SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Amyl alcohol

Product Number: W205605
Brand: Aldrich
Index-No.: 603-200-00-1
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.: 71-41-0

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Chemie BV
Stationsplein 4
3331 LL ZWIJNDRECHT NETHERLANDS
Telephone: +31 78-620-5411
Fax: +31 78-620-5421
E-mail address: eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone #: 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
- Flammable liquids (Category 3), H226
- Acute toxicity, Inhalation (Category 4), H332
- Skin irritation (Category 2), H315
- Specific target organ toxicity - single exposure (Category 3), H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

- R10: Harmful
- R20
- R66
- R37: Irritant

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram
Signal word: Warning

Hazard statement(s):
- H226: Flammable liquid and vapour.
- H315: Causes skin irritation.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.

Precautionary statement(s):
- P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Supplemental Hazard Statements: none

2.3 Other hazards
Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms:
- n-Amyl alcohol
- Pentyl alcohol
- 1-Pentanol
- C5 alcohol

Formula: C₅H₁₂O
Molecular Weight: 88.15 g/mol
CAS-No.: 71-41-0
EC-No.: 200-752-1
Index-No.: 603-200-00-1

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentan-1-ol</td>
<td>Flam. Liq.; Acute Tox.; Skin Irrit.; Eye Irrit.; STOT SE 3; H226, H315, H319, H332, H335</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

Hazardous ingredients according to Directive 1999/45/EC

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentan-1-ol</td>
<td>Xn, R10 - R20 - R37/38</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

**Eye/face protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,4 mm
Break through time: 480 min
Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,2 mm
Break through time: 65 min
Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance  
   - Form: liquid  
   - Colour: colourless

b) Odour  
   - characteristic

c) Odour Threshold  
   - no data available

d) pH  
   - 7

e) Melting point/freezing point  
   - Melting point/range: -78 °C - lit.

f) Initial boiling point and boiling range  
   - 136 - 138 °C - lit.

g) Flash point  
   - 49 °C - closed cup

h) Evaporation rate  
   - no data available

i) Flammability (solid, gas)  
   - no data available

j) Upper/lower flammability or explosive limits  
   - Upper explosion limit: 10 %(V)  
   - Lower explosion limit: 1,2 %(V)

k) Vapour pressure  
   - 2,0 hPa at 20 °C

l) Vapour density  
   - 3,04 - (Air = 1.0)

m) Relative density  
   - 0,811 g/cm3 at 25 °C

n) Water solubility  
   - 22,8 g/l at 25 °C

o) Partition coefficient: n-octanol/water  
   - log Pow: 1,51

p) Auto-ignition temperature  
   - no data available

q) Decomposition temperature  
   - no data available

r) Viscosity  
   - no data available

s) Explosive properties  
   - no data available

t) Oxidizing properties  
   - no data available

9.2 Other safety information

- Relative vapour density  
  - 3,04 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity  
   - no data available

10.2 Chemical stability  
   - Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions  
   - no data available

10.4 Conditions to avoid  
   - Heat, flames and sparks.

10.5 Incompatible materials  
   - Strong oxidizing agents, Alkali metals, Strong acids, Halides, Aldehydes
10.6 **Hazardous decomposition products**
Other decomposition products - no data available
In the event of fire: see section 5

**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

**Acute toxicity**
LD50 Oral - mouse - 200 mg/kg
Remarks: Behavioral: General anesthetic.
LD50 Oral - rat - 3.670 mg/kg
Inhalation: no data available
LD50 Dermal - rabbit - 2.306 mg/kg
Remarks: Liver: Other changes. Kidney, Ureter, Bladder: Other changes.

**Skin corrosion/irritation**
Skin - rabbit
Result: Skin irritation - 24 h

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitisation**
Did not cause sensitisation on laboratory animals.

**Germ cell mutagenicity**
no data available

**Carcinogenicity**
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**
no data available

**Specific target organ toxicity - single exposure**
Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**
no data available

**Aspiration hazard**
no data available

**Additional Information**
RTECS: SB9800000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Liver - Irregularities - Based on Human Evidence

**SECTION 12: Ecological information**

12.1 **Toxicity**
Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 370 - 490 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 341 mg/l - 48 h

12.2 **Persistence and degradability**
Biodegradability aerobic - Exposure time 7 d
Result: 97 % - Readily biodegradable.
12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 1105
IMDG: 1105
IATA: 1105

14.2 UN proper shipping name
ADR/RID: PENTANOLS
IMDG: PENTANOLS
IATA: Pentanols

14.3 Transport hazard class(es)
ADR/RID: 3
IMDG: 3
IATA: 3

14.4 Packaging group
ADR/RID: III
IMDG: III
IATA: III

14.5 Environmental hazards
ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user
no data available

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Acute toxicity
Eye Irrit. Eye irritation
Flam. Liq. Flammable liquids
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
Skin Irrit. Skin irritation

Full text of R-phrases referred to under sections 2 and 3

Xn Harmful
R10 Flammable.
R20 Harmful by inhalation.
R37 Irritating to respiratory system.
R37/38 Irritating to respiratory system and skin.
R66 Repeated exposure may cause skin dryness or cracking.

Further information
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