

GHS Classification

ID669

Hexanoic acid, 2-ethyl-

CAS 149-57-5

Date Classified: May 24, 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	-	-	-	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	-	-	-	Not classified because of its flash point: 118 to 120degC
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	Not classified	-	-	-	Flash point: 371degC (ICSC (J), 1996; Solvent Pocket Book , 1997)
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	Not applicable	-	-	-	The chemical structure of the substance does not contain 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 chlorine and fluorine) chemically bonded only to carbon and hydrogen (but not to other elements).
14 Oxidizing solids	Not applicable	-	-	-	Liquid (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 5	-	Warning	May be harmful if swallowed	It was set as Category 5 based on LD50=2093 mg/kg calculated by 4 examination result (3000, 3200, 1600, and 3000 mg/kg) (ACGIH (2001) and PATTY (5th, 2001)) of rat LD 50.
1 Acute toxicity (dermal)	Category 4	Exclamation mark	Warning	Harmful in contact with skin	There are two test results of rabbit LD50 (1140 and 1260mg/kg). It was set as Category 4 based on the lower value of LD50 = 1140mg/kg (ACGIH (2001)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	The saturated vapor pressure concentration of this product is 40ppm (20degC), and it is presumed that the inhalation test was done in mist conditions. Since there is no vapor data, it cannot be classified.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	Considered more than Category 4 from rat inhalation LC0 >3.54mg/L. But data is insufficient, it cannot be classified.
2 Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Based on the statement that necrosis, eschar, corrosion, etc. were observed in the tests on rabbits and guinea pigs (PATTY (5th, 2001) and IUCLID (2000)), it was classified as Category 1A-1C.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	It was set as category 1 based on the statement as which stimulativeness, a necrosis of the cornea, etc. were regarded (ACGIH (2001) and IUCLID (2000)).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: No data. Skin sensitization: Based on the negative statement (NICNAS (2005)) of the maximisation test using a guinea pigs, it was put outside of the Category.
5 Germ cell mutagenicity	Classification not possible	-	-	-	Since we found no in vivo examination and we found only the result of the in vitro examination, we presupposed that we could not categorize it by the technical guideline.
6 Carcinogenicity	Classification not possible	-	-	-	No data available
7 Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	Based on the description of observing dose-dependent skeletal malformation as clubfoot, polydactyly and fibula loss etc. in rat teratogenicity test with dose no affecting maternal animals (PATTY (5th, 2001)), it is classified into Category 1B. In addition, there is the existing classifications of EU-Annex 1:Repr.Cat.3:R63.
8 Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	No data available.

9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	NOAEL in the feeding administration tests for 13 weeks using rats and mice is mentioned to be 200 mg/kg/day and more (PATTY (5th, 2001)). Since this dose exceeded the upper limit of the Category 2 guidance value range, it is considered the outside of Category.
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 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 48-hour EC50=85.4mg/L of Crustacea (Daphnia magna) (IUCRID, 2000).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Classified into Category 3, since acute toxicity was Category 3 and rapid degradability is unknown, though supposed less bio-accumulative (log Kow=2.64 (PHYSROP Database, 2005)).