

2-Methyl-1-butanol

SECTION 1. IDENTIFICATION

Product Identifier	2-Methyl-1-butanol
Other Means of Identification	2-Methyl butyl alcohol, Isopentanol, sec-Butyl carbinol
Product Code(s)	ME2830
Product Family	Organic solution
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0637

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Flammable liquid - Category 3; Acute toxicity (Inhalation) - Category 4; Skin irritation - Category 2; Serious eye damage - Category 2; Specific target organ toxicity (single exposure) - Category 3

Label Elements



Signal Word:
Warning

Hazard Statement(s):

Flammable liquid and vapour.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.

Precautionary Statement(s):

Avoid breathing dust/fume/gas/mist/vapours/spray.
Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Wash hands and skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Take precautionary measures against static discharge.

Product Identifier: 2-Methyl-1-butanol

Date of Preparation: July 26, 2016

Page 01 of 06

Response:

IF ON SKIN: Wash with plenty of water.

If skin irritation occurs: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice or attention.

Call a POISON CENTRE or doctor if you feel unwell.

Storage:

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

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

Repeated exposure may cause skin dryness or cracking.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
2-Methyl-1-butanol	137-32-6	> 99	2-Methyl butyl alcohol, Isopentanol, sec-Butyl carbinol

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Call a Poison Centre or doctor if you feel unwell.

Skin Contact

Rinse with lukewarm, gently flowing water for 5 minutes. If skin irritation occurs, get medical advice or attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. Immediately call a Poison Centre or doctor.

First-aid Comments

All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If on skin: may cause moderate to severe irritation. If in eyes: causes moderate to severe irritation.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

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

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams". Use water to keep non-leaking, fire-exposed containers cool. Use water to keep non-leaking, fire-exposed

Product Identifier: 2-Methyl-1-butanol

Date of Preparation: July 26, 2016

Page 02 of 06

containers cool.

Unsuitable Extinguishing Media

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific Hazards Arising from the Product

Combustible liquid. Can ignite if heated. Releases vapour that can form explosive mixture with air at or above the flash point. See Section 9 (Physical and Chemical Properties) for flash point and explosive limits. Can be ignited by static discharge. May travel a considerable distance to a source of ignition and flash back to a leak or open container. Heating increases the release of toxic vapour. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; toxic, flammable aldehydes.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Use water spray to dilute spills to non-flammable mixtures. Use water spray to flush spills away from ignition sources. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources if safe to do so. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Avoid generating vapours or mists. Only use where there is adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Electrically bond and ground equipment. Ground clips must contact bare metal. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard). Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
2-Methyl-1-butanol	Not established		Not established			

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

Product Identifier: 2-Methyl-1-butanol

Date of Preparation: July 26, 2016

Page 03 of 06

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, neoprene rubber, nitrile rubber, Viton®, Viton®/butyl rubber.

The following materials should NOT be used: natural rubber, polyvinyl alcohol.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless liquid.
Odour	Sour
Odour Threshold	0.045 mg/m ³ (detection)
pH	Not available
Melting Point/Freezing Point	< -70 °C (-94 °F) (melting); < -70 °C (-94 °F) (freezing)
Initial Boiling Point/Range	128 °C (262 °F)
Flash Point	43 °C (109 °F)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	9.0 - 10.0% (upper); 1.4 - 1.9% (lower)
Vapour Pressure	0.274 kPa (2.055 mm Hg)
Vapour Density (air = 1)	3.04
Relative Density (water = 1)	0.816 - 0.819 at 20 °C
Solubility	Moderately soluble in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	1.29
Auto-ignition Temperature	385 °C (725 °F)
Decomposition Temperature	Not available
Viscosity	6.24 - 6.26 mm ² /s at 20 °C (kinematic); 5.11 mPa.s at 20 °C (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	88.15

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong acids (e.g. hydrochloric acid), halogens (e.g. chlorine), metals (e.g.

Product Identifier: 2-Methyl-1-butanol

Date of Preparation: July 26, 2016

Page 04 of 06

aluminum), acid anhydrides (e.g. acetic anhydride).

Hazardous Decomposition Products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
2-Methyl-1-butanol	Not available	4010 mg/kg (male rat)	2900 mg/kg (rabbit)

Skin Corrosion/Irritation

Animal tests show mild irritation.

Serious Eye Damage/Irritation

Animal tests show serious eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause nose and throat irritation, depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Ingestion

May cause depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
2-Methyl-1-butanol	Not evaluated	Not Listed	Not Listed	

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

Product Identifier: 2-Methyl-1-butanol

Date of Preparation: July 26, 2016

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Bury in a licensed landfill or burn in an approved incinerator according to federal, provincial/state, and local regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1105	PENTANOLS	3	III
Canadian TDG	UN1105	PENTANOLS	3	III

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 3 Flammability - 2 Instability - 0

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

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Date of Last Revision January 12, 2017

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

Product Identifier: 2-Methyl-1-butanol

Date of Preparation: July 26, 2016

Page 06 of 06