

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **3-Methyl-1-butanol**
Product Number : 15-1590
Brand : Katayama OEM Partner
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Isoamyl alcohol
Isopentyl alcohol

Formula : C₅H₁₂O
Molecular Weight : 88.15 g/mol

CAS-No.	EC-No.	Index-No.	Concentration [%]
3-Methylbutan-1-ol			
123-51-3	204-633-5	603-006-00-7	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid
Delayed target organ effects
Irritant

Target Organs

Central nervous system

HMIS Classification

Health Hazard: 2

Chronic Health Hazard: *

Flammability: 2

Physical hazards: 0

NFPA Rating

Health Hazard: 2

Fire : 2

Reactivity Hazard: 0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 43 °C (109 °F) - closed cup

Ignition temperature 340 °C (644 °F)

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
3-Methylbutan-1-ol	123-51-3	TWA	100 ppm 361 mg/m ³	1994-09-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004: Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
		STEL	125 ppm 452 mg/m ³	1994-09-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004: Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
		TWA	100 ppm 360 mg/m ³	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		STEL	125 ppm 450 mg/m ³	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	100 ppm 360 mg/m ³	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form liquid, clear

Colour colourless

Safety data

pH 5.6 at 25 g/l at 20 °C (68 °F)

Melting point -117 °C (-179 °F)

Boiling point 131 - 132 °C (268 - 270 °F)

Flash point 43 °C (109 °F) - closed cup

Ignition temperature 340 °C (644 °F)

Lower explosion limit 1.2 %(V)

Upper explosion limit 9 %(V)

Vapour pressure 3 hPa (2 mmHg) at 20 °C (68 °F)
23.6 hPa (17.7 mmHg) at 50 °C (122 °F)

Density 0.809 g/cm³

Water solubility soluble

Partition coefficient:
n-octanol/water log Pow: 1.28

Vapour density 3.04
- (Air = 1.0)

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Acid chlorides, Acid anhydrides, Reducing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.

Carbon oxides

Hazardous reactions

Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - > 5,000 mg/kg

LD50 Dermal - rabbit - > 3,000 mg/kg

Irritation and corrosion

Skin - rabbit - Skin irritation

Eyes - rabbit - Eye irritation

Sensitisation

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Chronic exposure

no data available

Signs and Symptoms of Exposure

prolonged or repeated exposure can cause: Nausea, Headache, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.
Target Organs	Central nervous system,

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability

Ecotoxicity effects

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 260 mg/l - 48 h

Toxicity to algae EC50 - Scenedesmus subspicatus - 490 mg/l - 72 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 1105 Class: 3 Packing group: III
Proper shipping name: Pentanols

IMDG

UN-Number: 1105 Class: 3 Packing group: III EMS-No: F-E, S-D
Proper shipping name: PENTANOLS
Marine pollutant: No

IATA

UN-Number: 1105 Class: 3 Packing group: III
Proper shipping name: Pentanols

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Delayed target organ effects, Irritant

TSCA Status

On TSCA Inventory

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
3-Methylbutan-1-ol	123-51-3	1989-12-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
3-Methylbutan-1-ol	123-51-3	1989-12-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
3-Methylbutan-1-ol	123-51-3	1989-12-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information

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