

Material Safety Data Sheet

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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)
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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
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TRGS 900 OEL 705 mg/m3
Remarks: NL

EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	350 mg/m3
		100 ppm

Remarks: H

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	720 mg/m3
		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/cm3	
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 H2O	

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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