

GHS Classification

ID984

hexan-2-one

CAS 591-78-6

Date Classified: Mar. 23, 2006 (Environmental Hazards: Feb. 10, 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
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: 423degC (ICSC (J), 1989)
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 (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	Category 5 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: VALUE:2590mg/kg; REFERENCE SOURCE: ACGIH (7th, 2001), PATTY (4th, 1994), ATSDR(1992)
1 Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	It was set as Category 5 based on rabbit LD50 value = 4840mg/kg (PATTY (4th, 1994)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	Since data is insufficient, it cannot be classified. Although there is description that death is not observed in rat 4 hour exposure to 4000ppm (PATTY (4th, 1994)) (it was judged to be steam with almost no mist from its vapor pressure), there is no data of LC50 value.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Not classified	-	-	-	PATTY (4th, 1994) and ATSDR (1992) have description with no significant irritation and least severe irritation to the rabbit skin, respectively. Since there was no report which indicates skin irritation with a cases of human exposure, it was carried out the outside of Category.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the descriptions that moderate eye irritation was seen in human exposure examples (ACGIH (7yh, 2001) and PATTY (4th, 1994)), and on the description that moderate corneal necrosis was acknowledged with the rabbit (ATSDR (1992)), we classified it as Category 2A.
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)-	No data available
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	-	-	-	Classification not possible due to lack of data

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)	Because of a description in ICSC(J) (1989) referring to that eyes and respiratory tracts were stimulated, it was judged as Category 3 (respiratory irritation).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (peripheral nervous system); Category 2 (central nervous system, testes)	Health hazard	Danger	Causes damage to organs (peripheral nervous system) through prolonged or repeated exposure; May cause damage to organs (central nervous system, testes) through prolonged or repeated exposure	Based on descriptions that peripheral neuropathy is observed in human occupational exposure (ACGIH (7th, 2001), Patty (4th, 1994), industrial hygiene society advice (1993) and ATSDR (1992)), target organ was judged to be the peripheral nervous systems and it was classified into Category 1. Based on the descriptions that the central nervous system disorders was observed on the laboratory animals (ATSDR (1992)) and that atrophy of testes was observed with the dose which general toxicity appears in inhalation exposure on rats (ATSDR (1992)), target organ was judged to be central nervous systems and testis, and it was classified into Category 2.
10	Aspiration hazard	Category 2	Health hazard	Warning	May be harmful if swallowed and enters airways	Category 2 because of being a primary normal alcohol composed of carbon atoms (3<n=13) and containing an isobutyl alcohol and ketone composed of carbon atoms (n>=13).

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=428mg/L of fishes (Fathead minnows) (HSDB, 2004).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (water solubility=17500mg/L(PHYSPROP Database, 2005)) and acute toxicity is low.