SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Version: 1.0          Product number: 697383          Date of first issue: 07.11.2017
Print Date: 05.02.2018

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

1.1 Product identifier
Product number  697383
Product name    AZ Barli II 90

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses  Materials for use in technical applications

1.3 Details of the supplier of the safety data sheet
Company        Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department  PM-OQR * e-mail: PM_SDS_Supply@merckgroup.com

1.4 Emergency telephone number
Please contact the regional company representation in your country.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)
Flammable liquids, Category 3    H226: Flammable liquid and vapour.
Serious eye damage, Category 1   H318: Causes serious eye damage.
Specific target organ toxicity - single exposure, Category 3, Respiratory system H335: May cause respiratory irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms :  
Signal word     :  Danger
Hazard statements  :  H226  Flammable liquid and vapour.
H318  Causes serious eye damage.
H335  May cause respiratory irritation.
Precautionary statements:

**Prevention:**
P210 Keep away from heat.
P280 Wear eye protection/ face protection.

**Response:**
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313 Get medical advice/ attention.

Hazardous components which must be listed on the label:
687-47-8

Reduction Labelling (<= 125 ml)

Hazard pictograms

Signal word
Danger

Hazard statements
H318 Causes serious eye damage.

Precautionary statements
P280 Wear eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313 Get medical advice/ attention.

2.3 Other hazards
None known.

SECTION 3: Composition/information on ingredients

Chemical nature: Contains
organic solvents
Polymer compounds

3.1 Substance
Not applicable
3.2 Mixtures

### Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No. Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>687-47-8</td>
<td>01-2119516234-49-xxxx</td>
<td>Flam. Liq. 3; H226</td>
<td>&gt;= 50 - &lt;= 100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye Dam. 1; H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STOT SE 3; H335</td>
<td></td>
</tr>
</tbody>
</table>

**Substances with a workplace exposure limit**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No. Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-methoxy-2-propanol</td>
<td>107-98-2 01-2119457435-35-xxxx</td>
<td>Flam. Liq. 3; H226</td>
<td>&gt;= 1 - &lt; 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye Dam. 1; H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STOT SE 3; H336</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 4: First aid measures**

4.1 **Description of first aid measures**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>If inhaled</td>
<td>fresh air.</td>
</tr>
<tr>
<td>In case of skin contact</td>
<td>Take off immediately all contaminated clothing. Rinse skin with water / shower.</td>
</tr>
<tr>
<td>In case of eye contact</td>
<td>rinse out with plenty of water.</td>
</tr>
<tr>
<td></td>
<td>Immediately call in ophthalmologist.</td>
</tr>
<tr>
<td></td>
<td>Remove contact lenses.</td>
</tr>
<tr>
<td>If swallowed</td>
<td>immediately make victim drink water (two glasses at most). Consult a physician.</td>
</tr>
</tbody>
</table>

4.2 **Most important symptoms and effects, both acute and delayed**

**Symptoms**

- Irritation and corrosion
- Cough
- Shortness of breath
- Risk of serious damage to eyes

4.3 **Indication of any immediate medical attention and special treatment needed**

**Treatment**

No information available.

**SECTION 5: Firefighting measures**

5.1 **Extinguishing media**

**Suitable extinguishing media**

- Water
- Foam
- Carbon dioxide (CO2)
- Dry powder

**Unsuitable extinguishing**

For this substance/mixture no limitations of extinguishing
5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Combustible.

Vapours 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

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

Further information: Cool closed containers exposed to fire with water spray. 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

Personal precautions: Advice for non-emergency personnel:
Do not breathe vapours, 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. Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Environmental precautions: Do not flush into surface water or sanitary sewer system. Risk of explosion.

6.3 Methods and material for containment and cleaning up

Methods for 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

Indications about waste treatment see section 13.
SECTION 7: Handling and storage

7.1 Precautions for safe handling
- **Advice on safe handling**: Observe label precautions.
- **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**: Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities
- **Requirements for storage areas and containers**: Store in original container.
- **Further information on storage conditions**: Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
  - Risks from decomposition products: see section 10.3
  - Protected from light.
- **Recommended storage temperature**: Recommended storage temperature see product label.

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

8.2 Exposure controls
- **Engineering measures**: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
  
  See section 7.1.

- **Personal protective equipment**: Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled and must meet the specifications of a standard EN/ISO/DIN. The chemical resistance of the protective equipment should be enquired at the respective supplier.

  - **Eye protection**: Tightly fitting safety goggles
Hand protection:
- splash contact
- Glove material: butyl-rubber
- Glove thickness: >= 0.5 mm
- Break through time: > 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example:
Chemically resistant gloves

Protective measures:
- Flame retardant antistatic protective clothing.

Respiratory protection:
- required when vapours/aerosols are generated.

Recommended Filter type:
- ABEK-filter

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.

**Environmental exposure controls**

**General advice**:
- Do not flush into surface water or sanitary sewer system.
- Risk of explosion.

**SECTION 9: Physical and chemical properties**

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

- **Form**: liquid
- **Colour**: clear, amber, red
- **Odour**: characteristic ester-like
- **Odour Threshold**: No information available.
- **pH**: Not applicable
- **Melting point**: No information available.
- **Boiling point/boiling range**: 118 - 154 °C
- **Flash point**: 53 °C
  - Method: closed cup
- **Evaporation rate**: No information available.
SAFETY DATA SHEET
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AZ Barli II 90

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>approximately 2 mbar at 20 °C</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Density</td>
<td>1.03 g/cm³ at 25 °C</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>partly miscible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not classified as explosive.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

9.2 Other data
None

SECTION 10: Stability and reactivity

10.1 Reactivity
Vapour/air-mixtures are explosive at intense warming.

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

10.3 Possibility of hazardous reactions

The Safety Data Sheets for catalogue items are available at www.merck-performance-materials.com
Risk of ignition or formation of inflammable gases or vapours with:
Alkali metals
Alkaline earth metals
chromium(VI) oxide

Violent reactions possible with:
Strong oxidizing agents
acid halides
Acid anhydrides
Acid chlorides

Exothermic reaction with:
Oxidizing agents
Nitric acid
Aldehydes
Amines
fuming sulfuric acid
Iron
Aluminium
Chlorine
phosphorus trichloride
Strong acids

10.4 Conditions to avoid
Conditions to avoid : Heating.

10.5 Incompatible materials
Materials to avoid : no information available

10.6 Hazardous decomposition products
no information available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:
Acute oral toxicity : No data available
Acute inhalation toxicity : Symptoms: mucosal irritations, Cough, Shortness of breath,
Possible damages: damage of respiratory tract

Acute dermal toxicity : No data available

Components:
687-47-8:
Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Acute inhalation toxicity: LC50 (Rat): > 5.4 mg/l
Exposure time: 4 h
Method: OECD Test Guideline 403

Acute dermal toxicity: No data available

1-methoxy-2-propanol:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Remarks: (IUCLID)

Acute inhalation toxicity: LC50 (Rat): > 6 mg/l
Exposure time: 4 h
Test atmosphere: aerosol
Remarks: (IUCLID)

Acute dermal toxicity: LD50 (Rabbit): 11,000 mg/kg
Remarks: (External MSDS)

Skin corrosion/irritation

Product: No data available

Components:

687-47-8:
Result: Mild skin irritation

1-methoxy-2-propanol:
Species: Rabbit
Result: No irritation
Remarks: (IUCLID)

Serious eye damage/eye irritation

Product:
Remarks: Risk of blindness!

Components:

687-47-8:
Result: Severe eye irritation

1-methoxy-2-propanol:
Species: Rabbit
Result: slight irritation
Remarks: (IUCLID)

Respiratory or skin sensitisation

Product: No data available
Components:

687-47-8:
Result: Did not cause sensitisation on laboratory animals.

1-methoxy-2-propanol:
Test Type: Sensitisation test:
Species: Guinea pig
Result: negative
Remarks: (IUCLID)

Germ cell mutagenicity

Product:
No data available

Components:

1-methoxy-2-propanol:
Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity

Product:
This information is not available.

Components:
This information is not available.

STOT - single exposure

Product:
No data available

Components:

687-47-8:
Assessment: May cause respiratory irritation.

1-methoxy-2-propanol:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Product:
No data available

Components:
No data available
Repeted dose toxicity

Product:
No data available

Components:
No data available

Aspiration toxicity

Product:
No data available

Components:
No data available

11.2 Other information

Product:
No data available
Other dangerous properties can not be excluded.

SECTION 12: Ecological information

12.1 Toxicity

Product:
No data available

Components:

687-47-8:
Toxicity to fish : LC50 (Danio rerio (zebra fish)): 320 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: (External MSDS)

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 683 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : IC50 (Pseudokirchneriella subcapitata (green algae)): 2.200 mg/l
Exposure time: 70 h
Remarks: (External MSDS)

1-methoxy-2-propanol:
Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 4.600 - 10.000 mg/l
Exposure time: 96 h
Remarks: (IUCLID)

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Remarks: (IUCLID)
Toxicity to algae: IC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 72 h
Remarks: (External MSDS)

Toxicity to microorganisms: EC50 (activated sludge): > 1.000 mg/l
Remarks: (External MSDS)

12.2 Persistence and degradability

Product:
No data available

Components:

687-47-8:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 86 %
Exposure time: 28 d

Chemical Oxygen Demand (COD): 1.620 mg/g

1-methoxy-2-propanol:
Biodegradability: Result: Readily biodegradable.
Biodegradation: ca. 90 %
Exposure time: 29 d
Method: OECD Test Guideline 301E

12.3 Bioaccumulative potential

Product:
Bioaccumulation: No data available

Components:

687-47-8:
Partition coefficient: n-octanol/water: log Pow: 0.06

1-methoxy-2-propanol:
Partition coefficient: n-octanol/water: log Pow: 0.37 (20 °C)

12.4 Mobility in soil

Product:
No data available
12.5 Results of PBT and vPvB assessment

**Product:**
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.

**Components:**

687-47-8: No data available
1-methoxy-2-propanol: No data available

12.6 Other adverse effects

**Product:**
Additional ecological information : No data available

Discharge into the environment must be avoided.

**Components:**

687-47-8: No data available
1-methoxy-2-propanol: 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

Air transport (IATA)

The Safety Data Sheets for catalogue items are available at www.merck-performance-materials.com
14.1. UN/ID No. : UN 1993
14.2. Proper shipping name : Flammable liquid, n.o.s.
           (Ethyl Lactate, 1-Methoxy-2-propanol)

14.3. Class : 3
14.4. Packing group : III
14.5 Environmentally hazardous : --
14.6 Special precautions for user : no

Sea transport (IMDG)

14.1. UN number : UN 1993
14.2. Proper shipping name : FLAMMABLE LIQUID, N.O.S.
           (Ethyl Lactate, 1-Methoxy-2-propanol)
14.3. Class : 3
14.4. Packing group : III
14.5 Environmentally hazardous : --
14.6 Special precautions for user : yes
EmS Code : F-E, S-E

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

Land transport (ADR/RID)

14.1. UN number : UN 1993
14.2. Proper shipping name : FLAMMABLE LIQUID, N.O.S.
           (Ethyl Lactate, 1-Methoxy-2-propanol)
14.3. Class : 3
14.4. Packing group : III
14.5 Environmentally hazardous : --

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable
## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

### SECTION 16: Other information

#### Training advice

Provide adequate information, instruction and training for operators.

#### Full text of H-Statements

- **H226**: Flammable liquid and vapour.
- **H318**: Causes serious eye damage.
- **H335**: May cause respiratory irritation.
- **H336**: May cause drowsiness or dizziness.

#### Key or legend to abbreviations and acronyms used in the safety data sheet
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Disclaimer
The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.