

## GHS Classification

**ID245**

**methylhydrazine**

**CAS 60-34-4**

Date Classified: Jul. 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	Classification not possible	-	-	-	Classification not possible due to lack of data on an exothermic decomposition energy.
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 1	Flame	Danger	Extremely flammable liquid and vapour	UNRTDG No. 2740, Class: 3; PG I. Flash point: -8.3degC. Boiling point 87.5degC
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Type G	-	-	-	UNRTDG Non-hazardous Substance
9 Pyrophoric liquids	Not classified	-	-	-	Since it is not classified as UNRTDG class 4.2 PG I and the ignition points was 196 degC (ICSC (J), (2004)), it was presupposed that it does not ignite spontaneously even if it contacts the air of 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 classified	-	-	-	Reducing substance (ICSC(J), 2004)
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	-	-	-	It is a moderate strong bases (ICSC (J) (2004)). However, there is no metal corrosion data and it cannot be classified.

## Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Skull and crossbones	Danger	Fatal if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 32 mg/kg REFERENCE SOURCE: PATTY (4th, 1994)
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	Based on rat LD50 value: 183mg/kg and rabbit LD50 value: 93mg/kg (ACGIH 7th, 2001, PATTY 4th, 1994), the rabbit lower value was adopted and it was set as Category 2.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	Based on rat LC50 (4 hours) values: 74ppm and 78ppm (equivalent of 0.14mg/L and 0.15mg/L) (ACGIH 7th, 2001, PATTY 4th, 1994) which vapor pressure indicate steam with almost no mist, it was classified as Category 1 by the ppm concentration standard.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description that erythema and edema were observed in dog skin application test, though the exposure time was unknown (ACGIH (7th, 2004) and PATTY (4th, 1994)) and that there is possibility of severe damage on human skin (PATTY (4th, 1994)), it was classified as Category 2.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	It was set as Category 2A from description that damage serious to an eye may be seen by the humans of PATTY (4th, 1994).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	Respirator: No data Skin: Although classified into Sh according to DFG, since there was no evidence that hypersensitivity was induced by skin contacts by humans, it did not meet the judgment criteria and it was decided not to be classified due to insufficiency of data.
5 Germ cell mutagenicity	Not classified	-	-	-	The substance is regarded as outside the categories. Because there are negative results from the dominant lethal tests in mice, which are in vivo multi-generation mutagenicity tests using germ cells (ACGIH (7th, 2001), PATTY (4th, 1994)).

6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Since it was classified into A3 (ACGIH 7th, 2001) according to ACGIH, it was set as Category 2.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Since although there was no descriptions about general toxicity of parent animals, there is the description that there is fetal malformation in oral administration test to pregnancy mouse and rabbit (HSDB (2005)), it is classified into the Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (blood system, nervous system)	Health hazard	Danger	Cause damage to organs (blood system, nervous system)	Due to the descriptions that the effect on the blood was observed in human inhalation exposure example in PATTY (4th, 1994), that the convulsion was observed in the range of guidance value of Category 1 in the oral study using rat, and that the effect on the nervous system was observed in the inhalation exposure test using mouse with unknown concentrations. So it was classified into Category 1 (blood, nervous system) from description that .
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (blood vessels, liver, kidneys, respiratory organs, adrenal)	Health hazard	Danger	Causes damage to organs (blood vessels, liver, kidneys, respiratory organs, adrenal) through prolonged or repeated exposure	It is classified in Category 1 (blood, liver, kidney, respiratory organs, adrenal gland) from description in ACGIH (7th, 2001) that the influence on liver, the kidney, respiratory organs, or the adrenal gland were seen with the concentration of the guidance value range of Category 1 in the test which carried out inhalation exposure, over a long-term to the rat, the mouse, the dog, hamster, or ape.
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)	Category 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 96-hour LC50=2580microg/Lof fishes (Guppy) (AQUIRE, 2003) .
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Classified into Category 2, since acute toxicity was Category 2, and not rapidly degrading (BOD: 0% (existing chemical safety inspections data)), though supposed less bio-accumulative (log Kow=-1.05(PHYSPROP Database, 2005)).