

GHS Classification

ID756

Diisobutyl ketone

CAS 108-83-8

Date Classified: Jun. 20, 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	Category 3 because of its flash point: 49degC(ICSC(J), 1997)
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 345 degC and does not ignite spontaneously in normal temperatures.
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)	Not classified	-	-	-	Acute oral toxicity is outside of Category. Because rat LD50 value is 5000mg/kg or more, or mortality is not seen in the examination up to 2000mg/kg (SIDS (1998)).
1 Acute toxicity (dermal)	Not classified	-	-	-	Rabbit LD50 value is over 5000mg/kg for females. Although an average is 4579mg/kg in males, it is over 5000mg/kg in re-examination only (SIDS (1998)). Since death was not seen in the rat 2000mg/kg administered test (SIDS (1998)), acute dermal toxicity is outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	There is a report that even if rats are exposed to 5mg/L or saturated vapor pressure (about 13mg/L) for 4 hours, there was no mortality (SIDS (1998)). But this data is not sufficient for the classification. Since death was not observed with 13mg/L, it is presumed to be Category 4, Category 5 or outside of Category.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Not classified	-	-	-	The mean score value of 24 - 72 hours acquired in the test of SHELL according to OECD Guideline was 0.3-0.6, which is below the judging standard of Category 3. (SIDS (1998)). Moreover, the result of having evaluated the test results of Potokar according to OECD Guideline by the standard of EEC was non-irritant (SIDS (1998)). Therefore, it was classified as out of Category.
3 Serious eye damage / eye irritation	Not classified	-	-	-	Each of three test results reported is slight stimuli, and is not classified into eye irritation (SIDS (1998), DFGOT vol.18 (2002)).
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: As there is no data, it cannot be classified. Skin sensitization: Results of the maximization test with guinea pigs and the Magnusson & Kligman test that it is not sensitizing has been obtained. (SIDS(1998))
5 Germ cell mutagenicity	Classification not possible	-	-	-	Although many negative results were obtained for the in vitro tests, the information on in vivo tests is inadequate. (SIDS(1998))
6 Carcinogenicity	Classification not possible	-	-	-	Classification not possible due to lack of data

7	Toxic to reproduction	Not classified	-	-	-	Since it is reported no effects on reproductive function and implantation count of parents, and neonatal live birth count in administration test for 2weeks before mating to lactational period (SIDS (1998)), it was considered as the outside of category according to .
8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	There is the data that upper respiratory mucous was stimulated in mouse (DFGOT vol.18 (2002)), there is a report of respiratory irritation in humans (DFGOT vol.18 (2002), PATTY (2001)). And it has classified into respiratory irritation (Xi: R37 Irritating to respiratory system) according to EC-AnnexI, it is classified into category 3 (respiratory irritation).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Although there is a report that effect is observed by internal organs, such as the adrenal gland, liver, and the kidney, in the test with rats in inhalation administration at 925 ppm or more for six weeks by Carpenter (1951, 1953) etc., this occurred with the concentration quite higher than the maximums of the guidance value of Category 2 converted into six weeks, which is 500 ppm (SIDS (1998)). Although slight affect is seen to liver at 250 ppm which is lower than 500 ppm of maximums of the guidance value of Category 2 converted into six weeks, in the inhalation test for six weeks with guinea pig by Carpenter (1951, 1953) etc., there is a report that it is not regarded as significant affect to organ (SIDS (1998)). However, it was considered that it cannot be classified due to not performing all the evaluations, that impact is seen slightly in the place near a guidance value, and there is no humans report.
10	Aspiration hazard	Category 2	Health hazard	Warning	May be harmful if swallowed and enters airways	The dynamic viscosity at 21 degree C is 1.1mm ² /s (calculated from The Solvent Pocket Book data), and diisobutyl ketone is a ketone with a carbon number of 13 or less, therefore we classified it as Category 2.

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=140mg/L of fishes (Rainbow trout) (SIDS, 2004).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (aqueous solubility ==2640 mg/L (PHYSPROP Database, 2005)) and acute toxicity is low.