

GHS Classification

ID990

2-Hexanone, 5-methyl-

CAS 110-12-3

Date Classified: Jul. 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	Category 3	Flame	Warning	Flammable liquid and vapour	Flash point: >=23degC and <=60degC, UNRTDG Class: 3, PGIII
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: 191degC (ICSC (J), 1998)
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 3
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	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 3

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	Rat LD50 value: 4760mg/kg(ACGIH 7th, 2001), 3200mg/kg(ACGIH 7th, 2001, PATTY 4th, 1994), 3870mg/kgand2542mg/kg(PATTY 4th, 1994). Calculated based on the data above. Since the calculated values was 2815mg/kg, it was classified to category 5.
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on rabbit LD50 value: 10mL/kg (reduced value = 8880mg/kg) (ACGIH 7th, 2001, PATTY 4th, 1994), it was set as the outside of Category.
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 rat LC50 (6 hours) value: 3813ppm (4-hour equivalent 21.77mg/L) (ACGIH 7th, 2001, PATTY 4th, 1994), 21.77mg/L was judged to be vapor with almost no mist from its vapor pressure. And it was classified by the ppm concentration standard. Since 21.77mg/L was converted to 4662ppm using the conversion factor (1ppm = 4.67mg/m3), it was classified as Category 4.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Classification not possible	-	-	-	There was description that mild irritation was acknowledged by 24-hour apply on the skin of a guinea pig (PATTY (4th, 1994)). But the influence in apply of less than 4 hours is unknown and it could not be classified since data was insufficient.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	We classified it as Category 2B based on the descriptions that very slight stimulativeness was acknowledged by application to the eyes of the rabbits (ACGIH (7th, 2001) and PATTY (4th, 1994)).
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	Respiratory organ: No data. Skin : There was description that slight skin sensitization was acknowledged by one example (20%) among five examples in the test which used an adjuvant of the guinea pigs for PATTY (4th, 1994). Although there were few tested animals and this result did not suit positive criteria, since there was also no description which negates sensitizing clearly in the source of Priority1, we presupposed that we could not classify it since data is too insufficient for classifying it to be Out Of Category.
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 (narcotic effects)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects)	Because of descriptions in ACGIH (7th, 2001) and PATTY (4th, 1994) referring to confirmation of comas (narcosis), hyporesponsiveness against sound stimuli, and oligopnea in inhalation exposure tests using rats. So it was judged as indication of anesthetic actions, and determined to be Category 3 (anesthetic actions).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (kidneys)	Health hazard	Warning	May cause damage to organs (kidneys) through prolonged or repeated	Based on the descriptions that the renal effects were observed with the concentration of the guidance value range of Category 2 in the inhalation exposure test using the rat (ACGIH (7th, 2001) and PATTY (4th, 1994)), we classified it into Category 2 (kidney).
10	Aspiration hazard	Category 2	Health hazard	Warning	May be harmful if swallowed and enters airways	Category 2 because of a ketone composed of 13 carbon atoms or less.

Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Not classified	-	-	-	It carried out the outside of Category from 96-hour LC50=159mg/L of fishes (Fathead minnows) (ECETOC TR91, 2003).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (aqueous solubility =5400mg/L(PHYSROP Database, 2005)) and acute toxicity is low.