

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihal Produk: **2-Methyl-3-butyn-2-ol**  
 Product Description: **2-Methyl-3-butyn-2-ol**  
 Cat No. : 156820000; 156820010; 156820025; 156820050; 156822500  
 CAS No 115-19-5  
 Molecular Formula C5 H8 O

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

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 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Flammable liquids	Category 2 (H225)
Acute oral toxicity	Category 4 (H302)
Serious Eye Damage/Eye Irritation	Category 1 (H318)
Reproductive Toxicity	Category 2 (H361f)
Specific target organ toxicity - (single exposure)	Category 3 (H336)

**Label Elements**

**Signal Word**
**Danger**
**Hazard Statements**

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H225 - Highly flammable liquid and vapor  
H302 - Harmful if swallowed  
H318 - Causes serious eye damage  
H336 - May cause drowsiness or dizziness  
H361f - Suspected of damaging fertility

## Precautionary Statements

### Prevention

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P240 - Ground and bond container and receiving equipment  
P241 - Use explosion-proof electrical/ ventilating/ lighting equipment  
P242 - Use non-sparking tools  
P243 - Take action to prevent static discharges  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

### Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P330 - Rinse mouth  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

Toxic to terrestrial vertebrates  
This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
3-Methyl butynol	115-19-5	<=100

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### 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 plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Ingestion

Clean mouth with water and drink afterwards plenty of water.

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**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Self-Protection of the First Aider** Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

Difficulty in breathing. Causes severe eye damage. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically. Symptoms may be delayed.

## SECTION 5: FIREFIGHTING MEASURES

**Extinguishing media**

**Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Special hazards arising from the substance or mixture**

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

**Advice for fire-fighters**

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental precautions**

Should not be released into the environment.

**Methods and Material for Containment and Cleaning Up**

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

**Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

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## Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

## Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

## Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	European Union	The United Kingdom	Germany
3-Methyl butynol			TWA: 0.9 ppm (8 Stunden). AGW - exposure factor 2 TWA: 3 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2

### Exposure Controls

#### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### **Eye Protection**

Goggles

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### **Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

#### **Recommended Filter type:**

Organic gases and vapours filter Type A Brown conforming to EN14387

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

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Environmental exposure controls No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance	Clear	
Physical State	Liquid	
Odor	Alcohol-like	
Odor Threshold	No data available	
pH	7	
Melting Point/Range	3 °C / 37.4 °F	
Softening Point	No data available	
Boiling Point/Range	104 °C / 219.2 °F	@ 760 mmHg
Flash Point	19 °C / 66.2 °F	<b>Method -</b> No information available
Evaporation Rate	No information available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	<b>Lower</b> 1.8 vol % <b>Upper</b> 16 vol %	
Vapor Pressure	20 mbar @ 20 °C	
Vapor Density	2.9	(Air = 1.0)
Specific Gravity / Density	0.861	
Bulk Density	Not applicable	Liquid
Water Solubility	Miscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	<b>log Pow</b>	
3-Methyl butynol	0.318	
Autoignition Temperature	350 °C / 662 °F	
Decomposition Temperature	No data available	
Viscosity	3.02 mPa.s at 20 °C	
Explosive Properties		Vapors may form explosive mixtures with air
Oxidizing Properties	No information available	
Molecular Formula	C5 H8 O	
Molecular Weight	84.12	

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

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## Possibility of Hazardous Reactions

### **Hazardous Polymerization Hazardous Reactions**

Hazardous polymerization does not occur.  
None under normal processing.

## Conditions to Avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

## Incompatible Materials

Acids. Strong oxidizing agents. copper.

## Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### **Product Information**

#### **(a) acute toxicity;**

**Oral**

Category 4

**Dermal**

Based on available data, the classification criteria are not met

**Inhalation**

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
3-Methyl butynol	LD50 = 1950 mg/kg ( Rat )	LD50 > 2000 mg/kg ( Rat )	LC50 > 21300 mg/m <sup>3</sup> ( Rat ) 4 h

#### **(b) skin corrosion/irritation;**

Based on available data, the classification criteria are not met

#### **(c) serious eye damage/irritation;**

Category 1

#### **(d) respiratory or skin sensitization;**

**Respiratory**

Based on available data, the classification criteria are not met

**Skin**

Based on available data, the classification criteria are not met

No information available

#### **(e) germ cell mutagenicity;**

Based on available data, the classification criteria are not met

Did not show mutagenic effects in animal experiments

#### **(f) carcinogenicity;**

Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

#### **(g) reproductive toxicity;**

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(h) STOT-single exposure;	Category 3
Results / Target organs	Narcotic effects, Central nervous system (CNS).
(i) STOT-repeated exposure;	Based on available data, the classification criteria are not met
Target Organs	None known.
(j) aspiration hazard;	Based on available data, the classification criteria are not met
Symptoms / effects, both acute and delayed	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Endocrine Disrupting Properties	Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity effects

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
3-Methyl butynol	LC50: 3120 - 3480 mg/L, 96h flow-through (Pimephales promelas)	EC50: > 500 mg/L, 48h (Daphnia magna)	EC50: > 500 mg/L, 96h (Desmodesmus subspicatus) EC50: > 500 mg/L, 72h (Desmodesmus subspicatus)	EC50 = 8600 mg/L 17 h

Persistence and degradability	Not readily biodegradable
Persistence	Persistence is unlikely.

Bioaccumulative potential	Bioaccumulation is unlikely
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Component	log Pow	Bioconcentration factor (BCF)
3-Methyl butynol	0.318	No data available

Mobility in soil	The product is water soluble, and may spread in water systems. . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.
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Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors
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Other adverse effects	No information available
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## SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	
Waste from Residues/Unused Products	Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations
Contaminated Packaging	Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous Keep product and empty container away from heat and sources of ignition

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## Other Information

Waste codes should be assigned by the user based on the application for which the product was used Do not flush to sewer Can be landfilled or incinerated, when in compliance with local regulations Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

UN-No UN1987  
Hazard Class 3  
Packing Group II  
Proper Shipping Name ALCOHOLS, N.O.S. 2-Methyl-3-butyn-2-ol

### Road and Rail Transport

UN-No UN1987  
Hazard Class 3  
Packing Group II  
Proper Shipping Name ALCOHOLS, N.O.S. 2-Methyl-3-butyn-2-ol

### IATA

UN-No UN1987  
Hazard Class 3  
Packing Group II  
Proper Shipping Name ALCOHOLS, N.O.S. 2-Methyl-3-butyn-2-ol

## Special Precautions for User

No special precautions required

## SECTION 15: REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

## International Inventories

X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
3-Methyl butynol	204-070-5	X	X	X	X	X	X	X	KE-23667

## National Regulations

### Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b)  
Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical  
Substances/EU List of Notified Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic  
Substances List



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**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**IECSC** - Chinese Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**RPE** - Respiratory Protective Equipment  
**LC50** - Lethal Concentration 50%  
**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**OECD** - Organisation for Economic Co-operation and Development  
**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**MARPOL** - International Convention for the Prevention of Pollution from Ships  
**ATE** - Acute Toxicity Estimate  
**VOC** - (Volatile Organic Compound)

## Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Revision Date** 21-Mar-2025  
**Revision Summary** SDS sections updated, 4, 9, 14.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## 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 Safety Data Sheet**