

## GHS Classification

**ID730**

**1-methylethyl acetate**

**CAS 108-21-4**

Date Classified: Jul. 24, 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 2	Flame	Danger	Highly flammable liquid and vapour	It was classified as Category 2 (GHS acceptance criteria: flash point being less than 23 degC, and initial boiling point being more than 35 degC) for 2 degC of flash point and 88.5 degC of initial boiling point.
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: 460degC (ICSC, 1998)
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not classified because of 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	-	-	-	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)	Category 5	-	Warning	May be harmful if swallowed	Category 5 based on SPECIES: Rat; ENDPOINT: LD50;VALUE:3000 mg/kg; REFERENCE SOURCE: ACGIH (7th, 2003)
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on rabbit dermal LD50 = 20mL/kg or more (RTECS (2005)) and 20000mg/kg or more (IUCLID (2000)), it was set as the outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Not classified	-	-	-	Since 1 out of 6 rats died with 16000ppm, and 5 out of 6 rats died with 32000ppm (ACGIH (7th, 2003)). It was thought that LC50 by inhalation of vapor was larger than 16000 ppm, and 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	There are statements that there is a possibility of becoming a cause of dryness, rednesses, cracks, and "severe" chemical burn on humans (ACGIH (2003), ICSC (1998), HSFS (2004)). But according to the result of Draize examination (skin application of 500mg) on rabbit, it was "mild" (ACGIH (7th, 2003)). And since it was thought that there was no irreversible disorder, it was classified as Category 2.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	There is a statement that simulativeness of the eye is carried out in humans and it can become a cause of redness or a chemical burn (PATTY and (5th, 2001), ICSC (1998), HSFS (2004), and SITTIG (47th, 2002)), and The Draize method test result in rabbit is "mild reaction" (ACGIH (7th, 2003)). On the other hand, there is a statement that the condition of an eye is recovered for a short times (PATTY (5th, 2001), GESTIS (2005)). It was set as Category 2B based on these
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	-	-	-	Since there was no information other than the negative result (IUCLID (2000)) of an in vitro mutagenicity test (reverse mutation test using bacteria), we presupposed that we could not categorize it according to the technical guideline.
6 Carcinogenicity	Classification not possible	-	-	-	Although there is data of rat and mouse, an administration period is unknown. Therefore, it cannot be classified since data is insufficient.

7	Toxic to reproduction	Classification not possible	-	-	-	No data available
8	Specific target organs/systemic toxicity following single exposure	Category 2 (central nervous system); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Warning	May cause damage to organs (central nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	A statement that there is respiratory irritation in humans (ACGIH(2003), HSFS (2004)) and a statement that a central nervous systems is affected (ICSC (1998), HSFS (2004), SITTIG (47th, 2002)). So it is classified into Category 2 (central nervous system) and 3 (respiratory irritation).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (respiratory organs, liver)	Health hazard	Warning	May cause damage to organs (respiratory organs, liver) through prolonged or repeated exposure	It was classified into Category 2 (respiratory system, liver) based on the statement that there is a risk of doing a damage to respiratory systems and liver in humans (HSFS (2004), SITTIG (47th, 2002)) .
10	Aspiration hazard	Category 2	Health hazard	Warning	May be harmful if swallowed and enters airways	We classified it as Category 2 based on the statement that there is a risk of chemical pneumonia in case of swallowed by aspiration into the lungs (ICSC (1998)), and the statement that of risk of chemical pneumonia by intake (SITTIG (47th, 2002)). Since it was unknown whether it is the description based on human case, We did not classify 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)	Not classified	-	-	-	It carried out the outside of Category from 48-hour LC50=110000microg/L of Crustacea (Brine shrimp) (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (aqueous solubility =30900 mg/L (PHYSROP Database, 2005)) and acute toxicity is low.