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

1.1 Product identifier

Product number: 212238
Product name: AZ Aquatar Coating

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)
Serious eye damage, Category 1 H318: Causes serious eye damage.
Calculation method

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms: ☑️
Signal word: Danger
Hazard statements: H318 Causes serious eye damage.
Precautionary statements: Prevention:
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:
Quaternary Ammoniumperfluoroalkyl carboxylate

2.3 Other hazards
None known.

SECTION 3: Composition/information on ingredients

Chemical nature : Aqueous solution of organic compounds.

3.1 Substance
Not applicable

3.2 Mixtures

<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>Quaternary Ammoniumperfluoroalkyl carboxylate</td>
<td>32609-65-7 01-0000017268-65-xxxx</td>
<td>Acute Tox. 3; H301 Eye Dam. 1; H318 Aquatic Chronic 3; H412</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures
If inhaled : fresh air.
In case of skin contact : Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of eye contact : rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed : immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms : Irritation and corrosion
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 : Use extinguishing measures that are appropriate to local
5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Not combustible.

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

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Special protective equipment for firefighters: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information: Suppress (knock down) gases/vapours/mists with a water spray jet. 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.
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.

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 and neutralising material (e.g. Chemizorb® H⁺, Merck Art. No. 101595). 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.
Hygiene measures : Change contaminated clothing. Wash hands 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 : Tightly closed.
Protected from light. Protect against frost. The product after freezing is no longer usable.
Risks from decomposition products: see section 10.3
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: Nitrile rubber  
Glove thickness: 0.4 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: KCL 730 Camatri®-Velours (splash contact).

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-38124 Eichenzell, Internet: www.kcl.de).

Protective clothing
Respiratory protection: required when vapours/aerosols are generated.
Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form: liquid
Colour: colourless
Odour: slight characteristic
Odour Threshold: No information available.

pH: 4 at 20 °C

Melting point: No information available.
Boiling point/boiling range: ca. 100 °C
Flash point: Not applicable
Evaporation rate: No data available
AZ Aquatar Coating

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability (solid, gas)</td>
<td>The product is not flammable.</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>Not applicable</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1 g/cm³ at 20 °C</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>miscible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available.</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>none</td>
</tr>
</tbody>
</table>

9.2 Other data

Viscosity, dynamic                           approximately 2 mPas at 20 °C

Corrosion                                   Not corrosive to metals

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Hazardous reactions: Reacts with the following substances:
Strong oxidizing agents
Strong bases

Violent reactions possible with:
The generally known reaction partners of water.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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Print Date: 01.08.2018

10.4 Conditions to avoid
Conditions to avoid : no information available

10.5 Incompatible materials
Materials to avoid : no information available

10.6 Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:
Acute oral toxicity : Acute Toxicity Estimate (ATE): > 2.000 mg/kg
Method: Calculation method
Acute inhalation toxicity :
Symptoms: Possible symptoms:; mucosal irritations
Acute dermal toxicity :
(Human): Remarks: absorption

Components:
Quaternary Ammoniumperfluoroalkyl carboxylate:
Acute oral toxicity : LD50: 100 - 160 mg/kg
Acute inhalation toxicity :
Acute dermal toxicity :
No data available
(Human): Remarks: absorption

Skin corrosion/irritation

Product:
No data available

Components:
Quaternary Ammoniumperfluoroalkyl carboxylate:
Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation

Product:
Remarks: Risk of blindness!
Components:

Quaternary Ammoniumperfluoroalkyl carboxylate:
Species: Rabbit
Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:
No data available

Components:

Quaternary Ammoniumperfluoroalkyl carboxylate:
Test Type: Maximisation Test
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Product:
No data available

Components:

Quaternary Ammoniumperfluoroalkyl carboxylate:
Germ cell mutagenicity- Assessment: Not mutagenic in Ames Test

Carcinogenicity

Product:
This information is not available.

Components:
This information is not available.

STOT - single exposure

Product:
No data available

Components:
No data available

STOT - repeated exposure

Product:
No data available

Components:
No data available
Repeated 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:**
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1 Toxicity

**Product:**

Toxicity to fish:
- LC50 (Lepomis macrochirus (Bluegill sunfish)): > 300 mg/l
  - Exposure time: 96 h

Toxicity to algae:
- (Scenedesmus capricornutum (fresh water algae)): > 300 mg/l
  - Exposure time: 96 h

**Components:**

Quarternary Ammoniumperfluoroalkyl carboxylate:

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Daphnia magna (Water flea)): 16.35 mg/l
  - Exposure time: 48 h

Toxicity to microorganisms:
- EC50 (activated sludge): > 1.000 mg/l
  - Test Type: Respiration inhibition
  - Method: OECD Test Guideline 209

#### 12.2 Persistence and degradability

**Product:**

Biochemical Oxygen Demand (BOD):
- 730 mg/l
Components:

Quaternary Ammoniumperfluoroalkyl carboxylate:

Biodegradability: Result: Not readily biodegradable.
Biodegradation: 20 - 50 %
Exposure time: 28 d
Method: Tested according to Annex V of Directive 67/548/EEC.
Remarks: According to the results of tests of biodegradability this product is not readily biodegradable.

12.3 Bioaccumulative potential

Product:
Bioaccumulation: Remarks: No data available

Components:

Quaternary Ammoniumperfluoroalkyl carboxylate:
Partition coefficient: n-octanol/water: log Pow: 0
Remarks: Bioaccumulation is not expected.
(Lit.)

12.4 Mobility in soil

Product:
Mobility: Remarks: No data available
Distribution among environmental compartments: No data available
Stability in soil: No data available

Components:

Quaternary Ammoniumperfluoroalkyl carboxylate:
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:

Quaternary Ammoniumperfluoroalkyl carboxylate:
No data available
12.6 Other adverse effects

**Product:**
Additional ecological information: Discharge into the environment must be avoided.

**Components:**
Quaternary Ammoniumperfluoroalkyl carboxylate: 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)**

14.1.-14.6: Not dangerous goods

**Sea transport (IMDG)**

14.1.-14.6: Not dangerous goods

**Land transport (ADR/RID)**

14.1.-14.6: Not dangerous goods

### 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 |
| Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals | Not applicable |
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according to Regulation (EC) No. 1907/2006

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REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Not applicable


Storage class: 10 - 13

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

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
H301: Toxic if swallowed.
H318: Causes serious eye damage.
H412: Harmful to aquatic life with long lasting effects.

Key or legend to abbreviations and acronyms used in the safety data sheet
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.