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

1.1. Product identifier

Luwipal® 066

| Chemical name: LUWIPAL 066 |
| CAS Number: 68002-20-0 |

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

Relevant identified uses: Coating raw material for industrial applications

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Pigments and Resins

Telephone: +49 621 60-47937
E-mail address: ed-psr@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

| Aquatic Chronic 3 |
According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
No particular hazards known.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

Globally Harmonized System, EU (GHS)

Hazard Statement:
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):
P273 Avoid release to the environment.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

Labeling of special preparations (GHS):
Product contains the following components and may cause an allergic skin reaction:
FORMALDEHYDE

According to Directive 67/548/EEC or 1999/45/EC

EEC Directives

The product does not require a hazard warning label in accordance with EC Directives.

The product contains: FORMALDEHYDE
May produce an allergic reaction.

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

No specific dangers known, if the regulations/notes for storage and handling are considered.

SECTION 3: Composition/Information on Ingredients

3.1. Substances
Chemical nature

aminoplastic resin based on:

Melamine

- CAS Number: 108-78-1
- EC-Number: 203-615-4

formaldehyde...% 

- CAS Number: 50-00-0
- EC-Number: 200-001-8
- INDEX-Number: 605-001-00-5

methanol

- CAS Number: 67-56-1
- EC-Number: 200-659-6
- INDEX-Number: 603-001-00-X

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

methanol

- Content (W/W): <= 0.4 %
- CAS Number: 67-56-1
- EC-Number: 200-659-6
- INDEX-Number: 603-001-00-X

| Flam. Liq. 2 | Acute Tox. 3 (Inhalation - vapour) |
| H311, H331, H301, H225, H370 |

formaldehyde...% 

- Content (W/W): <= 0.6 %
- CAS Number: 50-00-0
- EC-Number: 200-001-8
- INDEX-Number: 605-001-00-5

| Acute Tox. 3 (Inhalation - vapour) |
| Skin Corr./Irrit. 1B |
| Skin Sens. 1 |
| Carc. 2 |
| H314, H311, H331, H301, H225, H370 |

Hazardous ingredients
according to Directive 1999/45/EC

methanol

- Content (W/W): <= 0.4 %
- CAS Number: 67-56-1
- EC-Number: 200-659-6
- INDEX-Number: 603-001-00-X
- Hazard symbol(s): F, T
- R-phrase(s): 11, 23/24/25, 39/23/24/25

formaldehyde...% 

- Content (W/W): <= 0.6 %
- CAS Number: 50-00-0
- EC-Number: 200-001-8
- INDEX-Number: 605-001-00-5
- Hazard symbol(s): F, T
- R-phrase(s): 11, 23/24/25, 39/23/24/25
For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures
Remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
Wash thoroughly with soap and water.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Rinse mouth and then drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
- water spray, dry powder, foam
5.2. Special hazards arising from the substance or mixture

harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Breathing protection required.

6.2. Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For large amounts: Pump off product.
For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

No special measures necessary provided product is used correctly.

Protection against fire and explosion:
Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

Protect from temperatures below: 4 °C
Protect from temperatures above: 30 °C

7.3. Specific end use(s)
SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration/Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0: formaldehyde</td>
<td>%</td>
</tr>
<tr>
<td>67-56-1: methanol</td>
<td>TWA value 260 mg/m3 ; 200 ppm (OEL (EU)) indicative</td>
</tr>
</tbody>
</table>

Skin Designation (OEL (EU))
The substance can be absorbed through the skin.

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:
Chemical resistant protective gloves (EN 374)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):
e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

General safety and hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form: liquid
Colour: colourless
Odour: of the solvent contained in the product
Odour threshold: Not determined due to potential health hazard by inhalation.

pH value: 8
(23 °C)

Freezing point: not determined

Boiling point: approx. 140 °C
(1,013 hPa)

Flash point: > 60 °C (ISO 3679, closed cup)

Evaporation rate: not determined

Flammability: not determined

Ignition temperature: 325 °C (DIN 51794)

Vapour pressure:
- 51.6 mbar (20 °C)
- 133.0 mbar (50 °C)

Density:
- 1.18 g/cm³ (ISO 2811-3)
- 1.18 g/cm³ (20 °C)

Relative density: No data available.

Relative vapour density (air): not determined

Solubility in water: insoluble

Partitioning coefficient n-octanol/water (log Kow): Study does not need to be conducted.

Viscosity, dynamic:
- 2.0 - 6.0 Pa.s (23 °C) (DIN EN ISO 3219)

9.2. Other information

Surface tension: No data available.

Grain size distribution: The substance / product is marketed or used in a non solid or granular form.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
No hazardous reactions when stored and handled according to instructions.
10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials
Substances to avoid:
acids

10.6. Hazardous decomposition products
Hazardous decomposition products:
No hazardous decomposition products known.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity
Assessment of acute toxicity:
Virtually nontoxic after a single ingestion.

Experimental/calculated data:
LD50 rat (oral): > 2,000 mg/kg
rat (by inhalation): 8 h (IRT)
No mortality within the stated exposition time as shown in animal studies.

LD50 rat (dermal):
not determined

Irritation
Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (BASF-Test)
Serious eye damage/irritation rabbit: non-irritant (BASF-Test)

Respiratory/Skin sensitization
Experimental/calculated data:
modified Buehler test guinea pig: Non-sensitizing.
The statement for sensitization was derived from products of similar composition.

Carcinogenicity
Assessment of carcinogenicity:
No data available.

Information on: formaldehyde...%
Assessment of carcinogenicity:
Indication of possible carcinogenic effect in animal tests.

After lifelong inhalation exposure to concentrations that were severely damaging to the nasal epithelium, nasal tumors were induced in rats; in other species these findings were not found or were considerably less pronounced. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1 (known) human carcinogen based on epidemiological evidence linking formaldehyde exposure to occurrence of nasopharyngeal cancer and leukemia. Current regulatory information is provided in this MSDS. No adverse health effects are anticipated if recommended personal protective equipment and industrial hygiene practices are used.

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Reproductive toxicity
Assessment of reproduction toxicity:
No data available.

Developmental toxicity
Assessment of teratogenicity:
No data available.

Experiences in humans
Experimental/calculated data:
If this substance comes into close contact with the skin of hypersensitive persons, sensitization might occur.

Specific target organ toxicity (single exposure)
Remarks: No data available.

Aspiration hazard
No aspiration hazard expected.

SECTION 12: Ecological Information

12.1. Toxicity
Toxicity to fish:
LC50 > 500 mg/l, Leuciscus idus

Aquatic invertebrates:
EC50 (48 h) > 100 mg/l, Daphnia magna (static)

Aquatic plants:
EC50 (72 h) > 10 - 100 mg/l (biomass), Scenedesmus subspicatus
Microorganisms/Effect on activated sludge:
EC20 (0.5 h) > 1,000 mg/l, activated sludge, domestic (DIN EN ISO 8192-OECD 209-88/302/EEC,P. C)
Nominal concentration. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Chronic toxicity to fish:
No data available.

Chronic toxicity to aquatic invertebrates:
No data available.

12.2. Persistence and degradability

Elimination information:
60 - 70 % CO2 formation relative to the theoretical value (28 d) (ISO 9439, Annex D (Kombitest))
aerobic, activated sludge, domestic, non-adapted) Biodegradable.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
The product has not been tested.

12.4. Mobility in soil (and other compartments if available)

Assessment transport between environmental compartments:
No data available.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6. Other adverse effects

No data available.

12.7. Additional information

Add. remarks environm. fate & pathway:
Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

Other ecotoxicological advice:
The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Do not release untreated into natural waters.
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:
Uncontaminated packaging can be re-used.
Packs that cannot be cleaned should be disposed of in the same manner as the contents.

SECTION 14: Transport Information

Land transport

ADR

| UN number: | Not applicable |
| UN proper shipping name: | Not applicable |
| Transport hazard class(es): | Not applicable |
| Packing group: | Not applicable |
| Environmental hazards: | Not applicable |
| Special precautions for user | None known |

RID

| UN number: | Not applicable |
| UN proper shipping name: | Not applicable |
| Transport hazard class(es): | Not applicable |
| Packing group: | Not applicable |
| Environmental hazards: | Not applicable |
| Special precautions for user | None known |

Inland waterway transport

ADN

| UN number: | Not applicable |
| UN proper shipping name: | Not applicable |
| Transport hazard class(es): | Not applicable |
### SECTION 15: Regulatory Information

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

| Packing group: | Not applicable |
| Environmental hazards: | Not applicable |
| Special precautions for user | None known |
| Transport in inland waterway vessel: | Not evaluated |

**Sea transport**

IMDG

| UN number: | Not classified as a dangerous good under transport regulations |
| UN proper shipping name: | Not applicable |
| Transport hazard class(es): | Not applicable |
| Packing group: | Not applicable |
| Environmental hazards: | Not applicable |
| Special precautions for user | None known |

**Air transport**

IATA/ICAO

| UN number: | Not classified as a dangerous good under transport regulations |
| UN proper shipping name: | Not applicable |
| Transport hazard class(es): | Not applicable |
| Packing group: | Not applicable |
| Environmental hazards: | Not applicable |
| Special precautions for user | None known |

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

| Regulation: | Not evaluated |
| Shipment approved: | Not evaluated |
| Pollution name: | Not evaluated |
| Pollution category: | Not evaluated |
| Ship Type: | Not evaluated |
15.2. Chemical Safety Assessment

Chemical Safety Assessment not yet performed due to registration timelines

SECTION 16: Other Information

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

- **F** Highly flammable.
- **T** Toxic.
- **11** Highly flammable.
- **23/24/25** Toxic by inhalation, in contact with skin and if swallowed.
- **39/23/24/25** Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
- **34** Causes burns.
- **40** Limited evidence of a carcinogenic effect.
- **43** May cause sensitization by skin contact.

- **Aquatic Chronic** Hazardous to the aquatic environment - chronic
- **Flam. Liq.** Flammable liquid
- **Acute Tox.** Acute toxicity
- **STOT SE** Specific target organ toxicity — single exposure
- **Skin Corr./Irrit.** Skin corrosion/irritation
- **Skin Sens.** Skin sensitization
- **Carc.** Carcinogenicity
- **Carc. Cat. 3** Carcinogenic substances Category 3: Substances which cause concern for man owing to possible carcinogenic effects.

- **H311** Toxic in contact with skin.
- **H331** Toxic if inhaled.
- **H301** Toxic if swallowed.
- **H225** Highly flammable liquid and vapour.
- **H370** Causes damage to organs (central nervous system, optic nerve).
- **H314** Causes severe skin burns and eye damage.
- **H317** May cause an allergic skin reaction.
- **H351** Suspected of causing cancer.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.