

GHS Classification

ID667

5-methylheptan-3-one

CAS 541-85-5

Date Classified: Feb. 20, 2007 (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	Category 3	Flame	Warning	Flammable liquid and vapour	Category 3 because of its flash point: 43degC(Hommel, 1991)
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Not classified	-	-	-	Classified in UNRTDG No.2271, Class: 3, PGIII
9 Pyrophoric liquids	Not classified	-	-	-	UNRTDG No. 2271, Class: 3, PG III
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 (but not to other elements).
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	There are no chemical groups associated with peroxide present in the molecule.
16 Corrosive to metals	Not classified	-	-	-	UNRTDG No. 2271, Class: 3, PG III

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	SPECIES: Rat ENDPOINT: LD50 VALUE: 3.5 g/kg REFERENCE SOURCE: ACGIH (2001), PATTY (5th, 2001) Based on rabbit LD50 >16g/kg (RTECS (2004)), it was classified into the outside of Category.
1 Acute toxicity (dermal)	Not classified	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 4	Exclamation mark	Warning	Harmful if inhaled	Based on the report that with 15.7mg/L (stated to be saturated vapor concentration) 3 among 6 mice died (ACGIH (2001)), it was classified as Category 4.
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 result of rabbit Draize test of "mild" (RTECS (2004)) , it was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Based on a report that if humans eyes are contacted according to a liquid state, corneal injury will be caused temporarily (ACGIH (2001), it was classified into Category 2B.
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 , Skin sensitization:data: No data
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data available
6 Carcinogenicity	Classification not possible	-	-	-	No data available
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation, narcotic)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation, narcotic)	There is the report about the symptom of respiratory irritation in rat and mouse (ACGIH (2001), PATTY (5th, 2001)), and there is the report about respiratory irritation in human (ACGIH (2001), PATTY (5th, 2001), ICSC (2001), HSFS (1999), SITTIG (47th, 2002)). So it is classified into Category 3 (respiratory irritation). Moreover, there is the report about the ataxia, fall of activity and coma, but the recover from it in rat (ACGIH(2001)). And there is the report that it causes headache, vomiting, dizziness, staggering, unconsciousness in human (ACGIH (2001), PATTY (5th, 2001), ICSC (2001), SITTIG (47th, 2002)). So it is classified into Category 3 (anesthesia).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Lack of data In addition, Ketone and the related compounds affect the neuropathy called "giant axonal neuropathy" (PATTY (5th, 2001)). Although this compound affect neuropathy in the concentrated doses exceeding greatly the guidance value of 2 in a rat, it is reported by the dose concentration within a guidance value that it is uninfluent (PATTY (5th, 2001)). Moreover, HSFS (1999) states whether neuropathy arises or not is not fully evaluated.
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)	Classification not possible	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.