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

1.1 Product identifiers

Product name: 1-Methoxy-2-propanol EMPLURA®

Product Number: 1.16738
Catalogue No.: 116738
Brand: Millipore
Index No.: 603-064-00-3
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.: 107-98-2

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

Identified uses: Chemical production, Solvent

1.3 Details of the supplier of the safety data sheet

Company: Merck KGaA
Frankfurter Str. 250
D-64271 DARMSTADT

Telephone: +49 (0)6151 72-0
Fax: +49 6151 727780
E-mail address: TechnicalService@merckgroup.com

1.4 Emergency telephone

Emergency Phone #: +(44)-870-8200418 (CHEMTREC (GB))
+ (353)-19014670 (CHEMTREC Ireland)
001-803-017-9114 (CHEMTREC India)

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
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
The life science business of Merck operates as MilliporeSigma in the US and Canada.

Pictogram

Signal word Warning

Hazard statement(s)
H226 Flammable liquid and vapor.
H336 May cause drowsiness or dizziness.

Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.

Supplemental Hazard Statements none

Reduced Labeling (<= 125 ml)

Signal word Warning

Hazard statement(s) none

Precautionary statement(s) none

Supplemental Hazard Statements none

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1-methoxy-2-propanol</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>107-98-2</td>
<td>Flam. Liq. 3; STOT SE 3; H226, H336</td>
</tr>
<tr>
<td>EC-No.</td>
<td>203-539-1</td>
<td></td>
</tr>
<tr>
<td>Index-No.</td>
<td>603-064-00-3</td>
<td></td>
</tr>
<tr>
<td><strong>2-methoxy-1-propanol</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>1589-47-5</td>
<td>Flam. Liq. 3; Skin Irrit. 2;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;= 0,1 - &lt;</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first-aid measures

**General advice**
Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed**
After swallowing: immediately make victim drink water (two glasses at most). 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**
Water Foam Carbon dioxide (CO2) Dry powder

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.

5.4 Further information
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures
Change contaminated clothing. Wash hands after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Protected from light. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

Storage class
Storage class (TRGS 510): 3: Flammable liquids

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

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh water</td>
<td>10 mg/l</td>
</tr>
<tr>
<td>Sea water</td>
<td>1 mg/l</td>
</tr>
<tr>
<td>Aquatic intermittent release</td>
<td>100 mg/l</td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>100 mg/l</td>
</tr>
</tbody>
</table>

The life science business of Merck operates as MilliporeSigma in the US and Canada.
8.2 Exposure controls

Personal protective equipment

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

**Skin protection**
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

- **Full contact**
  - Material: butyl-rubber
  - Minimum layer thickness: 0,7 mm
  - Break through time: 480 min
  - Material tested: Butoject® (KCL 898)

- **Splash contact**
  - Material: Nitrile rubber
  - Minimum layer thickness: 0,4 mm
  - Break through time: 120 min
  - Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Body Protection**
Flame retardant antistatic protective clothing.

**Respiratory protection**
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Control of environmental exposure**
Do not let product enter drains. Risk of explosion.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Material</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh water sediment</td>
<td>41.6 mg/kg</td>
</tr>
<tr>
<td>Soil</td>
<td>2.47 mg/kg</td>
</tr>
<tr>
<td>Sea sediment</td>
<td>4.17 mg/kg</td>
</tr>
</tbody>
</table>

- **Appearance**
  - Form: liquid
  - Color: colorless

- **Odor**
  - Ethanolic
c) Odor Threshold  No data available

d) pH  No data available

e) Melting point/freezing point  Melting point: -96 °C at 1.013 hPa - (ECHA)

f) Initial boiling point and boiling range  118 - 119 °C at 1.013 hPa

g) Flash point  34 °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: 16 %(V)

k) Vapor pressure  14,53 hPa at 25 °C

l) Vapor density  3,11 - (Air = 1.0)

m) Density  0,921 g/cm3 at 25 °C - DIN 51757

n) Water solubility  1.000 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, A.6- completely miscible

o) Partition coefficient: n-octanol/water  Pow: < 1 at 20 °C - Bioaccumulation is not expected.

p) Autoignition temperature  No data available

q) Decomposition temperature  No data available

r) Viscosity  Viscosity, kinematic: No data available

Viscosity, dynamic: 1,7 mPa.s at 25 °C

s) Explosive properties  No data available

t) Oxidizing properties  none

9.2 Other safety information

Surface tension  70,7 mN/m at 1g/l at 20 °C  - OECD Test Guideline 115

Relative vapor density  3,11 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
Can violently decompose at elevated temperatures Stable under recommended storage conditions.
Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability
Sensitive to air.
The product is chemically stable under standard ambient conditions (room temperature).

10.3 **Possibility of hazardous reactions**
Violent reactions possible with:
- Strong oxidizing agents
- Acid halides
- Acid anhydrides
- Acid chlorides
Generates dangerous gases or fumes in contact with:
- Hydrides

10.4 **Conditions to avoid**
May form explosive peroxides.
- Heating.

10.5 **Incompatible materials**
- Strong oxidizing agents

10.6 **Hazardous decomposition products**
- Peroxides
  - In the event of fire: see section 5

### SECTION 11: Toxicological information

11.1 **Information on toxicological effects**

**Acute toxicity**
- LD50 Oral - Rat - male and female - 4.016 mg/kg
  - (EC Directive 92/69/EEC B.1 Acute Toxicity (Oral))
  - Symptoms: Nausea, Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
  - LC50 Inhalation - Rat - 4 h - > 6 mg/l - aerosol

Remarks: (IUCLID)
- Inhalation: Irritating to respiratory system.
- LD50 Dermal - Rat - male and female - > 2.000 mg/kg

**Skin corrosion/irritation**
- Skin - Rabbit
  - Result: No skin irritation - 4 h

**Serious eye damage/eye irritation**
- Eyes - Rabbit
  - Result: No eye irritation
  - (Regulation (EC) No. 440/2008, Annex, B.5)

**Respiratory or skin sensitization**
- Maximization Test - Guinea pig
  - Result: negative

**Germ cell mutagenicity**
- Test Type: Ames test
- Test system: Salmonella typhimurium
- Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness. - Central nervous system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rabbit - male and female - Dermal - 21 Days - NOAEL (No observed adverse effect level) - > 1.000 mg/kg

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of toxic quantities:

CNS disorders
narcosis
Toxic effect on:
Liver
Kidney

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>static test LC50 - Leuciscus idus (Golden orfe) - 6.812 mg/l - 96 h (DIN 38412 part 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>static test LC50 - Daphnia magna (Water flea) - 23.300 mg/l - 48 h Remarks: (ECHA)</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>static test ErC50 - Pseudokirchneriella subcapitata (green algae) - &gt; 1.000 mg/l - 7 d Remarks: (ECHA)</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradability

- **Biodegradability**
  - aerobic Dissolved organic carbon (DOC) - Exposure time 28 d
  - Result: 96 % - Readily biodegradable.
  - (OECD Test Guideline 301E)

#### 12.3 Bioaccumulative potential

No data available

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### 12.6 Endocrine disrupting properties

**Product:**

**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### 12.7 Other adverse effects

No data available
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3092    IMDG: 3092    IATA: 3092

14.2 UN proper shipping name
ADR/RID: 1-METHOXY-2-PROPANOL
IMDG: 1-METHOXY-2-PROPANOL
IATA: 1-Methoxy-2-propanol

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Other regulations
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment
A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

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

H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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