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

1.1. Product identifier

928 Scheibenklar Pure MP9280F200AB

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

Use of the substance/mixture

Cleaner

1.3. Details of the supplier of the safety data sheet

Company name: TUNAP GmbH & Co. KG
Street: Bürgermeister-Seidl-Str. 2
Place: D-82515 Wolfratshausen
Telephone: +49 (0) 8171/1600 - 0
Telefax: +49 (0) 8171/1600 - 40
E-mail: sdb@tunap.com
Internet: www.tunap.com

1.4. Emergency telephone number:

+49 (0) 30 30 686 790 (Giftnotruf Berlin)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Flammable liquid: Flam. Liq. 2
Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Highly flammable liquid and vapour.
Causes serious eye irritation.

2.2. Label elements

Regulation (EC) No. 1272/2008

Signal word: Danger

Pictograms:

Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapours.
P280 Wear eye/face protection.
P233 Keep container tightly closed.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients
### 3.2. Mixtures

**Hazardous components**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</th>
<th>GHS Classification</th>
<th>Full text of H and EUH statements: see section 16.</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5</td>
<td>ethanol</td>
<td>50 - &lt;= 100 %</td>
<td>200-578-6</td>
<td>603-002-00-5</td>
<td>01-2119457610-43</td>
<td>Flam. Liq. 2, Eye Irrit. 2; H225 H319</td>
<td></td>
</tr>
<tr>
<td>107-21-1</td>
<td>ethanediol, ethylene glycol</td>
<td>5 - &lt; 10 %</td>
<td>203-473-3</td>
<td></td>
<td>01-2119456816-28</td>
<td>Acute Tox. 4, STOT RE 2; H302 H373</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1. Description of first aid measures

**General information**

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

**After inhalation**

Remove person to fresh air and keep comfortable for breathing. In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with eyes**

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

**After ingestion**

Headache, nausea, dizziness, fatigue, skin irritation

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

Headache, nausea, dizziness, fatigue, skin irritation

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

Treat symptomatically. Call a POISON CENTER. Symptoms can occur only after several hours.

### 5.1. Extinguishing media

**Suitable extinguishing media**

Water fog, Foam. Carbon dioxide (CO2). Extinguishing powder.

**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO2, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

**5.3. Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Move undamaged containers from immediate hazard.
928 Scheibenklar Pure MP9280F200AB

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Print date: 28.06.2019  Product code: 11AMP9280F200AB  Page 3 of 10

area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

Additional information
Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Wear personal protection equipment.

6.2. Environmental precautions
Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Ensure all waste water is collected and treated via a waste water treatment plant.

6.3. Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Observe instructions for use.
Dust must be exhausted directly at the point of origin. Vapours/aerosols must be exhausted directly at the point of origin. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.
When using do not eat, drink, smoke, sniff.
Wear personal protection equipment (refer to section 8).

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking.

Further information on handling
Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed. Observe legal regulations and provisions.

Hints on joint storage
Do not store together with: Oxidizing agents. Pyrophoric or self-heating substances. Food and feedingstuffs.

Further information on storage conditions
Store in a cool dry place. Observe legal regulations and provisions.

7.3. Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1</td>
<td>Ethane-1,2-diol, vapour</td>
<td>20</td>
<td>52</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>104</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethanol</td>
<td>1000</td>
<td>1920</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Additional advice on limit values
- a no restriction
- b End of exposure or shift
- c in long-term exposure: after several shifts
- d prior to next shift

TWA (EC): time-weighted average
U: Urea
B: Blood

8.2. Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used.

Protective and hygiene measures
- Avoid exposure. Wear suitable protective clothing. Draw up and observe skin protection programme.

Eye/face protection
- Suitable eye protection: Tightly sealed safety glasses.
  DIN EN 166

Hand protection
- Protect skin by using skin protective cream. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
- Suitable material: NBR (Nitrile rubber) Breakthrough time (maximum wearing time) 480 min
- Thickness of the glove material 0,45 mm
  DIN EN 374

Skin protection
- Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

Respiratory protection
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
  When exceeding the relevant workplace exposure limits, note the following:
  Suitable respiratory protective equipment: Combination filter device (DIN EN 141).
  Filtering device with filter or ventilator filtering device of type: A
  Observe the wear time limits as specified by the manufacturer.
  Observe legal regulations and provisions.

Environmental exposure controls
- Observe legal regulations and provisions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
- Physical state: liquid
- Colour: colorless, clear
- Odour: alcoholic
Test method

pH-Value (at 20 °C): 11,08 DIN 19268

Changes in the physical state

Melting point: not determined
Initial boiling point and boiling range: 78 °C
Sublimation point: No information available.
Softening point: No information available.
Flash point: 21,5 °C ISO 3679

Flammability

Solid: not applicable
Gas: not applicable

Lower explosion limits: 3,5 vol. %
Upper explosion limits: 15 vol. %
Ignition temperature: 400 °C

Auto-ignition temperature

Solid: not applicable
Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidising.

Vapour pressure: not determined
Density (at 20 °C): 0,8999 g/cm³ DIN 51757
Water solubility: easily soluble

Solubility in other solvents

not determined

Partition coefficient: not determined
Viscosity / dynamic: No information available. DIN 53019-1
Viscosity / kinematic: DIN EN ISO 3104
(at 40 °C)
Flow time: No information available. DIN EN ISO 2431
(at 20 °C)
Vapour density: not determined
Evaporation rate: not determined
Solvent separation test: No information available.
Solvent content: No information available.

9.2. Other information

Solid content: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable.

10.2. Chemical stability
The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions
No known hazardous reactions.

10.4. Conditions to avoid
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials
Oxidizing agents. Pyrophoric or self-heating substances.

10.6. Hazardous decomposition products
Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO2, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

Further information
Do not mix with other chemicals.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicocinetics, metabolism and distribution
No information available.

Acute toxicity
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5</td>
<td>ethanol</td>
<td>oral</td>
<td>LD50</td>
<td>6200 mg/kg</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;20000 mg/kg</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation (4 h) vapour</td>
<td>LC50</td>
<td>95.6 mg/l</td>
<td>Rat</td>
</tr>
<tr>
<td>107-21-1</td>
<td>ethanediol, ethylene glycol</td>
<td>oral</td>
<td>LD50</td>
<td>1600 mg/kg</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;3500 mg/kg</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Causes serious eye irritation.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
No indications of human carcinogenicity exist.
No indications of human germ cell mutagenicity exist.
No indications of human reproductive toxicity exist.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.
Specific effects in experiment on an animal
No information available.

Additional information on tests
The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity
Aquatic toxicity: The classification criteria for this hazard class are not met by definition.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5</td>
<td>ethanol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>14200 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas (fathead minnow)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>9268 - 14221</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>IUCLID</td>
</tr>
<tr>
<td>107-21-1</td>
<td>ethanediol, ethylene glycol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>72860 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>6500 - 13000</td>
<td>96 h</td>
<td>Selenastrum capricornutum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt; 100 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fish toxicity</td>
<td>NOEC</td>
<td>72860 mg/l</td>
<td>7 d</td>
<td>Pimephales promelas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crustacea toxicity</td>
<td>NOEC</td>
<td>8590 mg/l</td>
<td>7 d</td>
<td>Ceriodaphnia spec</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
The product has not been tested.

12.3. Bioaccumulative potential
The product has not been tested.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5</td>
<td>ethanol</td>
<td>-0,31</td>
</tr>
<tr>
<td>107-21-1</td>
<td>ethanediol, ethylene glycol</td>
<td>-1,36</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
The product has not been tested.

12.5. Results of PBT and vPvB assessment
The product has not been tested.

12.6. Other adverse effects
No information available.

Further information
No special environmental measures are necessary.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products
Waste disposal number of used product

| 070704 | WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fine chemicals and chemical products not otherwise specified; other organic solvents, washing liquids and mother liquors; hazardous waste |

Waste disposal number of contaminated packaging

| 150110 | WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste |

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN 1170</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>3</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>II</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>3</td>
</tr>
<tr>
<td>Classification code:</td>
<td>F1</td>
</tr>
<tr>
<td>Special Provisions:</td>
<td>144 601</td>
</tr>
<tr>
<td>Limited quantity:</td>
<td>1 L</td>
</tr>
<tr>
<td>Transport category:</td>
<td>2</td>
</tr>
<tr>
<td>Hazard No:</td>
<td>33</td>
</tr>
<tr>
<td>Tunnel restriction code:</td>
<td>D/E</td>
</tr>
</tbody>
</table>

**Other applicable information (land transport)**

Limited quantity: E2

**Inland waterways transport (ADN)**

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN 1170</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>3</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>II</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>3</td>
</tr>
<tr>
<td>Classification code:</td>
<td>F1</td>
</tr>
<tr>
<td>Special Provisions:</td>
<td>144 601</td>
</tr>
<tr>
<td>Limited quantity:</td>
<td>1 L</td>
</tr>
</tbody>
</table>

**Marine transport (IMDG)**

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN 1170</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>3</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>II</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>3</td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>no</td>
</tr>
<tr>
<td>Special Provisions:</td>
<td>144</td>
</tr>
<tr>
<td>Limited quantity:</td>
<td>1 L</td>
</tr>
<tr>
<td>EmS:</td>
<td>F-E, S-D</td>
</tr>
</tbody>
</table>
Other applicable information (marine transport)
Limited quantity: E2

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1170
14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es): II
14.4. Packing group: 3
Hazard label: 3
Special Provisions: A3 A58 A180
Limited quantity Passenger: 10 L

IATA-packing instructions - Passenger: 355
IATA-max. quantity - Passenger: 60 L
IATA-packing instructions - Cargo: 366
IATA-max. quantity - Cargo: 220 L

Other applicable information (air transport)
Passenger-LQ: Y344
Limited quantity: E1
000000000005: Y344

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
Warning: Combustible liquids.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information
2010/75/EU (VOC): No information available.
2004/42/EC (VOC): No information available.

Additional information
Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

National regulatory information
Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Water contaminating class (D): 1 - slightly water contaminating

Additional information
94/69/EC (21st ATP). The benzene content of the product is less than 0.1%. It applies the annotation P. Classification and labeling as carcinogenic is not necessary.

15.2. Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes
This data sheet contains changes from the previous version in section(s): 2,4,5,6,7,8,9,10,11,13,14,15.
Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
    (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H373 May cause damage to kidneys through prolonged or repeated exposure by skin contact.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)