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

1.1. Product identifier
Mablex 4xx FR series COLOR

Further trade names
Mablex 449E, 451, 470, 470E, 478HF

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
Manufacturing of plastic articles and goods including compounding and conversion, eventually recycling.

1.3. Details of the supplier of the safety data sheet
Company name: Ravago Distribution Center NV
Street: Moerenstraat 85 A
Place: B 2370 Arendonk
Telephone: +32 (0) 14672511 Telex: +32 (0) 14672012
Internet: www.ravago.com

1.4. Emergency telephone number
+32(0)14672511

Further Information
Type of use: Injection moulding, blow moulding, Extrusion, Compression moulding.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Regulation (EC) No. 1272/2008
 Hazard categories:
 Harmful to the aquatic environment: Aquatic Chronic 3
 Hazard Statements:
 Harmful to aquatic life with long lasting effects.

2.2. Label elements
Additional advice on labelling
For this product, a hazard label is not required according to section 1.3.4 of Annex I of the CLP regulation.

2.3. Other hazards
The hazards of this product are mainly associated with its processing
See section 11 for more detailed information on health effects and symptoms

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Chemical characterization
Thermoplastic polymer (PC/ABS)

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EC No</td>
<td>Index No</td>
</tr>
<tr>
<td></td>
<td>Classification according to Regulation (EC) No. 1272/2008 [CLP]</td>
<td></td>
</tr>
<tr>
<td>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>0-10 %</td>
</tr>
<tr>
<td>204-112-2</td>
<td></td>
<td>01-2119457432-41</td>
</tr>
</tbody>
</table>

Aquatic Acute 1, Aquatic Chronic 2; H400 H411

Full text of H and EUH statements: see section 16.
SECTION 4: First aid measures

4.1. Description of first aid measures

General information
First aider: Pay attention to self-protection!
Provide adequate ventilation.

After inhalation
Provide adequate ventilation.
In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still.
Consult physician.

After contact with skin
The melted product can cause severe burns.
Do not use force or solvents to remove product incrustations from affected skin areas.
After contact with molten product, cool skin area rapidly with cold water.
Consult physician.

After contact with eyes
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

5.2. Special hazards arising from the substance or mixture
Carbon dioxide. Carbon monoxide hydrocarbons. HF

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus. Protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
High slip hazard because of leaking or spilled product. (Granulate)

6.2. Environmental precautions
No special environmental protection measures are necessary.

6.3. Methods and material for containment and cleaning up
Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Do not empty into drains.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Provide adequate ventilation. Equipment with built-in suction provisions.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep in a cool place.
Provide adequate ventilation.

Advice on storage compatibility
storage stability:
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>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1333-86-4</td>
<td>Carbon black</td>
<td>-</td>
<td>3.5</td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>7</td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>13463-67-7</td>
<td>Titanium dioxide, respirable</td>
<td>-</td>
<td>4</td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>-</td>
<td>3</td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>6</td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>inhalation</td>
<td>systemic</td>
<td>5,2 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>5,55 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>0,9 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>1,98 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
<td>0,5 mg/kg bw/day</td>
</tr>
</tbody>
</table>

PNEC values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>0,004 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater</td>
<td>0,003 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater sediment</td>
<td>1,103 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0,11 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Secondary poisoning</td>
<td>16,667 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>5 mg/l</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0,218 mg/kg</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Protective and hygiene measures
- Provide adequate ventilation. Equipment with built-in suction provisions.
- When using do not eat, drink or smoke. Do not breathe dust.

Eye/face protection
- Wear eye/face protection.
HR 11. Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt; 20000</td>
<td>Rat</td>
<td>Study report (1976)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 10000</td>
<td>Rabbit</td>
<td>Study report (1976)</td>
</tr>
</tbody>
</table>
Further information
When used and handled according to the specifications, this product does not have any harmful effects to human health according to our experience and the information available. Contact the manufacturer in case the material is to be used in special applications such as in contact with food or for hygiene, medical or surgical end-use.

SECTION 12: Ecological information

12.1. Toxicity
Insoluble in: Water.
Due to the consistency along with the low water solubility of the product, bioavailability is unlikely.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>0,4 mg/l</td>
<td>96 h</td>
<td>Oncorhynchus mykiss</td>
<td>REACH Registration Dossier</td>
<td>other: see below</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>2,45 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata</td>
<td>Study report (2000)</td>
<td>OECD Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>1 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>Aquatic Toxicology and Hazard Assessment</td>
<td>other: see below</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish toxicity</td>
<td>NOEC</td>
<td>&gt;= 0,001 mg/l</td>
<td>90 d</td>
<td>Oncorhynchus mykiss</td>
<td>Aquatic Toxicology and Hazard Assessment</td>
<td>Flow through system with 90d exposure pe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crustacea toxicity</td>
<td>NOEC</td>
<td>0,254 mg/l</td>
<td>21 d</td>
<td>Daphnia magna</td>
<td>REACH Registration Dossier</td>
<td>OECD Guideline 211</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

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>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>4,63</td>
</tr>
</tbody>
</table>

BCF

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>BCF</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>115-86-6</td>
<td>Triphenyl phosphate</td>
<td>144</td>
<td>Oryzias latipes</td>
<td>REACh Registration D</td>
</tr>
</tbody>
</table>

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal
Can be burnt together with household waste in compliance with official regulations in contact with approved waste disposal companies and with authorities in charge.
Material recycling possible.
Refer to manufacturer or supplier for information on recovery or recycling.

SECTION 14: Transport information

Land transport (ADR/RID)

14.2. UN proper shipping name: Not a hazardous material with respect to transportation regulations.
14.3. Transport hazard class(es): none

Inland waterways transport (ADN)
### SECTION 15: Regulatory information

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

National regulatory information

#### 16. Other information

<table>
<thead>
<tr>
<th>Relevant H and EUH statements (number and full text)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H400 Very toxic to aquatic life.</td>
</tr>
</tbody>
</table>
| H411 Toxic to aquatic life with long lasting effects.

**Further Information**

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

This safety datasheet should be used in conjunction with technical datasheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose than that for which it was intended. This does not in any way excuse the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfil his obligations regarding the use of hazardous products. This information is not exhaustive. This does not exonerate the user from ensuring that legal obligations, other than those mentioned, relating to the use and storage of the product, do not exist. This is solely his responsibility. Furthermore, this safety datasheet is made up based on the legal requirements as set by EC 1272/2008 based on information as is available per July 2017 (date of entry into force). That information that is not yet filled in depends on the input we receive from our suppliers following the time scale as foreseen by EC 1272/2008 and depends solely on the registration of the concerned substances.

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