SAFETY DATA SHEET

Creation Date 26-Sep-2009
Revision Date 14-Feb-2020
Revision Number 2

1. Identification

Product Name 1-Pentanol
Cat No. : 30898
CAS-No 71-41-0
Synonyms Pentyl alcohol; n-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
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

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
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Flammable liquids | Acute Inhalation Toxicity - Vapors | Skin Corrosion/Irritation | Serious Eye Damage/Eye Irritation | Specific target organ toxicity (single exposure) | Target Organs - Respiratory system.
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 3</td>
<td>Category 4</td>
<td>Category 2</td>
<td>Category 2</td>
<td>Category 2</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Warning

Hazard Statements
Flammable liquid and vapor
Causes skin irritation
Causes serious eye irritation
Harmful if inhaled  
May cause respiratory irritation

Precautionary Statements  
Prevention  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep away from heat/sparks/open flames/hot surfaces. - 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 discharge  
Keep cool  
Inhalation  
If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell  
Skin  
If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
Eyes  
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/attention  
Fire  
In case of fire: Use CO2, dry chemical, or foam for extinction  
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  
Hazards not otherwise classified (HNOC)  

Other hazards  
Stench.

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Pentanol</td>
<td>71-41-0</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
1-Pentanol  

**Revision Date** 14-Feb-2020

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**Skin Contact**  
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**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 and effects**  
None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**Notes to Physician**  
Treat symptomatically.

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### 5. Fire-fighting measures

**Suitable Extinguishing Media**  
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Unsuitable Extinguishing Media**  
No information available.

- **Flash Point**  
  49 °C / 120.2 °F

- **Method**  
  No information available

- **Autoignition Temperature**  
  300 °C / 572 °F

**Explosion Limits**  
| Upper   | 10.5 Vol% |
| Lower   | 1.3 Vol% |

**Sensitivity to Mechanical Impact**  
No information available

**Sensitivity to Static Discharge**  
No information available

**Specific Hazards Arising from the Chemical**  
Flammable. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

**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.

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### 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 Clean Up**  
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

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### 7. Handling and storage

**Handling**  
Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open
flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

Storage
Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Keep away from heat, sparks and flame. Flammables area.

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

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

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.

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

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Stench</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>7 25 g/l water</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-78 °C / -108.4 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>137 - 139 °C / 278.6 - 282.2 °F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>49 °C / 120.2 °F</td>
</tr>
<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>10.5 Vol%</td>
</tr>
<tr>
<td>Lower</td>
<td>1.3 Vol%</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>2.6 mbar</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>3.0 (Air = 1.0)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.811</td>
</tr>
<tr>
<td>Solubility</td>
<td>22 g/L water (22°C)</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>300 °C / 572 °F</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>4 mPa s at 20 °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
1-Pentanol

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Reactive Hazard
None known, based on information available

Stability
Hygroscopic.

Conditions to Avoid
Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Incompatible products. Exposure to moist air or water.

Incompatible Materials
Strong oxidizing agents, Metals

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

Hazardous Polymerization
No information available.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Pentanol</td>
<td>&gt;2000 mg/kg</td>
<td>&gt;2000 mg/kg</td>
<td>Not listed</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 eyes, respiratory system and skin

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>1-Pentanol</td>
<td>71-41-0</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
No information available

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
Respiratory system

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
Symptoms of overexposure may be 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 flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. 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>
</table>
1-Pentanol

| 1-Pentanol | EC50: = 1100 mg/L, 24h (Desmodesmus subspicatus) | LC50: 437 - 511 mg/L, 96h flow-through (Pimephales promelas) | Not listed | EC50: = 341 mg/L, 48h (Daphnia magna) |

Persistence and Degradability
Soluble in water Persistence is unlikely based on information available.

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>1-Pentanol</td>
<td>1.4</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
- UN-No: UN1105
- Proper Shipping Name: PENTANOLS
- Hazard Class: 3
- Packing Group: III

TDG
- UN-No: UN1105
- Proper Shipping Name: PENTANOLS
- Hazard Class: 3
- Packing Group: III

IATA
- UN-No: UN1105
- Proper Shipping Name: PENTANOLS
- Hazard Class: 3
- Packing Group: III

IMDG/IMO
- UN-No: UN1105
- Proper Shipping Name: PENTANOLS
- Hazard Class: 3
- Packing Group: III

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Pentanol</td>
<td>71-41-0</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
TSCA - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export
**International Inventories**
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Pentanol</td>
<td>71-41-0</td>
<td>X</td>
<td>-</td>
<td>200-752-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-28005</td>
</tr>
</tbody>
</table>

**U.S. Federal Regulations**

- **SARA 313** Not applicable
- **SARA 311/312 Hazard Categories** See section 2 for more information
- **CWA (Clean Water Act)** Not applicable
- **Clean Air Act** Not applicable
- **OSHA - Occupational Safety and Health Administration** Not applicable
- **CERCLA** Not applicable
- **California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Pentanol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**

- **Reportable Quantity (RQ):** N
- **DOT Marine Pollutant** N
- **DOT Severe Marine Pollutant** N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

- **Mexico - Grade** No information available

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### 16. Other information

**Prepared By** Health, Safety and Environmental Department
Email: tech@alfa.com
www.alfa.com

**Creation Date** 26-Sep-2009
**Revision Date** 14-Feb-2020
**Print Date** 14-Feb-2020
**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 71-41-0.

**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