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

1.1. Product identifier
primopattern LC Paste

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
primotec - Joachim Mosch e.K
Company name:
Street: Tannenwaldallee 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 2

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

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

Signal word: Warning

Pictograms:

Hazard statements
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements
P261 Do not breathe vapour.
P280 Wear protective gloves/protection clothing/eye protection.
P302+P350 IF ON SKIN: Gently 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></td>
<td></td>
<td></td>
</tr>
<tr>
<td></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

Physical state: pasty
Colour: red
Odour: characteristic
pH-Value: not determined

Changes in the physical state
Melting point: not determined
Initial boiling point and boiling range: not determined
Flash point: > 100 °C

Flammability
Solid: not applicable
Gas: not applicable
Lower explosion limits: not determined
Upper explosion limits: not determined

Auto-ignition temperature
Solid: not applicable
Gas: not applicable
Decomposition temperature: not determined
Vapour pressure: not determined
Density: 1.1 g/cm³
Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents
The substance is not soluble in water.

Partition coefficient: not determined
Vapour density: not determined
Evaporation rate: not determined

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>72869-86-4</td>
<td>urethane dimethacrylate (UDMA)</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>72869-86-4</td>
<td>urethane dimethacrylate (UDMA)</td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td>10287-53-3</td>
<td>Ethyl-4-dimethylaminobenzoate</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt; 5000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>10287-53-3</td>
<td>Ethyl-4-dimethylaminobenzoate</td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</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 mg/kg</td>
<td>&gt; 5000</td>
<td>Rat</td>
<td>RTECS</td>
</tr>
<tr>
<td></td>
<td>phosphine oxide</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>phosphine oxide</td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>phosphine oxide</td>
<td>inhalation (4 h) aerosol</td>
<td>LC50</td>
<td>&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. (diacrylate; urethane dimethacrylate (UDMA); 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>[d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>72869-86-4</td>
<td>urethane dimethacrylate (UDMA)</td>
<td>Acute fish toxicity</td>
<td>LC50 mg/l</td>
<td>10,1</td>
<td>96 h</td>
<td>Brachydanio rerio (zebra-fish)</td>
<td>OECD 203</td>
<td></td>
</tr>
<tr>
<td>75980-60-8</td>
<td>Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)</td>
<td>Acute crustacea toxicity</td>
<td>EC50 mg/l</td>
<td>3,53</td>
<td>48 h</td>
<td>Daphnia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
The product has not been tested.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Method</th>
<th>Value</th>
<th>d</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>72869-86-4</td>
<td>urethane dimethacrylate (UDMA)</td>
<td>Evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biodegradation</td>
<td>22 %</td>
<td></td>
<td>28</td>
<td>OECD 301 F</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>070208</td>
<td>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</td>
</tr>
</tbody>
</table>

List of Wastes Code - contaminated packaging

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>070208</td>
<td>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</td>
</tr>
</tbody>
</table>

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)

14.1. UN number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIACRYLATE)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9
Classification code: M6
Special Provisions: 274 335 375 601
Limited quantity: 5 L
Excepted quantity: E1
Transport category: 3
Hazard No: 90
Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIACRYLATE)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9
Classification code: M6
Special Provisions: 274 335 375 601
Limited quantity: 5 L
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number: UN 3082
Safety Data Sheet

according to Regulation (EC) No 1907/2006

primopattern LC Paste
Product code: 1350820

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIACRYLATE)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9
Special Provisions: 274, 335, 969
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3082

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIACRYLATE)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9
Special Provisions: A97 A158 A197
Limited quantity Passenger: 30 kg G
Passenger LQ: Y964
Excepted quantity: E1

IATA-packing instructions - Passenger: 964
IATA-max. quantity - Passenger: 450 L
IATA-packing instructions - Cargo: 964
IATA-max. quantity - Cargo: 450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes
Danger releasing substance: DIACRYLATE

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): 2 - obviously 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
SECTION 2: Hazard identification
SECTION 3: Composition / information on ingredients

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 2; H411</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.
- H412: Harmful 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.)