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

1.1 Product identifier

**Trade name:** Fi-CLOR™ EXTRA STRONG ALGICIDE

**Article number:** 11109 FiClor

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

**Sector of Use**
- SU21 Consumer uses: Private households / general public / consumers
- SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Product category**
- PC8 Biocidal products (e.g. Disinfectants, pest control)
- PC37 Water treatment chemicals

**Application of the substance / the preparation**
- Water treatment
- Algicide

1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**
Arch Water Products France now part of
LONZA MICROBIAL CONTROL
BP 219 - 37402 Amboise Cedex - FRANCE
Phone: +33 (0)2 47 23 43 00
Fax: +33 (0)2 47 23 12 21

framsds-reach.france.euwater@lonza.com

**Further information obtainable from:**
ARCH CHEMICALS Ltd now part of
LONZA MICROBIAL CONTROL
Wheldon Road - Castleford - West Yorkshire WF10 2JT - ENGLAND
Telephone: +44 (0) 1977 714 100
Fax: +44 (0) 1977 714 002

1.4 Emergency telephone number:

Europe >>> NCEC - Tel. +44 (0)1235 239 670

Africa & Middle East >>> NCEC - Tel. +44 (0)1235 239 671

N.AMERICA >>> ACEAN (Arch Chemicals Emergency Action Network) - Tel. +1 423 780 2970
CALL A LOCAL NATIONAL POISON CONTROL UNIT
FOR UK CONTACT NCEC Tel 01865 407 333

2 Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

GH505 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

(Contd. on page 2)
Trade name: **Fi-CLOR™ EXTRA STRONG ALGICIDE**

GHS09 environment

Aquatic Acute 1   H400  Very toxic to aquatic life.
Aquatic Chronic 2 H411  Toxic to aquatic life with long lasting effects.

GHS07

Acute Tox. 4   H302  Harmful if swallowed.
Acute Tox. 4   H312  Harmful in contact with skin.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

C; Corrosive

R34:   Causes burns.

Xn; Harmful

R21/22:   Harmful in contact with skin and if swallowed.

N; Dangerous for the environment

R50/53:   Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

**Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS05 GHS07 GHS09

**Signal word** Danger

**Hazard-determining components of labelling:**
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides
2-aminoethanol
copper sulphate

**Hazard statements**
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**
P260   Do not breathe dust/fume/gas/mist/vapours/spray.
P264   Wash thoroughly after handling.
P270   Do no eat, drink or smoke when using this product.
P273   Avoid release to the environment.
P280   Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Trade name: **Fi-CLOR™ EXTRA STRONG ALGICIDE**

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

### 3 Composition/information on ingredients

#### 3.2 Chemical characterization: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

- **Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides**
  - CAS: 68424-85-1
  - EINECS: 270-325-2
  - 25-50%
  - C R34; Xn R21/22; N R50
  - Acute Tox. 3, H301; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Acute Tox. 4, H312

- **2-aminoethanol**
  - CAS: 141-43-5
  - EINECS: 205-483-3
  - 2.5-10%
  - C R34; Xn R20/21/22
  - Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332

- **copper sulphate**
  - CAS: 7758-98-7
  - EINECS: 231-847-6
  - 2.5-10%
  - Xn R22; Xi R36/38; N R50/53
  - Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319

- **ethanol**
  - CAS: 64-17-5
  - EINECS: 200-578-6
  - 2.5-10%
  - F R11
  - Flam. Liq. 2, H225

**Additional information**

For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

#### 4.1 Description of first aid measures

**General information**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation** In case of unconsciousness place patient stably in side position for transportation.

**After skin contact** Immediately wash with water and soap and rinse thoroughly.

**After eye contact** Rinse opened eye for several minutes (15) under running water. Then consult a doctor.

**After swallowing**

Rinse out mouth and then drink plenty of water.

Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

No further relevant information available.

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

No further relevant information available.

(Contd. on page 4)
Trade name: Fi-CLOR™ EXTRA STRONG ALGICIDE

5 Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture: No further relevant information available.

5.3 Advice for firefighters
Protective equipment: No special measures required.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective clothing.
Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:
Prevent from spreading (e.g. by damming-in or oil barriers).
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

6.4 Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Handling

\[\text{DO NOT MIX WITH OTHER PRODUCTS} \]
\[\text{DO NOT DILUTE BEFORE USE} \]

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities
Storage

Requirements to be met by storerooms and receptacles: Store only in unopened original receptacles.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:
Protect from frost.
Store receptacle in a well ventilated area.
Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.
Trade name: Fi-CLOR™ EXTRA STRONG ALGICIDE

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace:
141-43-5 2-aminoethanol
WEL. Short-term value: 7.6 mg/m³, 3 ppm
   Long-term value: 2.5 mg/m³, 1 ppm
Sk
64-17-5 ethanol
WEL. Long-term value: 1920 mg/m³, 1000 ppm
Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Protection of hands:
Synthetic rubber gloves
Protective gloves.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves
Butyl rubber, BR
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye protection:
Tightly sealed goggles.
Body protection: Apron

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
  Form: Fluid
  Colour: Blue
  Odour: Characteristic
  Odour threshold: Not determined.
Trade name: **Fi-CLOR™ EXTRA STRONG ALGICIDE**

pH-value at 20°C: 7.2

Change in condition
- Melting point/Melting range: undetermined
- Boiling point/Boiling range: 100°C

Flash point: Not applicable

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 305°C

Decomposition temperature: Not determined.

Self-igniting: Product is not self-igniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
- Lower: Not determined.
- Upper: Not determined.

Vapour pressure at 20°C: 23 hPa

Density at 20°C: 1.072 g/cm³

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with
- Water: Fully miscible

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:
- dynamic: Not determined.
- kinematic: Not determined.

Solvent content:
- Organic solvents: 30.7 %
- Water: 35.5 %

9.2 Other information No further relevant information available.

10 Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known

(Contd. on page 7)
Trade name: **Fi-CLOR™ EXTRA STRONG ALGICIDE**

### 11 Toxicological information

#### 11.1 Information on toxicological effects

**Acute toxicity:**

**LD/LC50 values relevant for classification:**

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>3813 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>&gt; 4090 mg/kg (rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Compound</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>68424-85-1 Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides</td>
<td>240 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>1560 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>141-43-5 2-aminoethanol</td>
<td>2050 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>1000 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>7758-98-7 copper sulphate</td>
<td>666 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>64-17-5 ethanol</td>
<td>7060 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

**Inhalative LC50 - 4 hrs**: 20000 mg/l (rat)

**Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

- Harmful
- Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

### 12 Ecological information

#### 12.1 Toxicity

**Aquatic toxicity:**

- Oral LC50 - 96 hrs: 0.572 mg/l (bluegill sunfish)
- 0.145 mg/l (rainbow trout)

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

**Ecotoxicological effects:**

**Remark:** Very toxic for fish

**Additional ecological information:**

**General notes:**

Generally not hazardous for water.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

**12.5 Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.
Trade name: **Fi-CLOR™ EXTRA STRONG ALGICIDE**

12.6 Other adverse effects No further relevant information available.

### 13 Disposal considerations

**13.1 Waste treatment methods**

**Recommendation**
Must be specially treated adhering to official regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging:**
**Recommendation:** Disposal must be made according to official regulations.
**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

**14.1 UN-Number**

| ADR, IMDG, IATA | UN3265 |

**14.2 UN proper shipping name**

| ADR | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides), ENVIRONMENTALLY HAZARDOUS |
| IMDG | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides), MARINE POLLUTANT |
| IATA | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides) |

**14.3 Transport hazard class(es)**

| ADR |
| Class | 8 (C3) Corrosive substances. |
| Label | 8 |

| IMDG |
| Class | 8 Corrosive substances. |
| Label | 8 |

| IATA |
| Class | 8 Corrosive substances. |

**14.4 Packing group**

| ADR, IMDG, IATA | III |

**14.5 Environmental hazards:**

**Marine pollutant:**
Yes
Symbol (fish and tree)

**Special marking (ADR):**
Symbol (fish and tree)

**14.6 Special precautions for user**

**Danger code (Kemler):**
Warning: Corrosive substances.
80

**EMS Number:**
F-A,S-B

(Contd. on page 9)
Trade name: **Fi-CLOR™ EXTRA STRONG ALGICIDE**

Segregation groups

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport/Additional information:

ADR

Exempted quantities (EQ): E1

Limited quantities (LQ): 5L

Tunnel restriction code: E

UN "Model Regulation": UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides), ENVIRONMENTALLY HAZARDOUS, 8, III

15 Regulatory information

**Directive 98/8/EC**

Best before: see date on packaging

Providing this container when empty is thoroughly rinsed out in the pool, it may be disposed of via the recycling scheme

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

National regulations

Technical instructions (air):

<table>
<thead>
<tr>
<th>Class</th>
<th>Share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasser</td>
<td>35.5</td>
</tr>
<tr>
<td>III</td>
<td>7.5</td>
</tr>
<tr>
<td>NK</td>
<td>30.7</td>
</tr>
</tbody>
</table>

Waterhazard class: Generally not hazardous for water.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

R11 Highly flammable.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R21/22 Harmful in contact with skin and if swallowed.

R22 Harmful if swallowed.

R34 Causes burns.

R36/38 Irritating to eyes and skin.

R50 Very toxic to aquatic organisms.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Trade name: **Fi-CLOR™ EXTRA STRONG ALGICIDE**

**Contact:**
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Wheldon Road - Castleford - West Yorkshire WF10 2JT - ENGLAND  
Telephone: +44 (0) 1977 714 100  
Fax: +44 (0) 1977 712 456

ARCH MSDS Control Group  
Arch Chemicals, Inc.  
501 Merrit 7 - PO Box 5204  
Norwalk, CT 06856-5204  
USA  
Tel: +1 203 229 3449

**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)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organization  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
* Data compared to the previous version altered.