UPL CHLOROTHALONIL

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

1. Identification of the product

1.1 Identification of the product

Product code FAL03
Product Description: UPL CHLOROTHALONIL
Synonyms Chlorothalonil 500 g/l SC
Pure substance/preparation Preparation

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Recommended use Fungicide

1.3 Details of the Supplier of the Safety Data Sheet

Supplier UPL Europe Ltd
The Centre
Birchwood Park
Warrington
WA3 6YNCheshire
UK
Tel.: +44 (0) 1925 819999
Fax: +44 (0) 1925 856075
E-mail address info.uk@uniphos.com

1.4 Emergency Telephone Number

Emergency telephone number (CARECHEM 24): +44 (0) 1235 239670
United Kingdom NHS no. 111
2. Hazards Identification

2.1 Classification of the mixture

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)  
Xn - Harmful  
N - Dangerous for the environment

R-code(s)  
Carc. cat. 3;R40 - N;R20- Xi;R36/37 - R43 - N;R50/53

For the full text of the R phrases mentioned in this Section, see Section 16

Classification according to regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Inhalation</td>
<td>Category 4 - H332</td>
</tr>
<tr>
<td>Serious Eye Damage/Irritation</td>
<td>Category 1 - H318</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Category 1 - H317</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2 - H351</td>
</tr>
<tr>
<td>STOT - Single Exposure</td>
<td>Category 3 - H335</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 1 - H400</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 1 - H410</td>
</tr>
</tbody>
</table>

2.2 Label elements

Labelling according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)  
Xn - Harmful  
N - Dangerous for the environment

R -phrase(s)  
R20 - Harmful by inhalation  
R40 - Limited evidence of a carcinogenic effect  
R43 - May cause sensitization by skin contact  
R36/37 - Irritating to eyes and respiratory system  
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S -phrase(s)  
S 2 - Keep out of the reach of children  
S13 - Keep away from food, drink and animal feedingstuffs  
S20/21 - When using, do not eat, drink or smoke  
S23 - Do not breathe vapour  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S36/37 - Wear suitable protective clothing and gloves  
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)  
S35 - This material and its container must be disposed of in a safe way  
S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets

Labelling according Regulation (EC) No 1272/2008 (CLP)
signal word  DANGER

hazard statements
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/ 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. P310 - Immediately call a POISON CENTER or doctor
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P273 - Avoid release to the environment
P501 - Dispose of contents/ container in accordance with national regulation

EU Specific Hazard Statements
EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

2.3 Other Hazards

No information available
## 3. Composition/information on Ingredients

### 3.2. MIXTURES

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>EC No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Dir.67/548)</th>
<th>EU - GHS Substance Classification</th>
<th>REACH No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorothalonil</td>
<td>217-588-1</td>
<td>1897-45-6</td>
<td>40 - 50</td>
<td>Carc. Cat. 3; T+; R26 Xi; R41 Xi; R37 R43 N; R50-53</td>
<td>STOT SE 3 (H335) Carc. 2 (H351) Acute Tox. 2 (H330) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)</td>
<td>no data available</td>
</tr>
<tr>
<td>Aqueous dipropylene glycol solution</td>
<td>Not Listed</td>
<td>-</td>
<td>&lt; 1</td>
<td>C; R34 Xn; R22 Xi; R43 N; R50</td>
<td>Skin Corr. 1B (H314) Skin Sens. 1 (H317) Acute Tox. 4 (H302) Aquatic Acute 1 (H400)</td>
<td>-</td>
</tr>
</tbody>
</table>

For the full text of the R phrases mentioned in this Section, see Section 16

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

### 4. First aid measures

#### 4.1 Description of first-aid measures

**General advice**
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

**Eye contact**
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes Consult a physician.

**Skin contact**
Wash off immediately with plenty of water Consult a physician if necessary

**Ingestion**
Call a POISON CENTER or doctor/physician if exposed or you feel unwell Do NOT induce vomiting

**Inhalation**
Move to fresh air Call a physician or poison control center immediately

#### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

No information available.

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

Treat symptomatically.
5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
- As aqueous suspension ignition and fire is not likely.
- Foam
- Dry powder
- Carbon dioxide (CO2)
- Water spray

Unsuitable extinguishing media
- High volume water jet.

5.2 Special hazards arising from the substance or mixture

Special Hazard
- Burning produces obnoxious and toxic fumes

5.3 Advice for Firefighters

Wear self-contained breathing apparatus and protective suit

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas
Avoid contact with skin, eyes and clothing
Use personal protective equipment

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so
Do not allow material to contaminate ground water system
Do not flush into surface water or sanitary sewer system

6.3 Methods and materials for containment and cleaning up

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container
7. Handling and Storage

7.1 Precautions for Safe Handling

Handling
Provide adequate ventilation
Avoid contact with eyes
Ensure that eyewash stations and safety showers are close to the workstation location
Wear personal protective equipment: Half mask with a particle filter P2 (EN 143)

Hygiene Measures
Use only outdoors or in a well-ventilated area
Wash hands after handling

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a cool, well-ventilated place
Store away from frost.

7.3 Specific end uses

No information available.

8. Exposure Controls/Personal Protection

8.1 Control Parameters

Exposure Limits
Apply technical measures to comply with the occupational exposure limits http://www.ser.nl/nl/taken/adviserende/grenswaarden.aspx

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure Controls

Engineering controls
Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

<table>
<thead>
<tr>
<th>Protection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye protection</td>
<td>Safety glasses with side-shields.</td>
</tr>
<tr>
<td>Skin protection</td>
<td>Long sleeved clothing</td>
</tr>
<tr>
<td>Hand protection</td>
<td>Protective gloves.</td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>When workers are facing concentrations above the exposure limit they must use appropriate certified respirators</td>
</tr>
</tbody>
</table>

Environmental exposure controls
Local authorities should be advised if significant spillages cannot be contained.
9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>VALUES</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>appearance</td>
<td>light grey</td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>liquid, suspension concentrate</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>9.5</td>
<td>(1% solution)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>100 °C</td>
<td></td>
</tr>
<tr>
<td>flash point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>flammability (solid, gas)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>1.24 g/ml</td>
<td></td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>viscosity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Non oxidizing</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>According to the chemical structure no explosion reaction is expected.</td>
<td></td>
</tr>
</tbody>
</table>

9.2 OTHER INFORMATION

VOC Content: No information available

10. Stability and Reactivity

10.1 Reactivity

None under normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Avoid extreme high or low temperatures.

10.5 Incompatible Materials

No materials to be especially mentioned

10.6 Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors, nitrogen oxides (NOx), hydrogen cyanide, and hydrogen chloride.
Carbon oxides

11. Toxicological Information

11.1 Information on Toxicological Effects
Acute toxicity

Local effects
Inhalation: There is no data available for this product.
Eye contact: Irritating to eyes.
Skin contact: No skin irritation.
Ingestion: There is no data available for this product.

LD50 Oral: > 4200 mg/kg
LD50 Dermal: > 20000 mg/kg
LC50 Inhalation: 1.96 mg/l

LD50 Oral: > 4200 mg/kg
LD50 Dermal: > 20000 mg/kg
LC50 Inhalation: 1.96 mg/l

Chronic toxicity
Skin Corrosion/Irritation: No information available.
sensitization: Skin Sensitization.
Carcinogenic effects: chlorothalonil: Possible human carcinogen
Mutagenic effects: chlorothalonil: Did not show mutagenic effects in animal experiments
Reproductive effects: chlorothalonil: This product does not contain any known or suspected reproductive hazards
STOT - Single Exposure: May cause respiratory irritation.
STOT - Repeated Exposure: chlorothalonil: None known.
12. Ecological Information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorothalonil</td>
<td>EC50 72 h: = 0.57 mg/L (Desmodesmus subspicatus)</td>
<td>LC50 96 h: = 0.012 mg/L (semi-static (Oncorhynchus mykiss))</td>
<td></td>
<td>EC50 48 h: = 0.0342 - 0.143 mg/L Static (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>EC50 72 h: = 0.0068 mg/L static (Pseudokirchneriella subcapitata)</td>
<td>LC50 96 h: = 0.0076 mg/L flow-through (Oncorhynchus mykiss)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 96 h: = 0.0221 - 0.032 mg/L flow-through (Lepomis macrochirus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 96 h: 0.045 - 0.057 mg/L static (Lepomis macrochirus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>EC50 96 h: = 19000 mg/L (Pseudokirchneriella subcapitata)</td>
<td>LC50 96 h: = 51600 mg/L static (Oncorhynchus mykiss)</td>
<td></td>
<td>EC50 24 h: &gt; 10000 mg/L (Daphnia magna)</td>
</tr>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>EC50 72 h: = 1.01 mg/L (Desmodesmus subspicatus)</td>
<td>LC50 96 h: = 41 mg/L static (Lepomis macrochirus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 96 h: = 59.8 mg/L static (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 96 h: = 51400 mg/L static (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistence and Degradability

No information available

12.3 Bioaccumulative Potential

No information available

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorothalonil</td>
<td>2.9</td>
</tr>
</tbody>
</table>

12.4 Mobility in Soil

No information available.

12.5 Results of PBT and vPvB Assessment

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other Adverse Effects

No information available.
### 13. Disposal Considerations

**13.1 Waste Treatment Methods**

- **Waste from Residues / Unused Products**
  - Dispose of in accordance with local regulations.

- **Contaminated packaging**
  - Empty containers should be taken for local recycling, recovery or waste disposal.

- **EWC waste disposal No**
  - 020108 - agrochemical waste containing dangerous substances.

**OTHER INFORMATION**

- According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

### 14. Transport Information

**ADR/RID**

<table>
<thead>
<tr>
<th>14.1 UN-No</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 Proper shipping name</td>
<td>Environmentally hazardous substance, liquid, n.o.s. (Chlorothalonil)</td>
</tr>
<tr>
<td>14.3 Hazard class</td>
<td>9</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
</tr>
<tr>
<td>14.5 Environmental Hazard</td>
<td>DANGEROUS FOR THE ENVIRONMENT</td>
</tr>
<tr>
<td>14.6 Special Provisions</td>
<td>274, 335, 601</td>
</tr>
<tr>
<td>Tunnel restriction code</td>
<td>(E)</td>
</tr>
</tbody>
</table>

**IMDG/IMO**

<table>
<thead>
<tr>
<th>14.1 UN-No</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
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<td>14.2 Proper shipping name</td>
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<tr>
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<td>9</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
</tr>
<tr>
<td>14.5 Environmental Hazard</td>
<td>Marine Pollutant</td>
</tr>
<tr>
<td>14.6 Special Provisions</td>
<td>274, 335</td>
</tr>
</tbody>
</table>

**IATA/ICAO**

<table>
<thead>
<tr>
<th>14.1 UN-No</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 Proper shipping name</td>
<td>Environmentally hazardous substance, liquid, n.o.s. (Chlorothalonil)</td>
</tr>
<tr>
<td>14.3 Hazard class</td>
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</tr>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
</tr>
<tr>
<td>14.5 Environmental Hazard</td>
<td>DANGEROUS FOR THE ENVIRONMENT</td>
</tr>
<tr>
<td>14.6 Special Provisions</td>
<td>A97, A158</td>
</tr>
</tbody>
</table>
15. Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Registration n° MAPP 15472

- To avoid risks to man and the environment, comply with the instructions for use

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Complies</td>
</tr>
<tr>
<td>China</td>
<td>-</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.
16. Other Information

Full text of R-phrases referred to under sections 2 and 3
R20 - Harmful by inhalation
R22 - Harmful if swallowed
R26 - Very toxic by inhalation
R34 - Causes burns
R37 - Irritating to respiratory system
R40 - Limited evidence of a carcinogenic effect
R41 - Risk of serious damage to eyes
R43 - May cause sensitization by skin contact
R50 - Very toxic to aquatic organisms

R36/37 - Irritating to eyes and respiratory system
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H330 - Fatal if inhaled
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Revision date 09-Jan-2015

Revision note Sections updated: 2 Classification according to regulation (EC) No 1272/2008 (CLP)
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
The information contained is based on our knowledge of the product at the date of publishing. It applies to the PRODUCT AS SUCH. In case of formulation or mixture, make sure that a new danger will not appear. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and duplicated for prevention and Safety purposes. For rates and use recommendations, refer to the information displayed on the packaging. It is the responsibility of the handlers of the product to pass on this safety data sheet to any subsequent persons who will come into contact with the product.

End of Safety Data Sheet