

MATERIAL SAFETY DATA SHEET

Company Name: Musashino Chemical Laboratory, Ltd.
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 Factory: Isohara Plant
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 Ibaraki-ken, Japan 319-1541
 Charge Department: Isohara Plant Quality Control Department
 Responsibility for MSDS: Quality Control Masanobu Yamagata
 MSDS Preparation Date July 1, 2007

Trade Name	METHYL PYRUVATE
Name	METHYL PYRUVATE (METHYL 2-OXOPROPANOATE)
Contents	99.0% up
Formula	CH ₃ CC(=O)OCH ₃ O
MITI No.	(2)-1505 (Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances)
CAS NO.	600-22-6
UN Dangerous Goods Number	1993

Hazards Identification

Class Name	Flammable Liquid
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First Aid 1)

Skin Contact

Immediately flush skin with plenty of water or tepid water.

Eye Contact

Immediately flush skin with plenty of water at least 15 minutes.

Immediately remove contact lenses if wore.

If irritation persists, call a physician .

Inhalation

Immediately remove to fresh air.

Difficult breathing needs inhalation of oxygen.

If the exposed person does not breathe, give him an artificial respiration. Call a physician immediately.

Ingestion

If swallowed, give large quantities of water or solution of salt, and try to induce vomiting by having affected person touch back of the throat with his finger.

Call a physician immediately.

Fire Fighting Measures**Fire Extinguish**

Remove a source of fire. Use a fire extinguisher.

Cool the tanks and houses with water spray to prevent from spreading fire. Fire fighting must be done at the windward side.

Wear the respiratory protector if need.

Extinguishing Media

Dry Chemicals, Foam

Leakage

In case of small quantities of leakage, pack a absorbent material into container after absorbing spilled material.

Clean up the leaked place with large quantities of water.

Deal the container contents with applicable regulations.

In case of large quantities of leakage, flush spilled material into container after leading to suitable retaining areas stopping the fluid by sand and the like.

Clean up the leaked place with large quantities of water.

Disposal must be in accordance with applicable regulations.

Take person refuge in the weather side.

Tighten rope around the leakage place.

Keep person out the place.

Keep away from heat and flames promptly.

Prepare extinguishing media before starting on cleaning.

Wear protective clothing and self-contained breathing apparatus.

Handling and Storage

Caution not to generate firer, as to fire, static electricity, and spark.

Take amount of preventing the materials from leak.

Wear protective clothing to prevent from contact and inhalation the materials.

Avoid direct rays of the sun.

Keep container tightly closed.

Keep away from high temperature substances.

Use and earth an anti-explosive electric-apparatus in storage areas.

Exposure controls

Use protective glasses and rubber gloves.

Especially if necessary, wear organic gas mask, air mask, or self-contained breathing apparatus.

Set up safety shower ,hand washer and eye washer nearby handling the materials. Indicate the positions distinctly.

Physical And Chemical Properties 2) 3) 5)

Appearance	Yellow, transparent liquid having a characteristic odor.
Boiling point	134~137℃ (760 hPa)
Vapor pressure	5.01 hPa (20℃) 9.62 hPa (30℃)
Specific Gravity	· 1.111
Vaporization velocity	0.422 (butyl acetate = 1)
Solubility	Soluble in water, alcohol, toluene.

Hazards Reactivity 2) 3) 4)

Flash point	49.0 ℃ (closed)
Instability	Normally stable.
Reactivity	Acid or alkali may cause hydrolysis with the materials.

Toxicological Information 4)

LD ₅₀	> 5000 mg/kg-bw. (rat ♂ oral)
LD ₅₀	4931 mg/kg-bw. (rat ♀ oral)

Ecological Information 5)

Chemical Oxygen Demand(COD Mn)	0.46 g/g
Biochemical Oxygen Demand(BOD)	0.98 g/g

Disposal Information

Burn up absorbent sand gradually in the opened incinerator after absorbing the materials , or burn up the materials directly in the incinerator through atomizer.

Transport Information

The materials transportation by vehicles, the sender serves deliverers with instructions for safe handling .
In transportation, confirm leakless of the container, and load the materials not to upset, fall, and damage.
Secure preventing the load from falling.

Regulatory Information

JAPAN	Hazardous Class 4 Petroleum 2 (insoluble in water) (The Law of Prevention and Extinction of Fires) Hazardous (flammable liquid) (The Law of Labor Safety and Sanitation)
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Additional Information

Inquiry about informations

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References

- 1) The Sigma-Aldrich Library of Chemical Safety Data
Edition II ; Robert E. Lenga
- 2) "The Guide to Prevention of Chemical Accidents I"
Japan Chemicals Association published by MARUZEN (Japanese)
- 3) "The Handbook of Organic Solvents"
Matuda et al. published by SANGYO TOSYO (Japanese)
- 4) Reports of Authorized Public Laboratory (Japanese)
- 5) Unpublished data(for Company use :Japanese)
- 6) "The Handbook of Prevention for Dangerous Substances Accidents
and Emergencies"
KOUBEKAINAN BOUSHIKENKYUUKAI published by SEIZANDO (Japanese)

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The information on products is intended for common products use, so care for extraordinary handling.

End of MSDS