SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Description: 2-Amino-2-methyl-1-propanol
Cat No.: A17814
Synonyms: 2-Amino-2-Methylpropanol; 2-Aminodimethylethanol; Beta-Aminoisobutanol
CAS-No: 124-68-5
Molecular Formula: C4H11NO
Supplier: Alfa Aesar
Avocado Research Chemicals, Ltd.
Shore Road
Port of Heysham Industrial Park
Heysham, Lancashire LA3 2XY
United Kingdom
Office Tel: +44 (0) 1524 850506
Office Fax: +44 (0) 1524 850608

Emergency Telephone Number: Call Carechem 24 at
+44 (0) 1865 407333 (English only);
+44 (0) 1235 239670 (Multi-language)

E-mail address: uktech@alfa.com
www.alfa.com
Product Safety Department

Recommended Use: Laboratory chemicals.
Uses advised against: No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State: Low melting solid
Appearance: Colorless
Odor: amine-like

Emergency Overview:
Combustible liquid. May be harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Harmful to aquatic life with long lasting effects. hygroscopic.

Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Flammable liquids.</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Oral Toxicity</td>
<td>Category 5</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label Elements
Signal Word  Warning

Hazard Statements
H227 - Combustible liquid
H303 - May be harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements
Prevention
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P234 - Keep only in original container
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
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position 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
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
P362 - Take off contaminated clothing and wash before reuse
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
P390 - Absorb spillage to prevent material damage
Storage
P402 - Store in a dry place
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P406 - Store in corrosive resistant polypropylene container with a resistant inliner
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards
Combustible material. Hygroscopic.
Health Hazards
May be harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
Environmental hazards
Harmful to aquatic life with long lasting effects. Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Amino-2-methyl-1-propanol</td>
<td>124-68-5</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

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. Obtain medical attention.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion
Do not induce vomiting. Obtain medical attention.

Most important symptoms and effects
Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Self-Protection of the First Aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician
Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Combustible material. Containers may explode when heated.

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. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up
Remove all sources of ignition. Sweep up or vacuum up spillage and collect in suitable container for disposal. Take precautionary measures against static discharges.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling
Wear personal protective equipment. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe vapors/dust. Keep away from open flames, hot surfaces and sources of ignition.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep under nitrogen. Corrosives area.

**Specific Use(s)**
Use in laboratories

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control Parameters

**Monitoring methods**
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS70 General methods for sampling airborne gases and vapours

**Exposure Controls**

**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**

**Eye Protection**
Goggles (European standard - EN 166)

**Hand Protection**
Protective gloves

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>EU standard</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural rubber</td>
<td>See manufacturers</td>
<td>-</td>
<td>EN 374</td>
<td>(minimum requirement)</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neoprene</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

**Skin and body protection**
Long sleeved clothing

**Respiratory Protection**
No protective equipment is needed under normal use conditions.

**Large scale/emergency use**
Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Small scale/Laboratory use**
Maintain adequate ventilation

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls**
Prevent product from entering drains.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**
### Appearance
Colorless

### Physical State
Low melting solid Solid

### Odor
amine-like

### Odor Threshold
No data available

### pH
11.3

### Melting Point/Range
31 - 32 °C / 87.8 - 89.6 °F

### Softening Point
No data available

### Boiling Point/Range
165 °C / 329 °F @ 760 mmHg

### Flash Point
80 °C / 176 °F Method - Closed cup Solid

### Evaporation Rate
Not applicable

### Flammability (solid, gas)
No information available

### Explosion Limits
No data available

### Vapor Pressure
1.33 hPa @ 20 °C

### Specific Gravity / Density
0.930 Solid

### Bulk Density
No data available

### Water Solubility
Miscible

### Solubility in other solvents
No information available

### Partition Coefficient (n-octanol/water)
log Pow

### Component
2-Amino-2-methyl-1-propanol -0.63

### Autoignition Temperature
438 °C / 820.4 °F

### Decomposition Temperature
> 360°C

### Viscosity
Not applicable Solid

### Explosive Properties
No information available explosive air/vapour mixtures possible

### Oxidizing Properties
No information available

### Molecular Formula
C4 H11 N O

### Molecular Weight
89.14

### SECTION 10. STABILITY AND REACTIVITY

**Stability**
Hygroscopic.

**Hazardous Reactions**
No information available.

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

**Conditions to Avoid**
Avoid dust formation. Incompatible products. Heat, flames and sparks. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.

**Materials to avoid**

**Hazardous Decomposition Products**
Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO2).

### SECTION 11. TOXICOLOGICAL INFORMATION

**Product Information**

(a) acute toxicity:

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Amino-2-methyl-1-propanol</td>
<td>LD50 = 2900 mg/kg ( Rat )</td>
<td>&gt;2000 mg/kg  ( Rabbit )</td>
<td></td>
</tr>
</tbody>
</table>

(b) skin corrosion/irritation;
Category 2

(c) serious eye damage/irritation;
Category 2
(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

(e) germ cell mutagenicity;
Based on available data, the classification criteria are not met
Not mutagenic in AMES Test

(f) carcinogenicity;
Based on available data, the classification criteria are not met
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;
Based on available data, the classification criteria are not met

(h) STOT-single exposure;
Based on available data, the classification criteria are not met

(i) STOT-repeated exposure;
Based on available data, the classification criteria are not met

Target Organs
Eyes, Skin, Central nervous system (CNS), Liver, Blood, Heart.

(j) aspiration hazard;
Not applicable
Solid

Other Adverse Effects
See actual entry in RTECS for complete information

Symptoms / effects, both acute and delayed
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting delayed

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. The product contains following substances which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Fish</th>
<th>Water Flea</th>
<th>Freshwater Algae</th>
<th>Microtox</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Amino-2-methyl-1-propanol</td>
<td>LC50: = 190 mg/L, 96h static (Lepomis macrochirus)</td>
<td>EC50: = 193 mg/L, 48h (Daphnia magna)</td>
<td>EC50: = 520 mg/L, 72h (Desmodesmus subspicatus)</td>
<td>EC50: = 342.9 mg/L, 3 h (Activated Sludge) OECD 209</td>
</tr>
</tbody>
</table>

Persistence and Degradability

Persistence
Biodegradability: 40% / 28d (OECD 301D)
Miscible with water, Persistence is unlikely, based on information available.
Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Degradation in sewage treatment plant

Bioaccumulative Potential
Bioaccumulation is unlikely

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
<th>Bioconcentration factor (BCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Amino-2-methyl-1-propanol</td>
<td>-0.63</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

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
Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant
This product does not contain any known or suspected substance

Ozone Depletion Potential
This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

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.

Other Information
Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport
Not Regulated

IMDG/IMO
Not regulated

IATA
Not regulated

Special Precautions for User
No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories
X = listed. China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Australia (AICS), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>The Inventory of Hazardous Chemicals (2015 Edition)</th>
<th>List of dangerous goods GB 12268-2012</th>
<th>Taiwan Toxic Chemicals Inventory</th>
<th>IECSC</th>
<th>EINECS</th>
<th>TSCA</th>
<th>DSL</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Amino-2-methyl-1-propanol</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>204-709-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-01473</td>
</tr>
</tbody>
</table>

National Regulations

SECTION 16. OTHER INFORMATION

Prepared By
Health, Safety and Environmental Department

Creation Date
17-Nov-2009

Revision Date
01-May-2019

Revision Summary
SDS authoring systems update, replaces ChemGes SDS No. 124-68-5/2.
Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

CAS - Chemical Abstracts Service
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
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
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative
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 Compounds

Key literature references and sources for data
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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