

SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name : Methyl Pyruvate
Other Name : Methyl 2-oxopropanoate
Manufacturer : Musashino Chemical Laboratory, Ltd.
Address : Tekko Bldg., 8-2, Marunouchi 1-Chome,
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2. Hazards identification :

Flammable Liquids, Category 3

Hazard Label :



Signal Word : Warning

Hazard Statement

Flammable liquid and vapor

Precautionary Statement

Safety measures

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep container tightly closed.

Ground/Bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Emergency Measures

IF ON SKIN (or hair):

Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Storage

Store in a well-ventilated place. Keep cool.

In case of fire: Use suitable extinguishing method for extinction.

Disposal

Dispose of contents/container in accordance with local/national regulations.

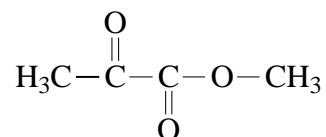
Other Hazard

No information available.

3. Composition/Information on Ingredients

It is single substance of Methyl Pyruvate

Contents : 98.0% up
 Chemical Name : Methyl 2-Oxopropanoate
 Formula :



MITI No. : (2)-1505
 CAS No. : 600-22-6
 EINECS : 209-987-4
 Hazardous Component : Methyl Pyruvate

4. First Aid Measures

SKIN CONTACT : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

EYE CONTACT : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON Center or doctor/physician.

INHALATION : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if victim feels unwell.

INGESTION : Rinse mouth. Never give anything through mouth to an unconscious person. Call a doctor/physician if victim feels unwell.

5. Fire Fighting Measures

Suitable extinguishing media :

Such as dry chemicals, foam

Special hazards arising from the product :

Flammable liquid burning may produce irritant gas/fume: carbon monoxide, carbon dioxide.

Special fire-fighting methods :

Cut off the combustion source and use the fire extinguishing agent to extinguish. In addition, cool tanks and building by water spray for reduction of fire spread. Fire-fighting should be done from the windward side.

Protection for fire-fighters :

Fire fighters should wear appropriate breathing apparatus and protective equipment.

6. Accidental Release Measures

Personal precautions :

Wear personal protective equipment (See Section 8).
Don't work on downwind. Restrict the person approach near the working space.

Environmental precautions :

Do not allow to get into sewer or waterways, if this occurs, inform the relevant water authority at once.

Method and materials for contaminant and cleaning up :

For small spill, absorb spills with inert material, then place them into container.
For large spill, flush spills into container after leading to suitable retaining areas stopping the fluid by sand and the like.
Clean up the leaked place with large quantity of water.
Disposal must be in accordance with applicable regulation.

Secondary disaster prevention :

Remove firing source. Prepare fire extinguisher.

7. Handling and Storage

Handling : Use this material with adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Take precautionary measures against static discharge.

Storage : Store in cool, dry and well-ventilated place. Keep container tightly closed. Keep away from heat/sparks/open flames/hot surfaces.

8. Exposure Controls/Personal Protection

Exposure limits : No information available.

Equipment measures : Provide local exhaust or process enclosure ventilation system. Setup safety shower, eye washer and hand washer. And display those positions clearly.

Personal protective equipment

Respiratory protection : Wear gas mask or self-contained breathing apparatus in case of inadequate ventilation.

- Hand protection : Wear protective gloves.
- Eye protection : If the eyes may potentially come in contact with the product, then chemical safety goggles are necessary.
- Skin and body protection : Wear appropriate protective working clothing and apron.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

9. Physical and Chemical Properties

- Appearance : Transparent, clear, liquid.
- Color : Pale yellow
- Odor : Having a characteristic odor.
- pH : No data
- Boiling Point : 134~137°C (101.3kPa)
- Flash Point : 49.0°C (Tag closed test)
- Vapor Pressure : 0.50 kPa (20°C) 0.96 kPa (30°C)
- Evaporation Rate : 0.422utyl Acetate=1)
- Heat of combustion : 18,400 J/g
- Specific Gravity : 1.100~1.120 (d_{20}^{20})
- Solubility : Partially soluble in water, freely soluble in alcohol and acetone.

10. Stability and Reactivity

- Stability : Stable under normal conditions of handling, storage use.
- Reactivity : It might hydrolyze to pyruvic acid and methanol in existence of acid or alkali.
- Possibility of hazardous reactions : No information available.
- Conditions to avoid : Flames, strong heating and other sources of ignition, incompatible materials.
- Incompatible materials : Strong acids, Strong bases.
- Hazardous decomposition Products : Oxides of carbon

11. Toxicological Information

- Exposure routes : Inhalation, skin, ingestion, eye.
- Symptom : Not available.
- Acute toxicity : LD₅₀ >5,000mg/kg (Rat Male, Oral)
LD₅₀ 4,931mg/kg (Rat Female, Oral)
- Local effect : No data

12. Ecological Information

Persistence/Degradation : Good Degradability
 COD : 0.48 g/g (KMnO₄)
 BOD : 0.98 g/g

13. Disposal Information

Waste disposal methods : Absorb to diatom and incinerate in suitable combustion chamber. Dispose of water and residues in accordance with local authority requirements.

14. Transport information

UN Classifications : Class 3 Flammable Liquids
 UN Number : 1993
 Packaging Group : III

15. Regulatory Information

Applicable regulations

1. Labor Safety and Health Act : Hazardous (Flammable Liquid)
2. Fire service Act : Hazardous Class 4 Petroleum 2 (Insoluble in water)
3. Ship Safety Act : Flammable Liquid
4. Civil Aeronautics Act : Flammable Liquid

16. Other Information

References

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

Disclaimer :

The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive

measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.