

GHS Classification

ID634

Acetophenone

CAS 98-86-2

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	Category 4	-	Warning	Combustible liquid	Although flash point data varies from 82 – 105 degC, it was classified as Category 4 (GHS standards: flash point being more than 60 degC but 93 degC or less) as the lowest flash point being 82 degC (Open Cup).
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	-	-	-	The ignition points is 570 – 571 degC (Chapman (1982-200), an organic compounds dictionary (1985), ICSC (J), (1994))
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	-	-	-	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	It was set as Category 4 based on rat LD50=956.3 mg/kg calculated from four test results (900, 900, 3000, and 3200 mg/kg) (PATTY (5th, 2001)) of rat LD50.
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on guinea pig LD50 >20600mg/kg (PATTY (5th, 2001)), it was set as the outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	The saturated vapor pressure concentration of acetophenones is 523.7ppm (25degC). And it was presumed that the inhalation test was done in the state of steam. But LC50 value was unknown (PATTY (5th, 2001)), it was presupposed that it cannot be classified due to data insufficiency.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	The saturated vapor pressures concentrations pressure of acetophenones is 523.7ppm (25degC), it is presumed that the inhalation study was done in the state of steam. There is no data about mists.
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Based on the descriptions of slight edema (IUCALID (2000)) and mild skin reaction (RTECS (2005)) in rabbit tests, it was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the statement of severe irritation (PATTY (5th, 2001)) and moderate irritation, and transient cornea damage (IUCALID (2000)) by the test using a rabbit, it was set as Category 2A. In addition, there is the preexisting classification of EU-Annex 1: Xi: R36.
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 of the test cases in humans and guinea pigs(PATTY (5th, 2001)) , it was put outside of the Category.
5 Germ cell mutagenicity	Classification not possible	-	-	-	Since we only found the data of the in vitro mutagenicity test and found no strong positive findings, we presupposed that we could not categorize it by the technical guideline.
6 Carcinogenicity	Not classified	-	-	-	Based on the technical guide, it considered as the outside of Category from the segment D of EPA (IRIS (2004)).
7 Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data

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)	Based on the descriptions that there are cases that it was used as an anesthetics by humans (ACGIH (2001)), and that anesthetic actions were observed by medication to rats (PATTY (5th, 2001)), it was set as Category 3 (anesthetic actions).
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	It is indicated that harmful effects were not seen in the 10000 ppm feeding administration test for 17 weeks using a rat (equivalent to about 500 mg/kg/day by a technical guide) (PATTY (5th, 2001) and ACGIH (2001)) and this dose exceeds the upper limit of the Category 2 guidance value range. Moreover, also in occupational exposure in humans, there is the statement that harmful effect is not reported (ACGIH (2001)). It was classified to outside of Category according to these things.
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)	Not classified	-	-	-	It carried out the outside of Category from 96-hour LC50=162mg/L of fishes (Fathead minnows) (ECETOC TR91, 2003).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (aqueous solubility = 6130 mg/L (PHYSPROP Database, 2005)) and acute toxicity is low.