

Material Safety Data Sheet

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Date Updated: 12/MAR/2004
Version 1.1
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

| | |
|-------------------|--|
| Product Name | 3-METHYL-2-BUTANONE, 99% |
| Product Number | 537721 |
| Company | Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia |
| Technical Phone # | +61 2 9841 0555 (1800 800 097) |
| Fax | +61 2 9841 0500 (1800 800 096) |
| Emergency Phone # | +44 8701906777 (1800 448 465) |

2 - Composition/Information on Ingredients

| | | | |
|---------------------|---|-----------|-------------------------|
| Product Name | CAS # | EC no | Annex I Index Number |
| 3-METHYL-2-BUTANONE | 563-80-4 | 209-264-3 | 606-007-00-0 |
| Formula | C5H10O | | |
| Molecular Weight | 86.13 AMU | | |
| Synonyms | 2-Acetyl propane * Isopropyl methyl ketone * 3-Methyl-2-butanone * Methyl isopropyl ketone (ACGIH) * MIPK | | |

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Highly flammable.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions. Vapor may travel considerable distance to source of ignition and flash back.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame. Store in a cool dry place. May form peroxides on prolonged storage. Date container and periodically test for peroxides.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

EXPOSURE LIMITS - DENMARK

| Source | Type | Value |
|--------|------|-----------------------|
| OEL | TWA | 705 mg/m ³ |
| | | 200 ppm |

EXPOSURE LIMITS - GERMANY

| Source | Type | Value |
|--------|------|-------|
|--------|------|-------|

TRGS 900

OEL

705 mg/m³

Remarks: NL

EXPOSURE LIMITS - NORWAY

| Source | Type | Value |
|--------|------|-----------------------|
| OEL | OEL | 350 mg/m ³ |
| | | 100 ppm |

Remarks: H

EXPOSURE LIMITS - SWITZERLAND

| Source | Type | Value |
|--------|------|-----------------------|
| OEL | OEL | 720 mg/m ³ |
| | | 200 ppm |

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

| | | |
|-----------------------|--|----------------------------|
| Appearance | Physical State: Clear liquid Color: Colorless | |
| Property | Value | At Temperature or Pressure |
| pH | N/A | |
| BP/BP Range | 93 - 94 °C | |
| MP/MP Range | -92 °C | |
| Flash Point | -3 °C | Method: closed cup |
| Flammability | N/A | |
| Autoignition Temp | N/A | |
| Oxidizing Properties | N/A | |
| Explosive Properties | N/A | |
| Explosion Limits | Lower: 1.2 % Upper: 8.2 % | |
| Vapor Pressure | 42 mmHg | 20 °C |
| SG/Density | 0.804 g/cm ³ | |
| Partition Coefficient | N/A | |
| Viscosity | 0.5 Pas | 20 °C |
| Vapor Density | N/A | |
| Saturated Vapor Conc. | N/A | |
| Evaporation Rate | N/A | |
| Bulk Density | N/A | |
| Decomposition Temp. | N/A | |
| Solvent Content | N/A | |
| Water Content | N/A | |
| Surface Tension | N/A | |
| Conductivity | N/A | |
| Miscellaneous Data | N/A | |
| Solubility | Solubility in Water: 5 mg/ml H ₂ O | |

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Reactions to Avoid: Do not distill to dryness.

Conditions to Avoid: Normally stable; however, on long term storage, materials containing similar functional groups form peroxides of unknown stability.

Materials to Avoid: Strong oxidizing agents, Strong bases, Strong reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: EL9100000

ACUTE TOXICITY

LD50

Oral

Rat

3,078 mg/kg

LC50

Inhalation

Rat

6,377 ppm

6H

LD50

Oral

Rat

148 mg/kg

LD50

Intraperitoneal

Rat

800 MG/KG

LD50

Oral

Mouse

2572 mg/kg

LD50

Intraperitoneal

Mouse

200 MG/KG

LD50

Skin

Rabbit

6350 mg/kg

IRRITATION DATA

Skin

Guinea pig

Remarks: Mild irritation effect

Eyes

Rabbit

Remarks: Moderate irritation effect

Skin

Rabbit

500 mg

24H

Remarks: Moderate irritation effect

Skin

Rabbit
500 mg
Remarks: Open irritation test

Eyes
Rabbit
100 mg
24H
Remarks: Mild irritation effect

Eyes
Rabbit
500 mg
24H
Remarks: Mild irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 813 - 918 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR
UN#: 2397
Class: 3
PG: II
Proper Shipping Name: 3-Methylbutan-2-one

IMDG
UN#: 2397
Class: 3
PG: II
Proper Shipping Name: 3-Methylbutan-2-one
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 2397

Class: 3

PG: II

Proper Shipping Name: 3-Methylbutan-2-one

Inhalation Packing Group I: No

15 - Regulatory Information**CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES**

ANNEX I INDEX NUMBER: 606-007-00-0

INDICATION OF DANGER: F

Highly Flammable.

R-PHRASES: 11

Highly flammable.

S-PHRASES: 9 16 33

Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges.

COUNTRY SPECIFIC INFORMATION**Germany**

WGK: 1 (self-classification)

SWITZERLAND

SWISS POISON CLASS: 4

16 - Other Information**WARRANTY**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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