

SAFETY DATA SHEET

Revision Date 14-Feb-2020

Revision Number 2

1. Identification

Product Name 3-Methyl-2-butanone

Cat No. : B24527

CAS-No 563-80-4
Synonyms MIPK; Methyl isopropyl ketone

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.
Details of the supplier of the safety data sheet

Company

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids

Category 2

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor

**Precautionary Statements****Prevention**

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

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store in a well-ventilated place. Keep cool

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|-------------------------|----------|----------|
| Methyl isopropyl ketone | 563-80-4 | 98 |

4. First-aid measures

| | |
|--|--|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention. Take off contaminated clothing and shoes immediately. |
| Inhalation | Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required. |
| Ingestion | Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately. If possible drink milk afterwards. |
| Most important symptoms and effects | Difficulty in breathing. . Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|-------------------------------------|---|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water mist may be used to cool closed containers. |
|-------------------------------------|---|

Unsuitable Extinguishing Media No information available

Flash Point 6 °C / 42.8 °F

Method - No information available

Autoignition Temperature 427 °C / 800.6 °F

Explosion Limits

Upper 9.00%

Lower 1.80%

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
0

Flammability
3

Instability
0

Physical hazards
N/A

6. Accidental release measures

Personal Precautions Remove all sources of ignition. Take precautionary measures against static discharges.
Environmental Precautions See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Flammables area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame.

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|-------------------------|-------------|--|--|------------------|
| Methyl isopropyl ketone | TWA: 20 ppm | (Vacated) TWA: 200 ppm (Vacated) TWA: 705 mg/m ³ | TWA: 200 ppm TWA: 705 mg/m ³ | TWA: 20 ppm |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
 OSHA - Occupational Safety and Health Administration
 NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection No protective equipment is needed under normal use conditions.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|---|--|
| Physical State | Liquid |
| Appearance | Colorless |
| Odor | pungent |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | -92 °C / -133.6 °F |
| Boiling Point/Range | 94 - 95 °C / 201.2 - 203 °F @ 760 mmHg |
| Flash Point | 6 °C / 42.8 °F |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | 9.00% |
| Lower | 1.80% |
| Vapor Pressure | 55 hPa @ 20 °C |
| Vapor Density | 3.0 (Air = 1.0) |
| Specific Gravity | 0.800 |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | 427 °C / 800.6 °F |
| Decomposition Temperature | No information available |
| Viscosity | No information available |
| Molecular Formula | C5 H10 O |
| Molecular Weight | 86.13 |

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Keep away from open flames, hot surfaces and sources of ignition. Incompatible products.

Incompatible Materials Strong oxidizing agents, Strong bases, Strong reducing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization No information available.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------------|--|--|-----------------------------|
| Methyl isopropyl ketone | LD50 = 3078 mg/kg (Rat) LD50 = 3000 mg/kg (Rat) | LD50 = 6.35 mL/kg (Rabbit) LD50 = 6350 mg/kg (Rabbit) | LC50 = 6377 ppm (Rat) 6 h |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|-------------------------|----------|------------|------------|------------|------------|------------|
| Methyl isopropyl ketone | 563-80-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Do not empty into drains.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-------------------------|------------------|--|------------|------------|
| Methyl isopropyl ketone | Not listed | LC50: 813 - 918 mg/L, 96h flow-through (Pimephales promelas) | Not listed | Not listed |

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

| Component | log Pow |
|-----------|---------|
|-----------|---------|

| | |
|-------------------------|------|
| Methyl isopropyl ketone | 0.56 |
|-------------------------|------|

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2397
Hazard Class 3
Packing Group II

TDG

UN-No UN2397
Hazard Class 3
Packing Group II

IATA

UN-No UN2397
Proper Shipping Name 3-METHYLBUTAN-2-ONE
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No UN2397
Proper Shipping Name 3-METHYLBUTAN-2-ONE
Hazard Class 3
Packing Group II

15. Regulatory information

United States of America Inventory

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-------------------------|----------|------|---|-----------------------------|
| Methyl isopropyl ketone | 563-80-4 | X | ACTIVE | - |

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|-------------------------|----------|-----|-----|-----------|-------|------|------|-------|----------|
| Methyl isopropyl ketone | 563-80-4 | X | - | 209-264-3 | X | X | X | X | KE-23584 |

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Not applicable

Health Administration

CERCLA Not applicable**California Proposition 65** This product does not contain any Proposition 65 chemicals.**U.S. State Right-to-Know Regulations**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------------|---------------|------------|--------------|----------|--------------|
| Methyl isopropyl ketone | X | X | X | - | X |

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.**Other International Regulations****Mexico - Grade** No information available**16. Other information**

Prepared By Health, Safety and Environmental Department
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Revision Summary SDS authoring systems update, replaces ChemGes SDS No. 563-80-4.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS