

## GHS Classification

**ID691**

**Octane**

**CAS 111-65-9**

Date Classified: Apr. 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 2	Flame	Danger	Highly flammable liquid and vapour	Category 2 because of its flash point:13degC(<23degC) and boiling point: 126degC(>35degC)
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: 220degC (ICSC, 1997) and liquid
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition ) and non-pyrophoric at a room temperature
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	-	-	-	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)	Classification not possible	-	-	-	No data available
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Not classified	-	-	-	It considered as the outside of Category based on a rat LC50: 118mg/L/4h (PATTY (5th, 2001)). (The saturated vapor at 25degC is 87mg/L, and it is thought that mist is mixed with steam at the LC50 value.)
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description that erythema and inflammation were observed when it contacted forearm for 1 hour and thigh for 5 hours in volunteer examination (PATTY (5th, 2001)), it was classified as Category 2.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	It was segmented into Category 2 from statement of stimulative with an eye(ICSC (1997)). It cannot be classified with 2A or 2B. It is more desirable to be set as Category 2A from safety perspective if subdivision is needed in display etc.
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	-	-	-	Classification not possible due to lack of data and reports
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 1 (central nervous system); Category 3 (respiratory tract irritation, narcotic effects)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (central nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation, narcotic effects)	There is the description that there is anesthetic action by high exposure levels (ACGIH (2001), (PATTY (5th, (2001)), by high exposure levels, and a spasm (HSDB (2005)), and it is classified into Category 1 (central nervous system) and Category 3 (anesthetic action). The similar symptoms is observed in animals test which is also the high concentration besides a guidance value. It is classified into Category 3 (respiratory irritation) from the description of respiratory irritation (ICSC (1997)).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Classification not possible due to lack of data
10	Aspiration hazard	Category 1	Health hazard	Danger	May be fatal if swallowed and enters airways	Based on the statement of hydrocarbon of dynamic viscosity of 0.735mm <sup>2</sup> /s (calculated value), the risk of chemical pneumonia (ICSC (1997)), and fear of chemical pneumonia by aspiration (HSDB (2005)), it was classified into Category 1.

### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 48-hour EC50=0.18mg/L of Crustacea (Daphnia magna) (MOE eco-toxicity tests of chemicals, 1998).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1, supposedly bioaccumulative (log Kow=5.18 (PHYSPROP Database, 2005)), and rapid degradability is unknown.