1. Identification

Product identifier
PE 1000+ , Comp. A

Recommended use of the chemical and restrictions on use

Use of the substance/mixture
Adhesive mortar for fastening elements A-component (resin)

Uses advised against
no restriction

Details of the supplier of the safety data sheet
Company name: DEWALT Industrial Tool Co.
Street: 701 East Joppa Road
Place: USA Towson, MD 21286
Telephone: +1 800-524-3244
Telefax: +1 877-871-1965

Emergency phone number:
CHEMTREC: 1-800-424-9300 (within Continental USA)
CHEMTREC: +1 703 527-3887 (outside USA)

2. Hazard(s) identification

Classification of the chemical
29 CFR Part 1910.1200
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2A
Respiratory or skin sensitization: Skin Sens. 1

Label elements
29 CFR Part 1910.1200
Signal word: Warning

Pictograms:

Hazard statements
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation

Precautionary statements
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulation.

Hazards not otherwise classified
People who are allergic to epoxide should avoid the use of the product.

3. Composition/information on ingredients

Revision No: 1,01,0 - Replaces version: 1 USA - EN Print date: 26.10.2018
Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>25068-38-6</td>
<td>Epoxy resin (number average molecular weight &lt;= 700), reaction product: bisphenol-A- (epichlorhydrin)</td>
<td>25-50 %</td>
</tr>
<tr>
<td>9003-36-5</td>
<td>Bisphenol-F-epichlorhydrin resin MW &lt;= 700</td>
<td>10-20 %</td>
</tr>
<tr>
<td>16096-31-4</td>
<td>1,6-Bis(2,3-epoxypropoxy)hexane</td>
<td>10-20 %</td>
</tr>
<tr>
<td></td>
<td>Alkyl Ester (Ref.: 722 43/00/2012.0028, Germany)</td>
<td>1-10 %</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

General information
   Take off immediately all contaminated clothing and wash it before reuse.

After inhalation
   Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary.

After contact with skin
   After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary. After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes
   After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion
   Rinse mouth immediately and drink plenty of water.

Most important symptoms and effects, both acute and delayed
   Allergic reactions

Indication of any immediate medical attention and special treatment needed
   Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
   Co-ordinate fire-fighting measures to the fire surroundings.
   Extinguishing powder
   Water spray jet

Unsuitable extinguishing media
   Full water jet

Specific hazards arising from the chemical
   Non-flammable. Pyrolysis products, toxic
   Carbon monoxide

Special protective equipment and precautions for fire-fighters
   Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. In case of fire and/or explosion do not breathe fumes.
   Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information
   Supress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Provide adequate ventilation. Do not breathe gas/fume/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**Environmental precautions**
Do not allow to enter into surface water or drains.

**Methods and material for containment and cleaning up**
Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

**Reference to other sections**
Safe handling: see section 7
Personal protection equipment (PPE): see section 8
Disposal: see section 13

7. Handling and storage

**Precautions for safe handling**

Advice on safe handling
Use only outdoors or in a well-ventilated area.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.

Advice on protection against fire and explosion
No special fire protection measures are necessary.

**Conditions for safe storage, including any incompatibilities**

Requirements for storage rooms and vessels
Keep container tightly closed.
Keep only in the original container in a cool, well-ventilated place.

Advice on storage compatibility
Do not use for products which come into contact with the food stuffs.

Further information on storage conditions
storage temperature : 5 - 35°C

8. Exposure controls/personal protection

**Control parameters**

**Exposure limits**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>14808-60-7</td>
<td>Silica, crystalline (as respirable dust)</td>
<td>-</td>
<td>0.05</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Silica, crystalline - alpha-quartz (respirable fraction)</td>
<td>-</td>
<td>0.025</td>
<td></td>
<td>TWA (8 h)</td>
<td>ACGIH-2018</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Silica, crystalline quartz, respirable dust</td>
<td>(Z-3)</td>
<td>(Z-3)</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
</tbody>
</table>

**Additional advice on limit values**
A quartz contained is firmly bound in the pasty component, and thus not freely available during use, so that a risk of dust inhalation is excluded.

**Exposure controls**
Protective and hygiene measures
Remove contaminated, saturated clothing immediately. 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
Suitable eye protection: Safety goggles with side shields are recommended.

Hand protection
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Wearing time with occasional contact (splashes): 0,7mm NBR (Nitrile rubber) >480 min (EN374)
Wearing time with permanent contact 0,7mm NBR (Nitrile rubber) >480 min (EN374)

Skin protection
Wear suitable protective clothing.

Respiratory protection
Should a respirator be needed, follow OSHA regulation for respirator use (29 CFR 1910.134). Wear an air-purifying NIOSH-certified (or equivalent) respirator (with a high efficiency particulate filter) as needed.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Paste</td>
</tr>
<tr>
<td>Color:                    light beige</td>
<td></td>
</tr>
<tr>
<td>pH-Value:                 not determined</td>
<td></td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing 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>not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td></td>
</tr>
<tr>
<td>Solid:                    not determined</td>
<td></td>
</tr>
<tr>
<td>Gas:                      not applicable</td>
<td></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:                    not determined</td>
<td></td>
</tr>
<tr>
<td>Gas:                      not applicable</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>not determined</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td></td>
</tr>
<tr>
<td>Not oxidising.</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>not determined</td>
</tr>
<tr>
<td>Density (at 20 °C):</td>
<td>1,49 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.

Solubility in other solvents
- not determined

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

Other information
Solid content: not determined

10. Stability and reactivity

Reactivity
No hazardous reaction when handled and stored according to provisions.

Chemical stability
Danger of polymerisation.

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. Violent reaction with: Oxidising agent
Violent reaction with: Alkali (lye), Etchant and acids

Conditions to avoid
none/none

Incompatible materials
Keep away from: Radical former0 Peroxides0 Reducing agent.

Hazardous decomposition products
No known hazardous decomposition products.

11. Toxicological information

Information on toxicological effects
# Acute Toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>25068-38-6</td>
<td>Epoxy resin (number average molecular weight (\leq 700)), reaction product: bisphenol-A-(epichlorohydrin)</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>11400</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>9003-36-5</td>
<td>Bisphenol-F-epichlorohydrin resin MW (\leq 700)</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt;2000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt;2000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>16096-31-4</td>
<td>1,6-Bis(2,3-epoxypropoxy)hexane</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>2900</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alkyl Ester (Ref.: 722 43/00/2012.0028, Germany)</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>20700</td>
<td>Mouse</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>2000</td>
<td>Rabbit</td>
<td></td>
</tr>
</tbody>
</table>

Carcinogenicity (OSHA): No ingredient of this mixture is listed.

Carcinogenicity (IARC): Silica dust, crystalline, in the form of quartz or cristobalite (CAS 14808-60-7) is listed in group 1. Silica dust, crystalline, in the form of quartz or cristobalite (CAS 14808-60-7) is listed in group 1.

Carcinogenicity (NTP): No ingredient of this mixture is listed.

## Further information

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

### 12. Ecological Information

**Ecotoxicity**

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Persistence and degradability**

The product has not been tested.

**Bioaccumulative potential**

The product has not been tested.

**Mobility in soil**

The product has not been tested.

**Other adverse effects**

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### 13. Disposal Considerations

**Waste treatment methods**
Advice on disposal
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging
Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information

US DOT 49 CFR 172.101

**UN/ID number:** UN 3077

**Proper shipping name:** Environmentally hazardous substances, solid, n.o.s.

**Transport hazard class(es):** 9

**Packing group:** III

**Hazard label:** 9

**Marine transport (IMDG)**

**UN number:** UN 3077

**UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Bisphenol A/F Epoxy resin)

**Transport hazard class(es):** 9

**Packing group:** III

**Hazard label:** 9

Limited quantity: 5 kg

Excepted quantity: E1

EmS: F-A, S-F

Other applicable information (marine transport)

No dangerous goods in packaging until 5kg according 2.10.2.7 IMDG-Code

Air transport (ICAO-TI/IATA-DGR)

**UN number:** UN 3077

**UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Bisphenol A/F Epoxy resin)

**Transport hazard class(es):** 9

**Packing group:** III

**Hazard label:** 9

Limited quantity Passenger: 30 kg G

Passenger LQ: Y956

Excepted quantity: E1

IATA-packing instructions - Passenger: 956

IATA-max. quantity - Passenger: 400 kg

IATA-packing instructions - Cargo: 956

IATA-max. quantity - Cargo: 400 kg

Other applicable information (air transport)

No dangerous goods in packaging until 5kg according A197 IATA-DGA
Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information

U.S. Regulations

National Inventory TSCA

All ingredients of this mixture are included on the TSCA Inventory.

National regulatory information

SARA Section 311/312 Hazards:

- Epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin) (25068-38-6): Immediate (acute) health hazard
- Bisphenol-F-epichlorohydrin resin MW <= 700 (9003-36-5): Immediate (acute) health hazard
- 1,6-Bis(2,3-epoxypropoxy)hexane (16096-31-4): Immediate (acute) health hazard
- Alkyl Ester (Ref.: 722 43/00/2012.0028, Germany) (-): Immediate (acute) health hazard

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)

Health: 2
Physical Hazard: 1
Personal Protection: -

NFPA Hazard Ratings

Health: 2
Flammability: -
Reactivity: 1
Unique Hazard: -

Changes

Revision date: 26.10.2018
Revision No: 1,01,0

This data sheet contains changes from the previous version in section(s): 3,8,11,14,15,16.

Abbreviations and acronyms

- ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstracts Service
- CFR: Code of Federal Regulations
- EC50: Effective concentration, 50%
- ErC50: EC50 in terms of reduction of growth rate
- IATA: International Air Transport Association
- IATA-DGR: Dangerous Goods Regulations (DRG) for the air transport (IATA)
Safety Data Sheet

according to 29 CFR 1910.1200(g)

PE 1000+, Comp. A
Product code: SDS7US

Revision date: 26.10.2018

IARC: International Agency for Research on Cancer
IMDG: International Maritime Code for Dangerous Goods
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
NFPA: National Fire Protection Association
NOEC: No Observed Effect Concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
SARA: Superfund Amendments and Reauthorization Act
TLV: Threshold Limit Values
TSCA: Toxic Substances Control Act

Other data
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.

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

Product identifier
PE 1000+ , Comp. B

Recommended use of the chemical and restrictions on use

Use of the substance/mixture
compound mortar B-component (hardener)

Uses advised against
no restriction

Details of the supplier of the safety data sheet

Company name: DEWALT Industrial Tool Co.
Street: 701 East Joppa Road
Place: USA Towson, MD 21286
Telephone: +1 800-524-3244 Telefax: +1 877-871-1965

Emergency phone number:
CHEMTREC: 1-800-424-9300 (within Continental USA)
CHEMTREC: +1 703 527-3887 (outside USA)

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200
Acute toxicity: Acute Tox. 4 (dermal)
Acute toxicity: Acute Tox. 4 (oral)
Skin corrosion/irritation: Skin Corr. 1B
Respiratory or skin sensitzation: Skin Sens. 1
Germ cell mutagenicity: Muta. 2
Reproductive toxicity: Repr. 1B
Specific target organ toxicity repeated or prolonged exposure: STOT RE 2

Label elements

29 CFR Part 1910.1200
Signal word: Danger

Pictograms:

Hazard statements
Harmful if swallowed or in contact with skin
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Suspected of causing genetic defects
May damage fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure

Precautionary statements
Obtain special instructions before use.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Hazard not otherwise classified
Contains Amines. May produce an allergic reaction.

3. Composition/information on ingredients

Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2855-13-2</td>
<td>3-Aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>30 - &lt; 40 %</td>
</tr>
<tr>
<td>57214-10-5</td>
<td>Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)</td>
<td>15 - &lt; 25 %</td>
</tr>
<tr>
<td>77138-45-5</td>
<td>Formaldehyde, oligomeric reaction products with 4,4’-isopropylidenediphenol and diethylenetriamine</td>
<td>15 - &lt; 25 %</td>
</tr>
<tr>
<td>1477-55-0</td>
<td>m-Phenylenebis(methylamine)</td>
<td>15 - &lt; 25 %</td>
</tr>
<tr>
<td>90-72-2</td>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td>5 - &lt; 10 %</td>
</tr>
<tr>
<td>100-51-6</td>
<td>benzyl alcohol</td>
<td>5 - &lt; 10 %</td>
</tr>
<tr>
<td>111-40-0</td>
<td>Diethylenetriamine</td>
<td>5 - &lt; 10 %</td>
</tr>
<tr>
<td>108-95-2</td>
<td>Phenol</td>
<td>1 - &lt; 5 %</td>
</tr>
<tr>
<td>71074-89-0</td>
<td>Bis[(dimethylamino)methyl]phenol</td>
<td>1 - &lt; 5 %</td>
</tr>
<tr>
<td>80-05-7</td>
<td>Bisphenol A</td>
<td>1 - &lt; 5 %</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

General information
First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. Change contaminated, saturated clothing.

After inhalation
Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin
After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion
Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

Most important symptoms and effects, both acute and delayed
Allergic reactions

Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5. Fire-fighting measures

Extinguishing media
Suitable extinguishing media
  Co-ordinate fire-fighting measures to the fire surroundings.
  Extinguishing powder
  Water spray jet

Unsuitable extinguishing media
  Full water jet

Specific hazards arising from the chemical
  Non-flammable. Pyrolysis products, toxic
  Carbon monoxide

Special protective equipment and precautions for fire-fighters
  Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. In case of fire
  and/or explosion do not breathe fumes.
  Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information
  Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do
  not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
  Provide adequate ventilation. Do not breathe gas/fume/vapour/spray. Avoid contact with skin, eyes and clothes.
  Use personal protection equipment.

Environmental precautions
  Do not allow to enter into surface water or drains.
  In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Methods and material for containment and cleaning up
  Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.
  Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Reference to other sections
  Safe handling: see section 7
  Personal protection equipment (PPE): see section 8
  Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling
  If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do
  not breathe dust. Use only outdoors or in a well-ventilated area.
  When using do not eat, drink or smoke.
  Use protective skin cream before handling the product.

Advice on protection against fire and explosion
  No special fire protection measures are necessary.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
  Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide
  adequate ventilation as well as local exhaust ventilation at critical locations.
  Keep/Store only in original container.

Advice on storage compatibility
  Do not use for products which come into contact with the food stuffs.
Store in a well-ventilated place. Keep cool.

**Further information on storage conditions**
- Keep container tightly closed in a cool place.
- Storage temperature 5-35°C

### 8. Exposure controls/personal protection

#### Control parameters

**Exposure limits**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-40-0</td>
<td>Diethylene triamine</td>
<td>1</td>
<td></td>
<td></td>
<td>TWA (8 h)</td>
<td>ACGIH-2018</td>
</tr>
<tr>
<td>111-40-0</td>
<td>Diethylenetriamine</td>
<td>1</td>
<td>4</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>108-95-2</td>
<td>Phenol</td>
<td>5</td>
<td>19</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>19</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>TWA (8 h)</td>
<td>ACGIH-2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ceiling</td>
<td>REL</td>
</tr>
<tr>
<td>1477-55-0</td>
<td>m-Xylene alpha, alpha'-diamine</td>
<td>15.6</td>
<td>60</td>
<td>0.1</td>
<td>TWA (8 h)</td>
<td>ACGIH-2018</td>
</tr>
</tbody>
</table>

#### Biological Exposure Indices (BEI-ACGIH)

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>Determinant</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-95-2</td>
<td>PHENOL</td>
<td>Phenol (with hydrolysis, creatinine)</td>
<td>250 mg/g</td>
<td>urine</td>
<td>End of shift</td>
</tr>
</tbody>
</table>

#### Exposure controls

**Appropriate engineering controls**
- If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapour/spray.

**Protective and hygiene measures**
- Remove contaminated, saturated clothing immediately. 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**
- Suitable eye protection: Safety goggles with side shields are recommended.

**Hand protection**
- When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Wearing time with occasional contact (splashes): 0.7mm NBR (Nitrile rubber) >480min (EN374)
- Wearing time with permanent contact 0.7mm NBR (Nitrile rubber) >480min (EN374)
Skin protection
Wear suitable protective clothing.

Respiratory protection
Should a respirator be needed, follow OSHA regulation for respirator use (29 CFR 1910.134). Wear an air-purifying NIOSH-certified (or equivalent) respirator (with a high efficiency particulate filter) as needed.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Paste</td>
</tr>
<tr>
<td>Color</td>
<td>black / red</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

Changes in the physical state
Melting point/freezing point: not determined
Initial boiling point and boiling range: not determined
Flash point: not applicable

Flammability
Solid: not determined
Gas: not applicable

Auto-ignition temperature
Solid: not determined
Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties
Not oxidising.

Vapor pressure: not determined
Density (at 20 °C): 1.07 g/cm³

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

10. Stability and reactivity

Reactivity
see section 10.3

Chemical stability
The product is stable under storage at normal ambient temperatures.
**Possibility of hazardous reactions**

- Violent reaction with: Oxidising agent

**Conditions to avoid**

- see section 7.2

**Incompatible materials**

- Oxidising agent, strong

**Hazardous decomposition products**

- No known hazardous decomposition products.

### 11. Toxicological information

**Information on toxicological effects**
### Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>2855-13-2</td>
<td>3-Aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>1030</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE mg/kg</td>
<td>1100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1477-55-0</td>
<td>m-Phenylenediamine</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>930</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>2000</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation (1 h) vapour</td>
<td>LC50</td>
<td>3,89 mg/l</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE</td>
<td>1,5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100-51-6</td>
<td>benzyl alcohol</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>1230</td>
<td>Rat</td>
<td>GESTIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation vapour</td>
<td>ATE</td>
<td>11 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE</td>
<td>1,5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>111-40-0</td>
<td>Diethylenetriamine</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>1080</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>1054</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation vapour</td>
<td>ATE</td>
<td>0,5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE</td>
<td>0,05 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>108-95-2</td>
<td>Phenol</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>317</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE mg/kg</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation vapour</td>
<td>ATE</td>
<td>3 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE</td>
<td>0,5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71074-89-0</td>
<td>Bis[(dimethylamino)methyl]phenol</td>
<td>oral</td>
<td>ATE mg/kg</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80-05-7</td>
<td>Bisphenol A</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>3250</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>3000</td>
<td>Rabbit</td>
<td></td>
</tr>
</tbody>
</table>

**Carcinogenicity (IARC):** Phenol (CAS 108-95-2) is listed in group 3.

**Further information**

This mixture is placed on the market in a form, in which there can be no aerosol formation when used as intended. It may only be used for applications where aerosol formation is excluded. In accordance with Article 6 of the CLP Regilation 1272/2008/EU, therefore, the classification and labeling for inhalation toxicity is not required.

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions,
12. Ecological information

Ecotoxicity
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Persistence and degradability
The product has not been tested.

Bioaccumulative potential
The product has not been tested.

Mobility in soil
The product has not been tested.

Other adverse effects
No information available.

Further information
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

13. Disposal considerations

Waste treatment methods

Advice on disposal
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

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.

14. Transport information

US DOT 49 CFR 172.101

| UN/ID number: | UN 3259 |
| Proper shipping name: | AMINES, SOLID, CORROSIVE, N.O.S. |
| Transport hazard class(es): | 8 |
| Packing group: | III |
| Hazard label: | 8 |

Marine transport (IMDG)

| UN number: | UN 3259 |
| UN proper shipping name: | AMINES, SOLID, CORROSIVE, N.O.S. (m-phenylenebis(methylamine)) |
| Transport hazard class(es): | 8 |
| Packing group: | II |
| Hazard label: | 8 |

Limited quantity: 1 kg
Excepted quantity: E2
EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

| UN number: | UN 3259 |
AMINES, SOLID, CORROSIVE, N.O.S. (m-phenylenebis(methylamine))

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user
Warning: strongly corrosive.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

U.S. Regulations

National Inventory TSCA
All ingredients of this mixture are included on the TSCA Inventory.

National regulatory information
SARA Section 302 Extremely hazardous substances:
Phenol (108-95-2): Reportable quantity = 1,000 lbs., Threshold planning quantity = 500/10,000 lbs.
SARA Section 304 CERCLA:
Phenol (108-95-2): Reportable quantity = 1,000 (454) lbs. (kg)
SARA Section 311/312 Hazards:
3-Aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2): Immediate (acute) health hazard
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine) (57214-10-5):
Immediate (acute) health hazard
Formaldehyde, oligomeric reaction products with 4,4’-isopropylidenediphenol and diethylenetriamine (77138
-45-5): Immediate (acute) health hazard
m-Phenylenebis(methylamine) (1477-55-0): Immediate (acute) health hazard
2,4,6-Tris(dimethylaminomethyl)phenol (90-72-2): Immediate (acute) health hazard
benzyl alcohol (100-51-6): Immediate (acute) health hazard
Diethylenetriamine (111-40-0): Immediate (acute) health hazard
Phenol (108-95-2): Immediate (acute) health hazard, Delayed (chronic) health hazard
Bis(dimethylamino)methylphenol (71074-89-0): Immediate (acute) health hazard
4,4’-Isopropylidenediphenol (80-05-7): Immediate (acute) health hazard
SARA Section 313 Toxic release inventory:
Phenol (108-95-2): De minimis limit = 1.0 %, Reportable threshold = Standard
4,4’-Isopropylidenediphenol (80-05-7): De minimis limit = 1.0 %, Reportable threshold = Standard
Clean Air Act Section 112(b):
Phenol (108-95-2)
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
WARNING: This product contains the following chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm: Bisphenol A (BPA) (reproductive).

Additional information
For more information go to www.P65Warnings.ca.gov.

16. Other information

Hazardous Materials Information Label (HMIS)
- Health: 2
- Physical Hazard: 1
- Personal Protection: -

NFPA Hazard Ratings
- Health: 2
- Flammability: -
- Reactivity: 1
- Unique Hazard: -

Changes
- Revision date: 26.10.2018
- Revision No: 1,01,1
This data sheet contains changes from the previous version in section(s): 3.

Abbreviations and acronyms
- ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstracts Service
- CFR: Code of Federal Regulations
- EC50: Effective concentration, 50%
- ErC50: EC50 in terms of reduction of growth rate
- IATA: International Air Transport Association
- IATA-DGR: Dangerous Goods Regulations (DRG) for the air transport (IATA)
- IARC: International Agency for Research on Cancer
- IMDG: International Maritime Code for Dangerous Goods
- LC50: Lethal concentration, 50%
- LD50: Lethal dose, 50%
- NFPA: National Fire Protection Association
- NIOSH: National Institute for Occupational Safety and Health
- NOEC: No Observed Effect Concentration
- NTP: National Toxicology Program
- OECD: Organisation for Economic Co-operation and Development
- OSHA: Occupational Safety and Health Administration
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- SARA: Superfund Amendments and Reauthorization Act
- TLV: Threshold Limit Values
- TSCA: Toxic Substances Control Act

Other data
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 singulary responsible for adhering to existing laws and regulations.

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