1 Identification

Product identifier

Product name: 2-Methyl-2-butanol

Stock number: 16964
CAS Number: 75-85-4
EC number: 200-908-9
Index number: 603-007-00-2

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

- GHS02 Flame
  Flam. Liq. 2 H225 Highly flammable liquid and vapor.
- GHS07
  Acute Tox. 4 H302 Harmful if swallowed.
  Acute Tox. 4 H332 Harmful if inhaled.

Hazards not otherwise classified: No information known.

Label elements

GHS label elements: The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

- GHS02
- GHS07

Signal word: Danger

Hazard statements

H225: Highly flammable liquid and vapor.
H302+H332: Harmful if swallowed or if inhaled.

Precautionary statements

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P280: Wear protective gloves/eye protection/face protection.
P303+P361+P353: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+P235: Store in a well-ventilated place. Keep cool.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

B2 - Flammable liquid

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 1
Flammability = 3
Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description: 75-85-4 2-Methyl-2-butanol

Identification number(s):
EC number: 200-908-9
Index number: 603-007-00-2

(Contd. on page 2)
4 First-aid measures

**Description of first aid measures**

**After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

**After skin contact**
Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

**After eye contact**
Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing**
Seek medical treatment.

**Information for doctor**

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

**Extinguishing media**

Suitable extinguishing agents: Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

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

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

**Advice for firefighters**

Protective equipment: Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources.

**Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.**

**Methods and material for containment and cleaning up:**

Keep away from ignition sources. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation.

**Prevention of secondary hazards: Keep away from ignition sources.**

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

**Handling**

Precautions for safe handling:

Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:**

Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture. Keep ignition sources away.

**Conditions for safe storage, including any incompatibilities**

**Storage**

Requirements to be met by storerooms and receptacles: Store in a cool location.

**Information about storage in one common storage facility:** Store away from oxidizing agents.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**Specific end use(s)**

No further relevant information available.

8 Exposure controls/personal protection

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**

Components with limit values that require monitoring at the workplace: Not required.

Additional information: No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.
### 9 Physical and chemical properties

#### Information on basic physical and chemical properties

**General Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Form:</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>Colorless</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Odor threshold:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>pH-value:</strong></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Change in condition**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Melting point/Melting range:</strong></td>
<td>-12 °C (10 °F)</td>
</tr>
<tr>
<td><strong>Boiling point/Boiling range:</strong></td>
<td>102 °C (216 °F)</td>
</tr>
<tr>
<td><strong>Sublimation temperature / start:</strong></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Flash point:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flash point:</strong></td>
<td>21 °C (70 °F)</td>
</tr>
</tbody>
</table>

**Flammability (solid, gaseous):**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flammability (solid, gaseous):</strong></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Ignition temperature:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ignition temperature:</strong></td>
<td>437 °C (819 °F)</td>
</tr>
</tbody>
</table>

**Decomposition temperature:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decomposition temperature:</strong></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Auto igniting:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auto igniting:</strong></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Danger of explosion:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product is not explosive. However, formation of explosive air/vapor mixtures is possible.</strong></td>
<td></td>
</tr>
</tbody>
</table>
**14 Transport information**

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>UN1105</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT, IMDG, IATA</td>
<td>UN1105</td>
</tr>
<tr>
<td>DOT proper shipping name</td>
<td>Pentanols</td>
</tr>
<tr>
<td>IMDG, IATA</td>
<td>PENTANOLS</td>
</tr>
</tbody>
</table>

**Transport hazard class(es)**

<table>
<thead>
<tr>
<th>DOT</th>
<th>UN proper shipping name</th>
<th>IMDG, IATA</th>
<th>DOT proper shipping name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>3 Flammable liquids.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Label</td>
<td>3 (F1) Flammable liquids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>3 Flammable liquids.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Label</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Packing group**

<table>
<thead>
<tr>
<th>DOT, IMDG, IATA</th>
<th>II</th>
</tr>
</thead>
</table>

**Environmental hazards:**

Not applicable.

**Special precautions for user**

Warning: Flammable liquids

**Transport/Additional information:**

DOT Marine Pollutant (DOT): No

**UN "Model Regulation":**

UN1105, Pentanols, 3, II

---

**15 Regulatory information**

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

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

**Hazard pictograms**

- GHS02
- GHS07

**Signal word**

Danger

**Hazard statements**

H225: Highly flammable liquid and vapor.
H302+H332: Harmful if swallowed or inhaled.

**Precautionary statements**

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353: If on skin (or hair). Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+P235: Store in a well-ventilated place. Keep cool.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

**California Proposition 65**

Prop 65 - Chemicals known to cause cancer Substance is not listed.
Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.

**Information about limitation of use:**

For use only by technically qualified individuals.

**Other regulations, limitations and prohibitive regulations**

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

**Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

---

**16 Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Global Marketing Department

**Date of preparation / last revision** 11/23/2015 / -

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
### Product name: 2-Methyl-2-butanol

| ACGIH: American Conference of Governmental Industrial Hygienists (USA) |
| OSHA: Occupational Safety and Health Administration (USA) |
| NTP: National Toxicology Program (USA) |
| IARC: International Agency for Research on Cancer |
| EPA: Environmental Protection Agency (USA) |