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

1.1. Product identifier
primopattern LC Gel

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
light curing resin for technical applications

1.3. Details of the supplier of the safety data sheet
Company name: primotec - Joachim Mosch e.K
Street: Tannenwaldaallee 4
Place: D-61348 Bad Homburg
Telephone: +49 (0)6172-997700-0
Telefax: +49 (0)6172-997700-99
e-mail: primotec@primogroup.de
Internet: www.primogroup.de
Responsible Department: F&E
Telefax +49 (0)6172-997700-99

1.4. Emergency telephone number:
Giftinformationszentrum Universitätsklinikum Mainz
Telefon +49 (0)6131-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Regulation (EC) No. 1272/2008
Hazard categories:
Respiratory or skin sensitisation: Skin Sens. 1A
Hazardous to the aquatic environment: Aquatic Chronic 4

Hazard Statements:
May cause an allergic skin reaction.
May cause long lasting harmful effects to aquatic life.

2.2. Label elements
Regulation (EC) No. 1272/2008
Hazard components for labelling
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)
phosphine oxide

Signal word: Warning

Pictograms:

Hazard statements
H317 May cause an allergic skin reaction.
H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local regulation.

Special labelling of certain mixtures
Restricted to professional users.
2.3. Other hazards
Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Chemical characterization
Mixture of acrylic resins and initiators.

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No</td>
<td>Index No</td>
<td>REACH No</td>
</tr>
<tr>
<td>GHS Classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrylic resin</td>
<td></td>
<td>&gt; 60 %</td>
</tr>
<tr>
<td>Aquatic Chronic 4; H413</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10287-53-3 Ethyl-4-dimethylaminobenzoat</td>
<td>&lt; 1 %</td>
<td></td>
</tr>
<tr>
<td>233-634-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repr. 1B, Aquatic Chronic 2; H360 H411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)</td>
<td>&lt; 1 %</td>
<td></td>
</tr>
<tr>
<td>278-355-8</td>
<td>015-203-00-X</td>
<td></td>
</tr>
<tr>
<td>Repr. 2, Skin Sens. 1, Aquatic Chronic 2; H361f H317 H411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>phosphine oxide</td>
<td></td>
<td>&lt; 1 %</td>
</tr>
<tr>
<td>Skin Sens. 1A, Aquatic Chronic 4; H317 H413</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours. Take off all contaminated clothing immediately.

After inhalation
Provide fresh air. Medical treatment necessary.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

After contact with eyes
After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

After ingestion
Do NOT induce vomiting. Medical treatment necessary.

4.2. Most important symptoms and effects, both acute and delayed
No information available.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.
SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
- Foam. Extinguishing powder
- Carbon dioxide

Unsuitable extinguishing media
- Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon monoxide Carbon dioxide Hazardous decomposition products

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information
- Suppress gases/vapours/mists with water spray jet. 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

- Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

- Do not allow to enter into surface water or drains.

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). Treat the recovered material as prescribed in the section on waste disposal.

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

Advice on safe handling
- Provide good room ventilation.

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

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
- Protect from the action of light. Keep only in the original container at a temperature between 4 -25 °C. Can polymerize with intense heat release.

Hints on joint storage
- No special measures are necessary.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Protective and hygiene measures
- Avoid contact with skin, eyes and clothes. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.
### Eye/face protection
- tightly fitting goggles

### Hand protection
- Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

### Skin protection
- Wear suitable protective clothing.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Gel</td>
</tr>
<tr>
<td>Colour</td>
<td>red</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changes in the physical state</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 150 °C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flammability</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not applicable</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
<tr>
<td>Lower explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td></td>
</tr>
<tr>
<td>Solid</td>
<td>not applicable</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>Density</td>
<td>1,1 g/cm³</td>
</tr>
</tbody>
</table>

| Water solubility              | The study does not need to be conducted because the substance is known to be insoluble in water. |

<table>
<thead>
<tr>
<th>Solubility in other solvents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The substance is not soluble in water.</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity / dynamic</td>
<td>250 * 1000 mPa·s</td>
</tr>
<tr>
<td>(at 20 °C)</td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
</tbody>
</table>

### 9.2. Other information
- Solid content: not determined
- Product has not been tested. The statement is derived from the properties of the components.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity
- No hazardous reaction when handled and stored according to provisions.
10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

10.4. Conditions to avoid

Protect from the action of light. Keep only in the original container at a temperature between 4 -25 °C. Can polymerize with intense heat release.

10.5. Incompatible materials

Oxidising agent, Reducing agent, Heavy metals, acids, Alkali (lye)

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

**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>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>10287-53-3</td>
<td>Ethyl-4-dimethylaminobenzoat</td>
<td>oral</td>
<td>LD50 &gt; 5000 mg/kg</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 &gt; 2000 mg/kg</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75980-60-8</td>
<td>Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)</td>
<td>oral</td>
<td>LD50 &gt; 5000 mg/kg</td>
<td>Rat</td>
<td>RTECS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>phosphine oxide</td>
<td>oral</td>
<td>LD50 &gt; 2000 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 &gt; 2000 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>inhalation (4 h) aerosol</td>
<td>LC50 &gt;5 mg/l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Irritation and corrosivity**

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

**Sensitising effects**

May cause an allergic skin reaction. (Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO); phosphine oxide)

Possible sensitization in case of persons suffering from hypersensitivity.

**Carcinogenic/mutagenic/toxic effects for reproduction**

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

**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.
Further information
Product has not been tested. The statement is derived from the properties of the components.

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>75980-60-8</td>
<td>Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)</td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>3,53</td>
<td>48 h</td>
<td>Daphnia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>phosphine oxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>(&gt; 0.09)</td>
<td>96 h</td>
<td>Brachydanio rerio (zebra-fish)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>(&gt; 1,175)</td>
<td>48 h</td>
<td>Daphnia magna (Big water flea)</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.

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
Do not allow uncontrolled discharge of product into the environment. Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations
Small quantities can be polymerized by light and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities. Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products
070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste

List of Wastes Code - contaminated packaging
070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste

Contaminated packaging
This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)
Other applicable information (land transport)
No dangerous good in sense of these transport regulations.

Inland waterways transport (ADN)
Other applicable information (inland waterways transport)
No dangerous good in sense of these transport regulations.

Marine transport (IMDG)
Other applicable information (marine transport)
No dangerous good in sense of these transport regulations.

Air transport (ICAO-TI/IATA-DGR)
Other applicable information (air transport)
No dangerous good in sense of these transport regulations.

14.6. Special precautions for user
No information available.

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

National regulatory information
Water hazard class (D): 1 - slightly hazardous to water

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

SECTION 16: Other information

Changes
SECTION 1: Identification of the substance/mixture and of the company/undertaking
SECTION 2: Hazards identification

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%

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Sens. 1A: H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 4: H413</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Relevant H and EUH statements (number and full text)

H317    May cause an allergic skin reaction.
H360    May damage fertility or the unborn child.
H361f   Suspected of damaging fertility.
H411    Toxic to aquatic life with long lasting effects.
H413    May cause long lasting harmful effects to aquatic life.
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.)