

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878



Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 1 / 13

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

**1.1. Product identifier**

Article No. (manufacturer/supplier): 4 06450 BN000  
Trade name/designation epple 06450  
cast resin  
component B  
UFI: G440-F0W5-1005-KE2S

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

**Relevant identified uses:**

Casting resin for casting electronic and other components.

**1.3. Details of the supplier of the safety data sheet**

**supplier (manufacturer/importer/downstream user/distributor)**

E. Epple & Co. GmbH  
Hertzstr. 8  
71083 Herrenberg

Telephone: +49 7032 / 9771-17  
Telefax: +49 7032 / 9771-60  
www.epple-chemie.de

**Department responsible for information:**

laboratory

E-mail (competent person)

labor@epple-chemie.de

**1.4. Emergency telephone number**

Information center against poisoning Bonn

+49 (0) 228 / 19 240 (Advice in German)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 [CLP]**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Acute Tox. 4 / H302

Acute toxicity (oral)

Harmful if swallowed.

Skin Corr. 1B / H314

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Eye Dam. 1 / H318

Serious eye damage/eye irritation

Causes serious eye damage.

Skin Sens. 1 / H317

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Muta. 2 / H341

Germ cell mutagenicity

Suspected of causing genetic defects.

Aquatic Chronic 2 / H411

Hazardous to the aquatic environment

Toxic to aquatic life with long lasting effects.

**2.2. Label elements**

The product is classified and labelled according to EC directives or corresponding national laws.

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

**Hazard pictograms**



**Danger**

**Hazard statements**

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

H317

May cause an allergic skin reaction.

H341

Suspected of causing genetic defects.

H411

Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P260

Do not breathe vapour.

P280

Wear protective gloves.

P301 + P330 + P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P362 + P364

Take off contaminated clothing and wash it before reuse.

P501

Dispose of contents / container to a certified waste management company.

**Hazard components for labelling**

Phenol

Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878



Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 2 / 13

Amines, polyethylenepoly-, tetraethylenepentamine fraction  
m-phenylenebis(methylamine)

**Supplemental hazard information**

not applicable

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Description** modified aminic hardener

**Hazardous ingredients**

**Classification according to Regulation (EC) No 1272/2008 [CLP]**

EC No. CAS No. Index No.	REACH No. Designation classification: // Remark	weight-%
500-137-0 57214-10-5	01-2119966906-20 Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol Skin Corr. 1C H314 / Skin Sens. 1B H317 / Aquatic Chronic 3 H412	24,9 - 49,9
292-587-7 90640-66-7	01-2119487290-37 Amines, polyethylenepoly-, tetraethylenepentamine fraction Acute Tox. 4 H302 / Acute Tox. 4 H312 / Skin Corr. 1B H314 / Eye Dam. 1 H318 / Skin Sens. 1 H317 / Aquatic Chronic 2 H411	24,9 - 49,9
202-859-9 100-51-6 603-057-00-5	01-2119492630-38 benzyl alcohol Acute Tox. 4 H332 / Acute Tox. 4 H302 Acute toxicity estimate (ATE): ATE (oral): 1230 mg/kg bw / ATE (inhalation, vapour): 4,17 mg/L	9,9 - 19,9
216-032-5 1477-55-0	01-2119480150-50 m-phenylenebis(methylamine) Acute Tox. 4 H302 / Acute Tox. 4 H332 / Skin Corr. 1B H314 / Skin Sens. 1B H317 / Aquatic Chronic 3 H412 Acute toxicity estimate (ATE): ATE (oral): 930 mg/kg bw	9,9 - 19,9
203-180-0 104-15-4 016-030-00-2	01-2119538811-39 Toluene-4-sulfonic acid Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / STOT SE 3 H335	2,4 - 9,9
203-632-7 108-95-2 604-001-00-2	01-2119471329-32 Phenol Muta. 2 H341 / Acute Tox. 3 H331 / Acute Tox. 3 H311 / Acute Tox. 3 H301 / STOT RE 2 H373 / Skin Corr. 1B H314 Specific concentration limit (SCL): Skin Corr. 1B H314 >= 3 / Skin Irrit. 2 H315 >= 1 / Eye Irrit. 2 H319 >= 1 Acute toxicity estimate (ATE): ATE (oral): 340 mg/kg bw / ATE (inhalation, vapour): 0,31 mg/L	2,4 - 9,9

**Additional information**

Full text of classification: see section 16

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

**In case of inhalation**

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

**Following skin contact**

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

#### **After eye contact**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

#### **Following ingestion**

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

#### **4.2. Most important symptoms and effects, both acute and delayed**

In all cases of doubt, or when symptoms persist, seek medical advice.

#### **4.3. Indication of any immediate medical attention and special treatment needed**

First Aid, decontamination, treatment of symptoms.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

##### **Unsuitable extinguishing media**

strong water jet

#### **5.2. Special hazards arising from the substance or mixture**

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

#### **5.3. Advice for firefighters**

Provide a conveniently located respiratory protective device. Do not allow water used to extinguish fire to enter drains, ground or waterways. Cool closed containers that are near the source of the fire.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

#### **6.3. Methods and material for containment and cleaning up**

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Clean using cleansing agents. Do not use solvents.

#### **6.4. Reference to other sections**

Observe protective provisions (see section 7 and 8).

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

##### **Advices on safe handling**

Avoid contact with skin, eyes and clothes. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Follow the legal protection and safety regulations.

##### **Further information**

Vapours are heavier than air. Vapours form explosive mixtures with air.

#### **7.2. Conditions for safe storage, including any incompatibilities**

##### **Requirements for storage rooms and vessels**

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

##### **Hints on joint storage**

Keep away from strongly acidic and alkaline materials as well as oxidizers.

##### **Further information on storage conditions**

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 5 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access

**Safety Data Sheet**  
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according to Regulation (EU) 2020/878



Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 4 / 13

only for authorised persons. Store carefully closed containers upright to prevent any leaks.

**7.3. Specific end use(s)**

Observe technical data sheet. Observe instructions for use.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limit values**

Phenol

Index No. 604-001-00-2 / EC No. 203-632-7 / CAS No. 108-95-2

TWA: 7,8 mg/m<sup>3</sup>; 2 ppm

STEL: 16 mg/m<sup>3</sup>; 4 ppm

**Additional information**

TWA : Long-term occupational exposure limit value

STEL : short-term occupational exposure limit value

Ceiling : peak limitation

**DNEL:**

benzyl alcohol

Index No. 603-057-00-5 / EC No. 202-859-9 / CAS No. 100-51-6

DNEL acute dermal, short-term (systemic), Workers: 47 mg/kg bw/day

DNEL long-term dermal (systemic), Workers: 9,5 mg/kg

DNEL acute inhalative (systemic), Workers: 450 mg/m<sup>3</sup>

DNEL long-term inhalative (systemic), Workers: 90 mg/m<sup>3</sup>

Phenol

Index No. 604-001-00-2 / EC No. 203-632-7 / CAS No. 108-95-2

DNEL long-term inhalative (systemic), Workers: 8 mg/m<sup>3</sup>

m-phenylenebis(methylamine)

EC No. 216-032-5 / CAS No. 1477-55-0

DNEL long-term dermal (systemic), Workers: 0,33 mg/kg

DNEL long-term inhalative (local), Workers: 0,2 mg/m<sup>3</sup>

DNEL long-term inhalative (systemic), Workers: 1,2 mg/m<sup>3</sup>

Toluene-4-sulfonic acid

Index No. 016-030-00-2 / EC No. 203-180-0 / CAS No. 104-15-4

DNEL long-term dermal (systemic), Workers: 7,6 mg/kg bw/day

DNEL long-term inhalative (systemic), Workers: 53,6 mg/m<sup>3</sup>

Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol

EC No. 500-137-0 / CAS No. 57214-10-5

DNEL acute dermal, short-term (local), Workers: 2,8 mg/kg bw/day

DNEL acute dermal, short-term (systemic), Workers: 3,85 µg/cm<sup>2</sup>

DNEL long-term dermal (local), Workers: 0,28 mg/kg bw/day

DNEL long-term dermal (systemic), Workers: 0,385 µg/cm<sup>2</sup>

DNEL acute inhalative (local), Workers: 6 mg/m<sup>3</sup>

DNEL acute inhalative (systemic), Workers: 2 mg/m<sup>3</sup>

DNEL long-term inhalative (local), Workers: 0,6 mg/m<sup>3</sup>

DNEL long-term inhalative (systemic), Workers: 0,02 mg/m<sup>3</sup>

**PNEC:**

benzyl alcohol

Index No. 603-057-00-5 / EC No. 202-859-9 / CAS No. 100-51-6

PNEC aquatic, freshwater: 1 mg/L

PNEC aquatic, marine water: 0,1 mg/L

PNEC aquatic, intermittent release: 2,3 mg/L

PNEC sediment, freshwater: 5,27 mg/kg

PNEC sediment, marine water: 0,527 mg/kg

PNEC, soil: 0,456 mg/kg

PNEC sewage treatment plant (STP): 39 mg/L

Phenol

Index No. 604-001-00-2 / EC No. 203-632-7 / CAS No. 108-95-2

PNEC aquatic, freshwater: 7,7 µg/L

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878



Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 5 / 13

PNEC aquatic, marine water: 0,77 µg/L  
PNEC sediment, freshwater: 91,5 µg/kg  
PNEC sediment, marine water: 9,15 µg/kg  
PNEC, soil: 136 µg/kg  
PNEC sewage treatment plant (STP): 2,1 mg/L

m-phenylenebis(methylamine)

EC No. 216-032-5 / CAS No. 1477-55-0

PNEC aquatic, freshwater: 0,094 mg/L  
PNEC aquatic, marine water: 0,009 mg/L  
PNEC aquatic, intermittent release: 0,152 mg/L  
PNEC sediment, freshwater: 0,43 mg/kg  
PNEC sediment, marine water: 0,043 mg/kg  
PNEC, soil: 0,045 mg/kg  
PNEC sewage treatment plant (STP): 10 mg/L

Toluene-4-sulfonic acid

Index No. 016-030-00-2 / EC No. 203-180-0 / CAS No. 104-15-4

PNEC aquatic, freshwater: 0,73 mg/L  
PNEC aquatic, marine water: 0,0073 mg/L  
PNEC aquatic, intermittent release: 0,073 mg/L  
PNEC sediment, freshwater: 0,0577 mg/kg  
PNEC sediment, marine water: 0,0057 mg/kg  
PNEC, soil: 0,016 mg/kg  
PNEC sewage treatment plant (STP): 58 mg/L

Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol

EC No. 500-137-0 / CAS No. 57214-10-5

PNEC aquatic, freshwater: 20 µg/L  
PNEC aquatic, marine water: 2 µg/L  
PNEC sediment, freshwater: 0,1001 mg/kg dw  
PNEC sediment, marine water: 0,01 mg/kg dw  
PNEC, soil: 0,0236 mg/kg dw  
PNEC sewage treatment plant (STP): 30 mg/L

## 8.2. Exposure controls

\*

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

### Personal protection equipment

#### **Respiratory protection**

If the workplace limit values (AGW) are exceeded, a suitable breathing apparatus must be worn. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

Use filter / combination filter according to EN 14387.

Suitable respiratory protection apparatus: ABEK-P2

#### **Hand protection**

For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber)

Thickness of the glove material > 0,4 mm ; Breakthrough time: > 480 min.

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### **Eye/face protection**

Wear eye glasses with side protection according to EN 166.

#### **Body protection**

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

#### **Protective measures**

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

#### **Environmental exposure controls**

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

## **SECTION 9: Physical and chemical properties**

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878



Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 6 / 13

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

<b>Physical state:</b>	<b>Liquid</b>
<b>Appearance:</b>	<b>Liquid</b>
<b>Colour:</b>	<b>brown</b>
<b>Odour:</b>	<b>characteristic</b>
<b>Odour threshold:</b>	<b>not applicable</b>
<b>Melting point/freezing point:</b>	<b>-15 °C</b> Source: benzyl alcohol
<b>Initial boiling point and boiling range:</b>	<b>206 °C</b> Source: benzyl alcohol
<b>Flammability:</b>	<b>not applicable</b>
<b>Lower and upper explosion limit:</b>	
<b>Lower explosion limit:</b>	<b>1,22 Vol-%</b> Source: benzyl alcohol
<b>Upper explosion limit:</b>	<b>13 Vol-%</b> Source: benzyl alcohol
<b>Flash point:</b>	<b>not determined</b>
<b>Auto-ignition temperature:</b>	<b>435 °C</b> Source: benzyl alcohol
<b>Decomposition temperature:</b>	<b>not applicable</b>
<b>pH at 20 °C:</b>	<b>not relevant</b>
<b>Cinematic viscosity (40°C):</b>	<b>1851,85 mm<sup>2</sup>/s</b>
<b>Viscosity at 20 °C:</b>	<b>1 - 3 Pa*s</b>
<b>Solubility(ies):</b>	
<b>Water solubility at 20 °C:</b>	<b>partially miscible</b>
<b>Partition coefficient: n-octanol/water:</b>	<b>see section 12</b>
<b>Vapour pressure at 20 °C:</b>	<b>0,027 mbar</b> Source: benzyl alcohol
<b>Density and/or relative density:</b>	
<b>Density at 20 °C:</b>	<b>1,08 g/cm<sup>3</sup></b>
<b>Relative vapour density:</b>	<b>not applicable</b>
<b>particle characteristics:</b>	<b>not applicable</b>

**9.2. Other information**

**Solvent separation test:** < 3 weight-% (ADR/RID)

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

**10.3. Possibility of hazardous reactions**

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

**10.4. Conditions to avoid**

Hazardous decomposition byproducts may form with exposure to high temperatures.

**10.5. Incompatible materials**

not applicable

**10.6. Hazardous decomposition products**

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 \*

#### Acute toxicity

Harmful if swallowed.

benzyl alcohol

oral, LD50, Rat: 1230 mg/kg  
dermal, LD50, Rabbit: 2000 mg/kg  
inhalative (Gases), LC50, Rat: > 4,178 ppmV (4 h)

Phenol

oral, LD50, Rat: 340 mg/kg  
dermal, LD50, Rabbit 850 - 1400 mg/kg  
inhalative (dust and mist), LC50, Rat: 0,316 mg/L (4 h)  
inhalative (vapours), LC50, Rat: 0,9 mg/L (8 h)

m-phenylenebis(methylamine)

oral, LD50, Rat: 930 mg/kg  
dermal, LD50, Rat: > 2000 mg/kg  
dermal, LD50, Rabbit: 2000 mg/kg  
inhalative (vapours), LC50, Rat: 2,4 mg/L (4 h)  
inhalative (vapours), LC50, Rat: 3,89 mg/L (1 h)

Toluene-4-sulfonic acid

oral, LD50, Rat: > 1104 mg/kg  
inhalative (vapours), LC50, Rat 50 - 100 mg/kg (8 h)

Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol

oral, LD50, Rat: > 2000 mg/kg  
Method: OECD 425  
dermal, LD50, Rat: > 2020 mg/kg  
Method: OECD 402

#### Skin corrosion/irritation; Serious eye damage/eye irritation

Causes severe skin burns and eye damage.

benzyl alcohol

eyes, Rabbit: Evaluation Irritating to eyes.  
Method: OECD 405  
Skin, Rabbit: Evaluation no skin irritation  
Method: OECD 404

m-phenylenebis(methylamine)

Skin, Rabbit (24 h): Evaluation strongly irritant.

Toluene-4-sulfonic acid

Skin, Rabbit: Evaluation corrosive  
Method: OECD 404  
eyes, Rabbit: Evaluation Irritating to eyes, reversible within 7 days

#### Respiratory or skin sensitisation

May cause an allergic skin reaction.

benzyl alcohol

Skin, Guinea pig: ; Evaluation not sensitising.  
Method: OECD 406

m-phenylenebis(methylamine)

Skin, Mouse: ; Evaluation Sensitising  
Method: OECD 429

Toluene-4-sulfonic acid

Skin, Guinea pig: ; Evaluation not sensitising.  
Method: Directive 67/548/EEC, Annex V, B.6.

Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol

Skin, Mouse: ; Evaluation sensitising  
Method: OECD 429



### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Suspected of causing genetic defects.

m-phenylenebis(methylamine)

Germ cell mutagenicity; Evaluation No mutagenic effect

genotoxicity; Evaluation negative

Method: OECD 471 (Ames test)

Ames test; Salmonella typhimurium

genotoxicity; Evaluation negative

Method: OECD 473

in-vitro; Chromosomal aberrations in mammalian cells; Hamster

genotoxicity; Evaluation negative

Method: OECD 476

in-vitro; Mouse-lymphoma-cells

genotoxicity; Evaluation negative

Method: OECD 474

in-vivo; Mouse; oral

Toluene-4-sulfonic acid

Carcinogenicity; Evaluation negative

Method: OECD 453

Rat; oral

Reproductive toxicity; Evaluation No mutagenic effect

rat, female; oral

genotoxicity; Evaluation negative

Method: OECD 471 (Ames test).

in-vitro

genotoxicity; Evaluation negative

Method: OECD 473

in-vitro

genotoxicity; Evaluation negative

Method: OECD 474

in-vivo; oral

Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol

Germ cell mutagenicity; Evaluation negative

Method: OECD 471 (Ames test)

Germ cell mutagenicity; Evaluation negative

Method: OECD 473

Germ cell mutagenicity; Evaluation positive

Method: OECD 476

### STOT-single exposure; 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.

### Practical experience/human evidence

Causes burns. The preparation may be a skin sensitizer. It may also be a skin irritant and repeated contact may increase this effect. Prolonged or repeated contact with skin or mucous membrane result in irritation symptoms such as redness, blistering, dermatitis, etc.

### Overall assessment on CMR properties

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

### Remark

There is no information available on the preparation itself.

### 11.2. Information on other hazards

#### Endocrine disrupting properties

No information available.

## SECTION 12: Ecological information

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



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Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 9 / 13

Do not allow to enter into surface water or drains.

**12.1. Toxicity**

\*

benzyl alcohol

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 460 mg/L (96 h)

Method: EPA 600/3-76/097

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 230 mg/L (48 h)

Method: OECD 202

Daphnia toxicity, LC50, Daphnia magna (Big water flea): 360 mg/L (48 h)

Algae toxicity, EC0, Scenedesmus quadricauda: 640 mg/L (96 h)

Algae toxicity, EC50, Pseudokirchneriella subcapitata: 770 mg/L (72 h)

Method: OECD 201

Bacteria toxicity, EC10, Pseudomonas putida: 658 mg/L (16 h)

Phenol

Fish toxicity, LC50, Danio rerio (zebrafish): 27,8 mg/L (96 h)

Daphnia toxicity, EC50, Daphnia pulex (water flea) 18 - 36 mg/L (48 h)

Algae toxicity, EC50, Pseudokirchneriella subcapitata: 46,42 mg/L (96 h)

Algae toxicity, EC50, Desmodesmus subspicatus 187 - 279 mg/L (72 h)

Fish toxicity, LC50, Salmo gairdneri 9,1 - 12,2 mg/L (96 h)

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 6,6 mg/L (48 h)

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 8,9 mg/L (96 h)

m-phenylenebis(methylamine)

Fish toxicity, LC50, Oryzias latipes (Ricefish): 87,6 mg/L (96 h)

Method: OECD 203

semistatic

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 15,2 mg/L (48 h)

Method: OECD 202

semistatic

Algae toxicity, ErC50, Selenastrum capricornutum: 32,1 mg/L (72 h)

Method: OECD 201

static test

Bacteria toxicity, EC50, Activated sludge: > 1000 mg/L

Method: OECD 209

static test

Toluene-4-sulfonic acid

Fish toxicity, LC50, Leuciscus idus (golden orfe): 325 mg/L (96 h)

Method: OECD 203

static test

Daphnia toxicity, EC50: > 103 mg/L (48 h)

Method: OECD 202

static test

Algae toxicity, ErC50: 73 mg/L (72 h)

Method: OECD 201

static test

Bacteria toxicity, EC50, Activated sludge: > 650 mg/L (3 h)

Method: OECD 209

Algae toxicity, ErC50, Desmodesmus subspicatus: > 40 mg/L (72 h)

Method: Directive 67/548/EWG, appendice V, C.3

static test

Formaldehyde, polymer with 1,3-benzenedimethanamine and phenol

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 25,9 mg/L (96 h)

Method: OECD 203

Daphnia toxicity, EC50: 29,8 mg/L (48 h)

Method: OECD 202

Algae toxicity, EC50, Pseudokirchneriella subcapitata: 20,4 mg/L (72 h)

Method: OECD 201

Bacteria toxicity, EC50, Activated sludge: 491,3 mg/L (3 h)

Method: OECD 209

**Long-term Ecotoxicity**

Toxic to aquatic life with long lasting effects.

Article No.: 4 06450 BN000 epple 06450  
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Version 5.0 11.05.2023

EN  
Page 10 / 13

m-phenylenebis(methylamine)

Daphnia toxicity, NOEC, Daphnia magna (Big water flea): 4,7 mg/L (21 d)

Method: OECD 211

Algae toxicity, NOEC, Pseudokirchneriella subcapitata: 10,5 mg/L (72 h)

Method: OECD 201

Daphnia toxicity, LOEC, Daphnia magna (Big water flea): 15 mg/L (21 d)

Method: OECD 211

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 8,4 mg/L (21 d)

Method: OECD 211

Daphnia toxicity, LC50, Daphnia magna (Big water flea): 6,77 mg/L (21 d)

Method: OECD 211

Bacterial toxicity, EC50, Activated sludge: > 1000 mg/L (30 min.)

Method: OECD 209

Toluene-4-sulfonic acid

Algae toxicity, NOEC: 44,8 mg/L (72 h)

Method: OECD 201

Bacteria toxicity, NOEC: 580 mg/L (3 h)

Method: OECD 209

**12.2. Persistence and degradability**

\*

benzyl alcohol

Biodegradation: 92 - 96 % (28 d); Evaluation Readily biodegradable

Method: OECD 301C

Biodegradation: 95 - 97 % (21 d); Evaluation Readily biodegradable

Method: OECD 301A

m-phenylenebis(methylamine)

Biodegradation, aerobic: 49 % (28 d); Evaluation Not readily biodegradable

Method: OECD 301B

Activated sludge

Toluene-4-sulfonic acid

Biodegradation: > 60 % (28 d); Evaluation Readily biodegradable

Formaldehyde, polymer with 1,3-benzenedimethanamine and phenol

Biodegradation: 19,3 % (28 d)

Method: OECD 301D

**12.3. Bioaccumulative potential**

benzyl alcohol

Partition coefficient: n-octanol/water: 1,05

Phenol

Partition coefficient: n-octanol/water: 1,47

m-phenylenebis(methylamine)

Partition coefficient: n-octanol/water: 0,18

Toluene-4-sulfonic acid

Partition coefficient: n-octanol/water: 0,41

**Bioconcentration factor (BCF)**

Phenol

Bioconcentration factor (BCF), Leuciscus idus (golden orfe): 20

Bioconcentration factor (BCF), Pimephales promelas (fathead minnow):  $1276 \times 10^{49}$

Bioconcentration factor (BCF), Daphnia magna (Big water flea): 277

m-phenylenebis(methylamine)

Bioconcentration factor (BCF), Cyprinus carpio (Common Carp): < 0,3

**12.4. Mobility in soil**

Toxicological data are not available.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Endocrine disrupting properties**

No information available.

**12.7. Other adverse effects**

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878



Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 11 / 13

No information available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Observe in addition any national regulations!

##### List of proposed waste codes/waste designations in accordance with EWC

080409\* Waste adhesives and sealants containing organic solvents or other dangerous substances

\*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

##### Appropriate disposal / Package

**Dispose of packaging and contaminated filters at a official hazardous waste incinerator facility.**

Recommendation:

Waste codes / waste designations according to EWC / AVV: 15 01 10\*

Non-contaminated packages may be recycled.

### SECTION 14: Transport information

#### 14.1. UN number or ID number

UN 2735

#### 14.2. UN proper shipping name

Land transport (ADR/RID):

Amines, liquid, corrosive, n.o.s.  
(m-phenylenbis(methylamine))

Sea transport (IMDG):

AMINES, LIQUID, CORROSIVE, N.O.S.  
(m-phenylenbis(methylamine), Amine, Polyethylenpoly-,  
Tetraethylenpentaminfraktion)

Air transport (ICAO-TI / IATA-DGR):

Amines, liquid, corrosive, n.o.s.  
(m-phenylenbis(methylamine))

#### 14.3. Transport hazard class(es)

8

#### 14.4. Packing group

II

#### 14.5. Environmental hazards

Land transport (ADR/RID)

DANGEROUS FOR THE ENVIRONMENT

Marine pollutant

p / Amine, Polyethylenpoly-, Tetraethylenpentaminfraktion

#### 14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

##### Further information

##### Land transport (ADR/RID)

Tunnel restriction code

E

##### Sea transport (IMDG)

EmS-No.

F-A, S-B

#### 14.7. Maritime transport in bulk according to IMO instruments

No transport as bulk according IBC - Code.

### SECTION 15: Regulatory information

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

##### EU legislation

Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]

**Safety Data Sheet**  
**according to Regulation (EC) No. 1907/2006 (REACH)**  
**according to Regulation (EU) 2020/878**



Article No.: 4 06450 BN000 epple 06450  
 Print date 11.05.2023 Revision date 11.05.2023  
 Version 5.0 11.05.2023

EN  
 Page 12 / 13

VOC-value (in g/L): 162

**National regulations**

**Restrictions of occupation**

Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable.

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

For professional use only. Product is not intended for consumer use.

**Substance/product listed in the following inventories:**

AICS listed  
 DSL listed  
 EHS no information  
 IECSC listed  
 KECI no information  
 MITI no information  
 NZLoC no information  
 PICCS no information  
 TCSI no information  
 TSCA listet

**15.2. Chemical Safety Assessment**

**For the following substances of this mixture a chemical safety assessment has been carried out:**

EC No. CAS No.	Designation	REACH No.
500-137-0 57214-10-5	Formaldehyde, polymer with 1,3-benzenedimethaneamine and phenol	01-2119966906-20
292-587-7 90640-66-7	Amines, polyethylenepoly-, tetraethylenepentamine fraction	01-2119487290-37
202-859-9 100-51-6	benzyl alcohol	01-2119492630-38
216-032-5 1477-55-0	m-phenylenebis(methylamine)	01-2119480150-50
203-180-0 104-15-4	Toluene-4-sulfonic acid	01-2119538811-39
203-632-7 108-95-2	Phenol	01-2119471329-32

**SECTION 16: Other information**

**Full text of classification in section 3:**

Skin Corr. 1C / H314	Skin corrosion/irritation	Causes severe skin burns and eye damage.
Skin Sens. 1B / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Aquatic Chronic 3 / H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects.
Acute Tox. 4 / H302	Acute toxicity (oral)	Harmful if swallowed.
Acute Tox. 4 / H312	Acute toxicity (dermal)	Harmful in contact with skin.
Skin Corr. 1B / H314	Skin corrosion/irritation	Causes severe skin burns and eye damage.
Eye Dam. 1 / H318	Serious eye damage/eye irritation	Causes serious eye damage.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.
Acute Tox. 4 / H332	Acute toxicity (inhalative)	Harmful if inhaled.
Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory irritation.
Muta. 2 / H341	Germ cell mutagenicity	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878



Article No.: 4 06450 BN000 epple 06450  
Print date 11.05.2023 Revision date 11.05.2023  
Version 5.0 11.05.2023

EN  
Page 13 / 13

Acute Tox. 3 / H331 Acute toxicity (inhalative)  
Acute Tox. 3 / H311 Acute toxicity (dermal)  
Acute Tox. 3 / H301 Acute toxicity (oral)  
STOT RE 2 / H373 STOT-repeated exposure

no other routes of exposure cause the hazard).  
Toxic if inhaled.  
Toxic in contact with skin.  
Toxic if swallowed.  
May cause damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

#### Classification procedure

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

Acute Tox. 4	Acute toxicity (oral)	Calculation method.
Skin Corr. 1B	Skin corrosion/irritation	Calculation method.
Eye Dam. 1	Serious eye damage/eye irritation	Calculation method.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
Muta. 2	Germ cell mutagenicity	Calculation method.
Aquatic Chronic 2	Hazardous to the aquatic environment	Calculation method.

#### Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

#### Abbreviations and acronyms

n.a. = not applicable  
n.b. = not determined

#### Further information

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

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in section 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.

\* Data changed compared with the previous version