

# Safety Data Sheet


according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: August 22, 2020

## 1 Identification

- **Product identifier**
- **Trade name: 3-Methyl-1-Butanol**
- **Product code:** MB1025
- **CAS Number:**  
123-51-3
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331 USA  
Tel +1 (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific  
860 Gitts Run Road,  
Hanover, PA 17331  
(717) 632-1291
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Flam. Liq. 3 H226 Flammable liquid and vapor.  
Acute Tox. 4 H332 Harmful if inhaled.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Dam. 1 H318 Causes serious eye damage.  
STOT SE 3 H335 May cause respiratory irritation.
- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**  

  
GHS02 GHS05 GHS07
- **Signal word:** Danger
- **Hazard statements:**  
H226 Flammable liquid and vapor.  
H332 Harmful if inhaled.

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H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

**Precautionary statements:**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing mist, vapors, or spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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.

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/doctor.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P370+P378 In case of fire: Use for extinction: Alcohol resistant foam or water spray.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS No. Description**

123-51-3 Isoamyl alcohol

## 4 First-aid measures

**Description of first aid measures**

**General information:** Immediately remove any clothing soiled by the product.

**After inhalation:**

Supply fresh air.

Provide oxygen treatment if affected person has difficulty breathing.

If experiencing respiratory symptoms: Call a doctor.

**After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

**After eye contact:**

Remove contact lenses if worn.

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

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

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

Breathing difficulty

Coughing

Irritating to respiratory system and skin.

Danger of severe eye injury.

Gastric or intestinal disorders when ingested.

Nausea

Dizziness

Acidosis

Disorientation

Unconsciousness

· **Danger:**

Causes serious eye damage.

May be harmful if swallowed.

Harmful if inhaled.

Danger of impaired breathing.

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

If medical advice is needed, have product container or label at hand.

Medical supervision for at least 48 hours.

## 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Alcohol resistant foam

Carbon dioxide

Gaseous extinguishing agents

Water fog / haze

Water spray

· **For safety reasons unsuitable extinguishing agents:** Water stream.

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

Flammable liquid and vapor.

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information:**

Eliminate all ignition sources if safe to do so.

Use large quantities of foam as it is partially destroyed by the product.

Cool endangered receptacles with water in flooding quantities.

## 6 Accidental release measures

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

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Wear protective equipment. Keep unprotected persons away.  
 Ensure adequate ventilation.  
 Keep away from ignition sources.  
 Use respiratory protective device against the effects of fumes/dust/aerosol.  
 Protect from heat.

· **Environmental precautions**

Do not allow to enter sewers/ surface or ground water.  
 Inform respective authorities in case of seepage into water course or sewage system.

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

Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).  
 Send for recovery or disposal in suitable receptacles.

· **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:**

Avoid splashes or spray in enclosed areas.  
 Use only in well ventilated areas.  
 Prevent formation of aerosols.

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

Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.  
 Flammable gas-air mixtures may be formed in empty containers/receptacles.  
 Flammable liquid and vapor.

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

· **Requirements to be met by storerooms and receptacles:**

Store in cool, dry conditions in well sealed receptacles.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.  
 Store away from oxidizing agents.

· **Further information about storage conditions:** Keep containers tightly sealed.

· **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**123-51-3 Isoamyl alcohol**

PEL (USA)	Long-term value: 360 mg/m <sup>3</sup> , 100 ppm primary and secondary
REL (USA)	Short-term value: 450 mg/m <sup>3</sup> , 125 ppm Long-term value: 360 mg/m <sup>3</sup> , 100 ppm

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TLV (USA)	primary and secondary Short-term value: 452 mg/m <sup>3</sup> , 125 ppm Long-term value: 361 mg/m <sup>3</sup> , 100 ppm
EL (Canada)	Short-term value: 125 ppm Long-term value: 100 ppm
EV (Canada)	Short-term value: 450 mg/m <sup>3</sup> , 125 ppm Long-term value: 360 mg/m <sup>3</sup> , 100 ppm
LMPE (Mexico)	Short-term value: 125 ppm Long-term value: 100 ppm

- **Exposure controls**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Immediately remove all soiled and contaminated clothing.

- **Engineering controls:** Provide adequate ventilation.

- **Breathing equipment:**

Use suitable respiratory protective device when aerosol or mist is formed.

Use suitable respiratory protective device when high concentrations are present.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves**

Laminated film gloves.

Nitrile rubber, NBR

Neoprene gloves

Butyl rubber, BR

- **Not suitable are gloves made of the following materials:** PVC gloves

- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Solvent resistant protective clothing

- **Limitation and supervision of exposure into the environment**

No relevant information available.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **Appearance:**

**Form:** Liquid

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· <b>Color:</b>	Colorless
· <b>Odor:</b>	Unpleasant
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Melting point/Melting range:</b>	-117.2 °C (-179 °F)
· <b>Boiling point/Boiling range:</b>	131-132 °C (267.8-205.6 °F)
· <b>Flash point:</b>	43 °C (109.4 °F)
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Auto-ignition temperature:</b>	340 °C (644 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits</b>	
· <b>Lower:</b>	1.2 Vol %
· <b>Upper:</b>	~8 Vol %
· <b>Oxidizing properties:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	2.7 hPa (2 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.81 g/cm <sup>3</sup> (6.76 lbs/gal)
· <b>Relative density:</b>	Not determined.
· <b>Vapor density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b>	25 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity</b>	
· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.
· <b>Other information</b>	No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Flammable liquid and vapor.  
Used empty containers may contain product gases which form explosive mixtures with air.  
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.  
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** Keep ignition sources away - Do not smoke.
- **Incompatible materials** Oxidizers

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· **Hazardous decomposition products**

Under fire conditions only:  
Carbon monoxide and carbon dioxide

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**123-51-3 Isoamyl alcohol**

Oral	LD50	3,500-4,500 mg/kg (rat) (Estimated Range)
Inhalative	LC50/4h	10-20 mg/l (rat) (Acute Toxicity Estimate)

· **Primary irritant effect:**

- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

Substance is not listed.

· **NTP (National Toxicology Program):**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

Substance is not listed.

· **Probable route(s) of exposure:**

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

Causes serious eye damage.  
Harmful if inhaled.  
May cause respiratory irritation.  
Irritating to skin.  
May be harmful if swallowed.

· **Repeated dose toxicity:** No relevant information available.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Based on available data, the classification criteria are not met.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** May cause respiratory irritation.

· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity** No relevant information available.

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- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Other adverse effects** No relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |   |                |
|---|----------------|
| · <b>UN-Number</b>  |                |
| · <b>DOT, ADR/RID/ADN, IMDG, IATA</b>   | UN1105         |
| · <b>UN proper shipping name</b>  |                |
| · <b>DOT, IMDG, IATA</b>  | PENTANOLS      |
| · <b>ADR/RID/ADN</b>  | 1105 PENTANOLE |
| · <b>Transport hazard class(es)</b>   |                |
| · <b>DOT</b>  |                |
|  |                |
| · <b>Class</b>  | 3              |
| · <b>Label</b>  | 3              |
| -----   |                |
| · <b>ADR/RID/ADN</b>  |                |
|  |                |
| · <b>Class</b>  | 3 (F1)         |
| · <b>Label</b>  | 3              |

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· IMDG, IATA



· Class 3  
· Label 3

· Packing group III  
· DOT, ADR/RID/ADN, IMDG, IATA

· Environmental hazards Not applicable.

· Special precautions for user Warning: Flammable liquids  
· Hazard identification number (Kemler code): 30  
· EMS Number: 3-06

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

## 15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture  
· United States (USA)  
· SARA

· Section 302 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act)

· Proposition 65 (California)

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause developmental toxicity for females:

Substance is not listed.

· Chemicals known to cause developmental toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· EPA (Environmental Protection Agency):

Substance is not listed.

· IARC (International Agency for Research on Cancer):

Substance is not listed.

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· **Canadian Domestic Substances List (DSL):**

Substance is not listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: 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  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 OSHA: Occupational Safety & Health Administration  
 Flam. Liq. 3: Flammable liquids – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Skin Irrit. 2: Skin corrosion/irritation – Category 2  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))  
 Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))  
 Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))  
 Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6  
 Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.  
 Safety Data Sheets, Individual Manufacturers

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