

## GHS Classification

**ID946**

**Heptane**

**CAS 142-82-5**

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 2	Flame	Danger	Highly flammable liquid and vapour	Flash point: <23degC, Initial boiling point: >35degC, UNRTDG Class: 3, PG II
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: 204degC (NFPA, 12th, 1997, p.325-57)
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 no oxygen, fluorine and chlorine.
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)	Classification not possible	-	-	-	No data available
1 Acute toxicity (dermal)	Classification not possible	-	-	-	Classification not possible due to lack of data
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Not classified	-	-	-	Based on mouse LC50 (2 hours) value: 75mg/L (4-hour equivalent: 53mg/L) (PATTY 4th, 1994), which vapor pressure indicate steam with almost no mist. It was classified by the ppm concentration standard. Since 53mg/L was converted to 12927ppm with the conversion factor (1ppm=4.1mg/m3), it was classified as out of Category.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	It was set as Category 2 from description that irritant was acknowledged by the cutaneous contact as effect of the humans (DFGOT (vol.11, 1998) and Occupational Health Recommendation of Occupational Exposure Limits(1988)).
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	We classified it as Category 2A-2B based on the description that mild ocular irritation was acknowledged in the ocular irritation tests using the rabbits (IUCLID (2000)) and on the descriptions that it stimulated the eyes (ICSC (J), (1997) and SITTIG (4th, 2002)).
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Not classified	-	-	-	Since it was classified into D in EPA (1996) (IRIS, 2005), it was considered as the outside of Category.
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 effects)	Exclamation mark	Warning	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation, narcotic)	Because of descriptions in ACGIH (7th, 2001), DFGOT (vol.11, 1998), PATTY (4th, 1994) and Japan Society for Occupational Health recommendation (1988) referring to that anesthetic actions and respiratory irritation were confirmed in inhalation exposure tests using rats and mice, and of a description referring to confirmation of central nervous system depressions and mucosal irritation in human exposure. So it was judged as Category 3 (respiratory irritation, anesthesia action).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver)	Health hazard	Warning	may cause damage to organs (liver) through prolonged or repeated	Although the concrete case was not indicated, from description that it may affect the liver and cause a dysfunction (ICSC (J) (1997)), it was classified into Category 2 (liver).
10	Aspiration hazard	Category 1	Health hazard	Danger	May be fatal if swallowed and enters airways	Since it is a hydrocarbon and the dynamic viscosity is 0.61mm <sup>2</sup> /s at 20 degrees C (calculated from the viscosity 0.4169 mPa-s and the density 0.68376g/cm <sup>3</sup> at 20 degrees C), we classified it as Category 1.

### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Classification not possible	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data