GHS Classification

ID554 Hexadecyltrimethylammonium bromide

CAS 57-09-0

Date Classified: Oct. 23, 2006 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Physical Hazards

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	Classification not possible	—	—	—	No data available
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	Classification not possible	—	—	—	No data available
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 no oxygen, fluorine or chlorine
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)	Category 4	Exclamation mark	Warning	Harmful if swallowed	Based on the rat LD50 (oral route) value of 410mg/kg (RTECS (2006)).
1	Acute toxicity (dermal)	Classification not possible	—	—	—	No 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	—	—	—	No data available
1	Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2	Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description in the report on mouse skin irritation tests (CERI-NITE Hazard Assessment No.206 (2005)): 0.5, 1 and 2 hour application "caused moderate irritation of the skin."
3	Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the data on rabbit eye irritation tests (CERI-NITE Hazard Assessment No.206 (2005)): "Causes strong irritation."
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: Insufficient data available
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 (chromosome aberration tests), described in CERI-NITE Hazard Assessment No.206 (2005).
6	Carcinogenicity	Classification not possible	—	—	—	No data available
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of a decreased number of live borns and decreased viability index on day 3 observed at doses producing parental toxicity in mouse and rat teratogenicity studies, described in CERI-NITE Hazard Assessment No.206 (2005).
8	Specific target organs/systemic toxicity following single exposure	Category 1 (heart, blood system)	Health hazard	Danger	Causes damage to organs (heart, blood system)	Based on the human evidence including "unstable blood pressure and heart ischemia, methemoglobinemia" (CERI-NITE Hazard Assessment No.206 (2005)).
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)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 96 hours EC50=30microg/L of the blue algae (Microcystis) (MOE Risk Assessment vol. 3, 2004).
11	Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Since the acute toxicity was Category 1 and it had no rapidly degrading (the decomposition by BOD: 0% (Existing Chemicals Safety Check Data)), and it had the bio-accumulation (BCF=741 (Existing Chemicals Safety Check Data)), it was classified into Category 1.