances are not 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 > 5,000mg/kg (EHC 162 (1994)).
1	Acute toxicity (dermal)	Classification not possible	—	—	—	Insufficient data available
1	Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected.
1	Acute toxicity (inhalation:	Classification not possible	—	—	—	Insufficient data available
1	Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	Insufficient data available
2	Skin corrosion / irritation	Category 3	—	Warning	Causes mild skin irritation	Based on the description in the report on rabbit skin irritation tests (EHC 162 (1994)): "The substance initially caused no irritation of the skin. After an observation period of 72 hours, slight erythematous and edematous responses were noted."
3	Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	Based on the description in the report on rabbit eye irritation tests (EHC 162 (1994), CERI-NITE Hazard Assessment No.56 (2005)): "Animals treated with the substance showed only transient congestion and edema of the conjunctival membranes. These symptoms subsided by 24 hours," "At 24 hours, only slight redness (4 of 6), only slight edema (2 of 6), and only slight discharge (1 of 6) of the conjunctiva were noted." The substance is thus considered a mild eye irritant.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Not classified	(Respiratory sensitization)— (Skin sensitization)—	(Respiratory sensitization)— (Skin sensitization)—	(Respiratory sensitization)— (Skin sensitization)—	Respiratory sensitization: No data available Skin sensitization: Based on the negative results in human skin sensitization tests (CERI Hazard Data 97-16 (1998) and EHC 162 (1994)).
5	Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects	Based on the absence of data on multi-generation mutagenicity tests, germ cell mutagenicity tests in vivo and germ cell genotoxicity tests in vivo, and positive data on somatic cell mutagenicity tests in vivo (micronucleus tests), described in NITE Initial Risk Assessment No.56 (2005), CERI-NITE Hazard Assessment No.56 (2005), EU-RAR No.17 (2002) and NTP DB (Access on April 2006).
6	Carcinogenicity	Not classified	—	—	—	Due to the fact that the substance is classified as Group 3 by IARC (1999) and Category C by EPA (1990).
7	Toxic to reproduction	Not classified	—	—	—	Based on no definitive evidence of reproductive toxicity observed in reproductive toxicity studies and teratogenicity studies in rats and mice, described in NITE Initial Risk Assessment No.56 (2005) and CERI-NITE Hazard Assessment No.56 (2005).
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	—	—	—	Insufficient data available
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver, kidneys, thyroid gland)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (liver, kidneys, thyroid gland)	Based on the evidence from animal studies including "hypertrophy and vacuolization of centrolobular hepatocytes in the liver, renal tubular hyaline degeneration, and hyperplasia of the thyroid gland" (MOE Risk Assessment vol. 2 (2003)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for 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)	Not classified	-	-	-	Since 72 hours EC50 of the algae (Skeletonema) was more than the water solubility (EU-RAR (2003)), it was classified into Not classified.
11	Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Although it is water-insolubility and acute toxicity was not reported within the aqueous solubility concentrations and there was no rapidly degrading (the decomposition by BOD: 0%(Existing Chemical Safety Inspections Data)), since the bio-accumulation (BCF<50 (Existing Chemical Safety Inspections Data)) was low, it was classified into Not classified.