1. Identification

Product Name: 2-Methyl-2-butanol

Cat No.: AC166620000; AC166620010; AC166620025; AC166620100

CAS-No: 75-85-4
Synonyms: tert-Amyl alcohol

Recommended Use: Laboratory chemicals.
Uses advised against: Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company: Fisher Scientific
Importer/Distributor: 112 Colonnade Road, Ottawa, ON K2E 7L6, Canada
Tel: 1-800-234-7437

Company: Acros Organics
Manufacturer: Fisher Scientific Company
Importer/Distributor: One Reagent Lane, Fair Lawn, NJ 07410
Manufacturer: One Reagent Lane
Importer/Distributor: Tel: (201) 796-7100

Emergency Telephone Number

For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US: 001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US: 001-800-424-9300 / Europe: 001-703-527-3887

2. Hazard(s) identification

WHMIS 2015 Classification: Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

Flammable liquids Category 2
Acute dermal toxicity Category 4
Acute Inhalation Toxicity Category 4
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 1
Specific target organ toxicity (single exposure) Category 3
Target Organs - Respiratory system, Central nervous system (CNS).

Label Elements

Signal Word: Danger

Hazard Statements
2-Methyl-2-butanol

Revision Date 24-December-2021

Highly flammable liquid and vapor
Harmful in contact with skin or if inhaled
Causes skin irritation
Causes serious eye damage
May cause respiratory irritation
May cause drowsiness and dizziness

Precautionary Statements
Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharges
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection

Response
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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
Immediately call a POISON CENTER/doctor
Wash contaminated clothing before reuse
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

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

Disposal
Dispose of contents/container to an approved waste disposal plant

Other Hazards
Light sensitive

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>75-85-4</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. 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.
2-Methyl-2-butanol

Revision Date 24-December-2021

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

Ingestion
Clean mouth with water and drink afterwards plenty of water.

Most important symptoms/effects
Causes severe eye damage. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media
Water may be ineffective

Flash Point
20 °C / 68 °F

Method -
No information available

Autoignition Temperature
435 °C / 815 °F

Explosion Limits
Upper 9.60 vol %
Lower 1.30 vol %

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
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 (CO₂).

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

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
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 for Containment and Cleanup
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.

7. Handling and storage

Handling
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation. 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.

### 8. Exposure controls / personal protection

#### Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

#### Engineering Measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

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

<table>
<thead>
<tr>
<th>Eye Protection</th>
<th>Hand Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear safety glasses with side shields (or goggles) <strong>Goggles</strong></td>
<td>Wear appropriate protective gloves and clothing to prevent skin exposure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural rubber</td>
<td>See manufacturers recommendations</td>
<td>-</td>
<td>Splash protection only</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neoprene</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inspect gloves before use. Observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) 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. gloves with care avoiding skin contamination.

#### Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Environmental exposure controls
No information available.

#### Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Appearance</th>
<th>Odor</th>
<th>Odor Threshold</th>
<th>pH</th>
<th>Melting Point/Range</th>
<th>Boiling Point/Range</th>
<th>Flash Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Colorless</td>
<td>Strong</td>
<td>No information available</td>
<td>6.0  118 g/L aq.sol</td>
<td>-12 °C / 10.4 °F</td>
<td>102 °C / 215.6 °F @ 760 mmHg</td>
<td>20 °C / 68 °F</td>
</tr>
</tbody>
</table>
2-Methyl-2-butanol

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>9.60 vol %</td>
</tr>
<tr>
<td>Lower</td>
<td>1.30 vol %</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>15.5 hPa @ 20 °C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>3.04</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.800</td>
</tr>
<tr>
<td>Solubility</td>
<td>70 g/L water (25°C)</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>435 °C / 815 °F</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>3.7 mPa s at 25 °C</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C5 H12 O</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>88.15</td>
</tr>
</tbody>
</table>

### 10. Stability and reactivity

**Reactive Hazard**
None known, based on information available

**Stability**
Light sensitive.

**Conditions to Avoid**

**Incompatible Materials**
Strong oxidizing agents, Metals

**Hazardous Decomposition Products**
Carbon monoxide (CO), Carbon dioxide (CO₂)

**Hazardous Polymerization**
Hazardous polymerization does not occur.

**Hazardous Reactions**
None under normal processing.

### 11. Toxicological information

**Acute Toxicity**

**Component Information**

<table>
<thead>
<tr>
<th>Component</th>
<th>LD₅₀ Oral (mg/kg) (Rat)</th>
<th>LD₅₀ Dermal (mg/kg) (Rabbit)</th>
<th>LC₅₀ Inhalation (mg/L/6h) (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>5184</td>
<td>1720</td>
<td>&lt;20.6</td>
</tr>
</tbody>
</table>

**Toxicologically Synergistic Products**
No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation**
Irritating to respiratory system and skin. Risk of serious damage to eyes

**Sensitization**
No information available

**Carcinogenicity**
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>75-85-4</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects**
Not mutagenic in AMES Test

**Reproductive Effects**
No information available.

**Developmental Effects**
No information available.

**Teratogenicity**
No information available.
2-Methyl-2-butanol

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STOT - single exposure
Respiratory system Central nervous system (CNS)

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>Not listed</td>
<td>LC50: 2430 mg/L/48h (Leuciscus idus melanotus) (DIN 38412 part 15)</td>
<td>Not listed</td>
<td>EC50: 540 mg/L/48h (DIN 38412 part 11)</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Persistence is unlikely

Bioaccumulation/ Accumulation
No information available.

Mobility
Will likely be mobile in the environment due to its water solubility.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>0.89</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>PENTANOLS</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

TDG

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>PENTANOLS</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
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</table>

IATA

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1105</th>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>PENTANOLS</td>
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<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

IMDG/IMO

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>PENTANOLS</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

15. Regulatory information

International Inventories
2-Methyl-2-butanol

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>75-85-4</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>ACTIVE</td>
<td>200-908-9</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IECSC</th>
<th>KECL</th>
<th>ENCS</th>
<th>ISHL</th>
<th>TCSI</th>
<th>AICS</th>
<th>NZIoC</th>
<th>PICCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>75-85-4</td>
<td>KE-23573</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
X - Listed  '-' - Not Listed

<table>
<thead>
<tr>
<th>KECL</th>
<th>- NIER number or KE number (<a href="http://ncia.nier.go.kr/en/main.do">http://ncia.nier.go.kr/en/main.do</a>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL/NDSL</td>
<td>- Canadian Domestic Substances List/Non-Domestic Substances List</td>
</tr>
<tr>
<td>TSCA</td>
<td>- United States Toxic Substances Control Act Section 8(b) Inventory</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>- European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances</td>
</tr>
<tr>
<td>IECSC</td>
<td>- Chinese Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>KECL</td>
<td>- Korean Existing and Evaluated Chemical Substances</td>
</tr>
<tr>
<td>ENCS</td>
<td>- Japanese Existing and New Chemical Substances</td>
</tr>
<tr>
<td>AICS</td>
<td>- Australian Inventory of Chemical Substances</td>
</tr>
<tr>
<td>PICCS</td>
<td>- Philippines Inventory of Chemicals and Chemical Substances</td>
</tr>
</tbody>
</table>

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Other International Regulations

Authorisation/Restrictions according to EU REACH

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>-</td>
<td>Use restricted. See item 75. (see link for restriction details)</td>
<td>-</td>
</tr>
</tbody>
</table>


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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>75-85-4</td>
<td>Listed</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-2-butanol</td>
<td>75-85-4</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 21-April-2014
Revision Date 24-December-2021
Print Date 24-December-2021
Revision Summary
This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

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 SDS