

GHS Classification

ID448

3,5,5-Trimethyl-1-hexanol

CAS 3452-97-9

Date Classified: Jun. 20, 2006 (Environmental Hazards: Jan. 25, 2007)

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	Category 4	—	Warning	Combustible liquid	The flash point is 93degC (open cup flash test) (ICSC (1999)), which is classified into Category 4.
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	Classification not possible	—	—	—	No data available
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)	Category 4	Exclamation mark	Warning	Harmful if swallowed	Based on the LD50 value of 1,160mg/kg calculated from the testing data of rat LD50 (oral route) of 2,980mg/kg, 6,400mg/kg (CERI Hazard Data 2001-61 (2002)), 1,160mg/kg and 1,450mg/kg (PATTY (4th, 1999)).
1 Acute toxicity (dermal)	Category 5	—	Warning	May be harmful in contact with skin	Based on the rabbit LD50 (dermal route) value of 2,990mg/kg (PATTY (4th, 1999)).
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	—	—	—	Insufficient data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description in the report on rabbit skin irritation tests (4-hour application) (SIDS (2003)): "Draize scores for 24, 48, and 72 hours: Erythema = 1.83, Edema = 0.22 and PII = 2.08" and "moderate irritation."
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the description in the report on rabbit eye irritation tests (SIDS (2003)): "moderately irritating." The substance is thus considered to possess a potential for strong irritation of the eye.
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: No data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	Classification not possible due to the insufficiency of data (no data available on in vivo mutagenicity/genotoxicity tests)
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 adverse effects on reproduction and development (reduced number of implantation sites/litters) at doses causing parental toxicity, described in SIDS (2003), MOE Risk Assessment vol. 4 (2005) and the Ministry of Health, Labour and Welfare (1997).
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)	Health hazard	Warning	Causes damage to organs through prolonged or repeated exposure (liver, kidneys)	Based on the human evidence: "the substance may adversely affect the liver and kidneys" (ICSC (J) (1997)) and the evidence from animal studies including "regeneration of the renal tubular epithelium and granular cast formation, along with mild periportal fat degeneration" (SIDS (2002)). 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)	Category 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 48 hours EC50=6.77mg/L of the crustacea (Daphnia magna) (SIDS (2003) and others.).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Although acute toxicity was Category 2 and the bio-accumulation potential was low (BCF=8.1(Existing Chemical Safety Inspections Data)), since there was no rapidly degrading (the decomposition by BOD: 4%(Existing Chemical Safety Inspections Data)), it was classified into Category 2.