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

1.1. Product identifier
BULK 209242 EPOXY ALUM.PART A

Contains:
- Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \( \leq 700 \))

1.2. Relevant identified uses of the substance or mixture and uses advised against
- Intended use: Epoxy adhesive

1.3. Details of the supplier of the safety data sheet
Henkel Ltd
Wood Lane End
HP2 4RQ Hemel Hempstead
Great Britain

Phone: +44 1442 278000
Fax-no.: +44 1442 278071

ua-productssafety.uk@uk.henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):
- Skin irritation
  - H315 Causes skin irritation. Category 2
- Serious eye irritation
  - H319 Causes serious eye irritation.
- Skin sensitizer
  - H317 May cause an allergic skin reaction.
- Chronic hazards to the aquatic environment
  - H417 Toxic to aquatic life with long lasting effects.
- Skin sensitiser
  - H317 May cause an allergic skin reaction. Category 1
- Chronic hazards to the aquatic environment
  - H411 Toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements (CLP):
Hazard pictogram:

Signal word: Warning

Hazard statement:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement:
***For consumer use only: P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P501 Dispose of waste and residues in accordance with local authority requirements***

Precautionary statement:
Prevention
P273 Avoid release to the environment.
P280 Wear protective gloves.

Precautionary statement:
Response
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards
None if used properly.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
Epoxy resin

Declaration of the ingredients according to CLP (EC) No 1272/2008:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>EC Number</th>
<th>content</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum powder (stabilised)</td>
<td>231-072-3</td>
<td>&gt;= 25-&lt; 50 %</td>
<td>Water-react. 2</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>01-2119529243-45</td>
<td></td>
<td>Flam. Sol. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H261</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H228</td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700)</td>
<td>500-033-5</td>
<td>&gt;= 60-&lt; 80 %</td>
<td>Skin Irrit. 2</td>
</tr>
<tr>
<td>25068-38-6</td>
<td>01-2119456619-26</td>
<td></td>
<td>Skin Sens. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H317</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H411</td>
</tr>
</tbody>
</table>

For full text of the H - statements and other abbreviations see section 16 "Other information". Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. If symptoms persist, seek medical advice.
Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.
EYE: Irritation, conjunctivitis.
SKIN: Redness, inflammation.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
None known

5.2. Special hazards arising from the substance or mixture
Oxides of carbon, oxides of nitrogen, irritating organic vapors.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid skin and eye contact.

6.2. Environmental precautions
Do not let product enter drains.

6.3. Methods and material for containment and cleaning up
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.
Wash spillage site thoroughly with soap and water or detergent solution.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Use only in well-ventilated areas.
Avoid skin and eye contact.
Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.
See advice in section 8
Hygiene measures:
Good industrial hygiene practices should be observed.
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities
Store in a cool, well-ventilated place.

7.3. Specific end use(s)
Epoxy adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits
Valid for Great Britain

<table>
<thead>
<tr>
<th>Ingredient [Regulated substance]</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Value type</th>
<th>Short term exposure limit category / Remarks</th>
<th>Regulatory list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium 7429-90-5 [ALUMINIUM METAL, RESPIRABLE DUST]</td>
<td>4</td>
<td></td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>EH40 WEL</td>
</tr>
<tr>
<td>Aluminium 7429-90-5 [ALUMINIUM METAL, INHALABLE DUST]</td>
<td>10</td>
<td></td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>EH40 WEL</td>
</tr>
</tbody>
</table>

Predicted No-Effect Concentration (PNEC):

<table>
<thead>
<tr>
<th>Name on list</th>
<th>Environmental Compartment</th>
<th>Exposure period</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>aqua (freshwater)</td>
<td></td>
<td>mg/l</td>
<td>0,006 mg/L</td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>aqua (marine water)</td>
<td></td>
<td>ppm</td>
<td>0,0006 mg/L</td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>aqua (intermittent releases)</td>
<td></td>
<td>mg/kg</td>
<td>0,018 mg/L</td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>STP</td>
<td></td>
<td>10 mg/L</td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>sediment (freshwater)</td>
<td></td>
<td>0,996 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>sediment (marine water)</td>
<td></td>
<td>0,0996 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>soil</td>
<td></td>
<td>0,196 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>oral</td>
<td></td>
<td>11 mg/kg food</td>
<td></td>
</tr>
</tbody>
</table>
## Derived No-Effect Level (DNEL):

<table>
<thead>
<tr>
<th>Name on list</th>
<th>Application Area</th>
<th>Route of Exposure</th>
<th>Health Effect</th>
<th>Exposure Time</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>Workers</td>
<td>Dermal</td>
<td>Acute/short term exposure - systemic effects</td>
<td>8.33 mg/kg bw/day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute/short term exposure - systemic effects</td>
<td>12.25 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>Workers</td>
<td>Dermal</td>
<td>Long term exposure - systemic effects</td>
<td>8.33 mg/kg bw/day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long term exposure - systemic effects</td>
<td>12.25 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>general population</td>
<td>Dermal</td>
<td>Acute/short term exposure - systemic effects</td>
<td>3.571 mg/kg bw/day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>general population</td>
<td>Dermal</td>
<td>Long term exposure - systemic effects</td>
<td>3.571 mg/kg bw/day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>general population</td>
<td>Inhalation</td>
<td>Acute/short term exposure - systemic effects</td>
<td>0.75 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>general population</td>
<td>Inhalation</td>
<td>Long term exposure - systemic effects</td>
<td>0.75 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>general population</td>
<td>oral</td>
<td>Acute/short term exposure - systemic effects</td>
<td>0.75 mg/kg bw/day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt; 700) 25068-38-6</td>
<td>general population</td>
<td>oral</td>
<td>Long term exposure - systemic effects</td>
<td>0.75 mg/kg bw/day</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Biological Exposure Indices:
None

### 8.2. Exposure controls:

**Respiratory protection:**
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Ensure adequate ventilation.
Filter type: A

**Hand protection:**
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.
Eye protection: Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Skin protection: Wear suitable protective clothing.

### SECTION 9: Physical and chemical properties

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>paste</td>
</tr>
<tr>
<td>Odor</td>
<td>mild</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 250 °C (&gt; 482 °F)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>1.39 g/cm³</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Viscosity (kinematic)</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Solubility (qualitative)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>(Solvent: Water)</td>
<td></td>
</tr>
<tr>
<td>Solidification temperature</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>(Solvent: Water)</td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No data available / Not applicable

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

None if used properly.

#### 10.2. Chemical stability

Stable under recommended storage conditions.

#### 10.3. Possibility of hazardous reactions

See section reactivity

#### 10.4. Conditions to avoid

Stable under normal conditions of storage and use.

#### 10.5. Incompatible materials

No data available.

#### 10.6. Hazardous decomposition products

carbon oxides.
## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**General toxicological information:**
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**Oral toxicity:**
May cause irritation to the digestive tract.

**Inhalative toxicity:**
May cause irritation to respiratory system.

**Skin irritation:**
Causes skin irritation.

**Eye irritation:**
Causes serious eye irritation.

**Sensitizing:**
May cause an allergic skin reaction.

### Acute oral toxicity:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Value type</th>
<th>Value</th>
<th>Route of application</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>LD50</td>
<td>&gt; 2,000 mg/kg</td>
<td>oral</td>
<td></td>
<td>rat</td>
<td></td>
</tr>
</tbody>
</table>

### Acute inhalative toxicity:

### Acute dermal toxicity:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Value type</th>
<th>Value</th>
<th>Route of application</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>LD50</td>
<td>23,000 mg/kg</td>
<td>dermal</td>
<td></td>
<td>rabbit</td>
<td></td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Result</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>slightly irritating</td>
<td>4 h</td>
<td>rabbit</td>
<td>OECD Guideline 404 (Acute Dermal Irritation / Corrosion)</td>
</tr>
</tbody>
</table>
**Serious eye damage/irritation:**

<table>
<thead>
<tr>
<th>Hazardous components CAS-No.</th>
<th>Result</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>not irritating</td>
<td>rabbit</td>
<td>OECD Guideline 405 (Acute Eye Irritation / Corrosion)</td>
<td></td>
</tr>
</tbody>
</table>

**Respiratory or skin sensitization:**

<table>
<thead>
<tr>
<th>Hazardous components CAS-No.</th>
<th>Result</th>
<th>Test type</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>sensitising</td>
<td>Mouse local lymph node assay (LLNA)</td>
<td>mouse</td>
<td>OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)</td>
</tr>
</tbody>
</table>

**Germ cell mutagenicity:**

<table>
<thead>
<tr>
<th>Hazardous components CAS-No.</th>
<th>Result</th>
<th>Type of study / Route of administration</th>
<th>Metabolic activation / Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>negative</td>
<td>bacterial reverse mutation assay (e.g Ames test)</td>
<td>negative</td>
<td>OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

**General ecological information:**
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ ecological information for the substances listed under Section 3 is provided in the following.

#### 12.1. Toxicity

**Ecotoxicity:**
Toxic to aquatic life with long lasting effects. Do not empty into drains / surface water / ground water.
12.2. Persistence and degradability

Persistence and Biodegradability:
The product is not biodegradable.

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Result</th>
<th>Route of application</th>
<th>Degradability</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>NOEC</td>
<td>aerobic</td>
<td>5 %</td>
<td>OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Mobility:
Cured adhesives are immobile.

Bioaccumulative potential:
No data available for the product.

12.5. Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>PBT/vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium powder (stabilised) 7429-90-5</td>
<td>Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.</td>
</tr>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700) 25068-38-6</td>
<td>Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.</td>
</tr>
</tbody>
</table>

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product disposal:
Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:
After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.
Disposal must be made according to official regulations.

Waste code
08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

SECTION 14: Transport information

14.1. UN number
ADR 3082
RID 3082
ADN 3082
IMDG 3082
IATA 3082

14.2. UN proper shipping name
ADR ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
RID ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
ADN ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
IATA Environmentally hazardous substance, liquid, n.o.s. (Epoxy resin)

14.3. Transport hazard class(es)
ADR 9
RID 9
ADN 9
IMDG 9
IATA 9

14.4. Packaging group
ADR III
RID III
ADN III
IMDG III
IATA III

14.5. Environmental hazards
ADR not applicable
RID not applicable
ADN not applicable
IMDG Marine pollutant
IATA not applicable

14.6. Special precautions for user
ADR not applicable
Tunnelcode: (E)
RID not applicable
ADN not applicable
IMDG not applicable
IATA not applicable

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

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
VOC content < 3,00 % Combined A/B
(1999/13/EC)

15.2. Chemical safety assessment
A chemical safety assessment has not been carried out.
SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:
- H228 Flammable solid.
- H261 In contact with water releases flammable gas.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.

Further information:
This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Label elements (DPD):

<table>
<thead>
<tr>
<th>Xi</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritant</td>
<td>Dangerous for the environment</td>
</tr>
</tbody>
</table>

Risk phrases:
- R36/38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:
- S24 Avoid contact with skin.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S28 After contact with skin, wash immediately with plenty of water and soap.
- S37 Wear suitable gloves.
- S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Additional labeling:
Contains epoxy constituents. See information supplied by the manufacturer.
For consumer use only: S2 Keep out of the reach of children.
S46 If swallowed, seek medical advice immediately and show this container or label.

Contains:
- Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.
1.1. Product identifier
BULK 209243 EPOXY ALUM. PART B

Contains:
Diethylenetriamine
4,4’-Isopropylidenediphenol
3,6,9-Trizaaundecamethylene diamine

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Epoxy Hardener

1.3. Details of the supplier of the safety data sheet
Henkel Ltd
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +444 1442 278000
Fax-no.: +444 1442 278071

ua-productsafety.uk@uk.henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 (0)1442 278497

2.1. Classification of the substance or mixture

Classification (CLP):
Skin corrosion Category 1B
H314 Causes severe skin burns and eye damage.

Skin sensitizer Category 1
H317 May cause an allergic skin reaction.

Toxic to reproduction Category 2
H361f Suspected of damaging fertility.

Chronic hazards to the aquatic environment Category 3
H412 Harmful to aquatic life with long lasting effects.
Hazard pictogram:

Signal word: Danger

Hazard statement: H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H361f Suspected of damaging fertility.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement: ***For consumer use only: P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P501 Dispose of waste and residues in accordance with local authority requirements***

Precautionary statement: P273 Avoid release to the environment.
Prevention P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement: Response P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing, Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards
None if used properly.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
### Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>EC Number</th>
<th>content</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>111-40-0</td>
<td>203-865-4 01-2119473793-27</td>
<td>10- 20 %</td>
<td>Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Corr. 1B H314 Skin Sens. 1 H317 Acute Tox. 2; Inhalation H330 STOT SE 3 H335</td>
</tr>
<tr>
<td>polyaminoamide adduct~</td>
<td>10- 20 %</td>
<td>Eye Dam. 1 H318</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol</td>
<td>80-05-7</td>
<td>201-245-8 01-2119457856-23</td>
<td>3- 10 %</td>
<td>Repr. 2 H361f STOT SE 3 H335 Eye Dam. 1 H318 Skin Sens. 1 H317 Aquatic Chronic 2 H411</td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td>90-72-2</td>
<td>202-013-9 01-2119560597-27</td>
<td>1- &lt; 3 %</td>
<td>Skin Corr. 1C Acute Tox. 4; Oral H302 Aquatic Chronic 3 H412</td>
</tr>
<tr>
<td>3,6,9-Triazaundecamethylenediamine</td>
<td>112-57-2</td>
<td>203-986-2 01-2119487290-37</td>
<td>1- &lt; 3 %</td>
<td>Acute Tox. 4; Dermal H312 Acute Tox. 4; Oral H302 Skin Sens. 1 H317 Aquatic Chronic 2 H411 Skin Corr. 1B H314</td>
</tr>
<tr>
<td>Disobutyl ketone</td>
<td>108-83-8</td>
<td>203-620-1 01-2119474441-41</td>
<td>1- &lt; 3 %</td>
<td>Flam. Liq. 3 H226 STOT SE 3 H335</td>
</tr>
</tbody>
</table>

For full text of the H - statements and other abbreviations see section 16 "Other information". Substances without classification may have community workplace exposure limits available.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**Inhalation:**
Move to fresh air. In case of adverse health effects seek medical advice.

**Skin contact:**
Rinse with running water and soap. Obtain medical attention if irritation persists.

**Eye contact:**
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.
Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
Causes burns.

SKIN: Rash, Urticaria.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
None known

5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus.
Wear protective equipment.

Additional information:
In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation.
Avoid skin and eye contact.
Wear protective equipment.

6.2. Environmental precautions
Do not let product enter drains.

6.3. Methods and material for containment and cleaning up
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid skin and eye contact.
Use only in well-ventilated areas.
Gloves and safety glasses should be worn
Do not inhale vapors and fumes.

Hygiene measures:
Good industrial hygiene practices should be observed.
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities
Store in sealed original container.
Store in a cool, well-ventilated place.
7.3. Specific end use(s)
Epoxy Hardener

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for Great Britain

<table>
<thead>
<tr>
<th>Ingredient [Regulated substance]</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Value type</th>
<th>Short term exposure limit category / Remarks</th>
<th>Regulatory list</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]</td>
<td>1</td>
<td>4.3</td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>EH40 WEL</td>
</tr>
<tr>
<td>2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]</td>
<td>10</td>
<td></td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>EH40 WEL</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7 [BISPHENOL A, INHALABLE DUST]</td>
<td>10</td>
<td></td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>EH40 WEL</td>
</tr>
<tr>
<td>2,6-Dimethylheptan-4-one 108-83-8 [2,6-DIMETHYLHEPTAN-4-ONE]</td>
<td>25</td>
<td>148</td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>EH40 WEL</td>
</tr>
</tbody>
</table>

Occupational Exposure Limits

Valid for Ireland

<table>
<thead>
<tr>
<th>Ingredient [Regulated substance]</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Value type</th>
<th>Short term exposure limit category / Remarks</th>
<th>Regulatory list</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]</td>
<td>1</td>
<td>4</td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>IR_OEL</td>
</tr>
<tr>
<td>2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]</td>
<td>1</td>
<td>4.3</td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>IR_OEL</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7 [BISPHENOL A (4,4'-ISO PROPYLIDENEDIPHENOL) (INHALABLE DUST)]</td>
<td>10</td>
<td></td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>IR_OEL</td>
</tr>
<tr>
<td>2,6-Dimethylheptan-4-one 108-83-8 [DIISOBUTYL KETONE]</td>
<td>25</td>
<td>150</td>
<td>Time Weighted Average (TWA):</td>
<td></td>
<td>IR_OEL</td>
</tr>
</tbody>
</table>

Biological Exposure Indices:

None

8.2. Exposure controls:

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)
Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Skin protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

### SECTION 9: Physical and chemical properties

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>&gt; 200,0 °C (&gt; 392 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 60 °C (&gt; 140 °F)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>1,5000 - 1,5800 g/cm³</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Viscosity (kinematic)</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Solubility (qualitative)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>(Solvent: Water)</td>
<td></td>
</tr>
<tr>
<td>Solidification temperature</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available / Not applicable</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available / Not applicable</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No data available / Not applicable
SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with water: generation of heat.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Avoid contact with acids and oxidizing agents.
Avoid contact with water.

10.5. Incompatible materials
See section reactivity

10.6. Hazardous decomposition products
Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Oral toxicity:
Ingestion of large quantities may cause liver or kidney damage.

Skin irritation:
Causes severe skin burns and eye damage.

Eye irritation:
Corrosive
Avoid eye contact.

Sensitizing:
May cause an allergic skin reaction.

Reproductive toxicity:
Suspected of damaging fertility.

Acute oral toxicity:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Value type</th>
<th>Value</th>
<th>Route of application</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>LD50</td>
<td>1.553</td>
<td>oral</td>
<td>rat</td>
<td></td>
<td>OECD Guideline 401 (Acute Oral Toxicity)</td>
</tr>
<tr>
<td>111-40-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol</td>
<td>LD50</td>
<td>5.000</td>
<td>oral</td>
<td>rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80-05-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td>LD50</td>
<td>1.200</td>
<td>oral</td>
<td>rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90-72-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Acute inhalative toxicity:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Value type</th>
<th>Value</th>
<th>Route of application</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Acute dermal toxicity:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Value type</th>
<th>Value</th>
<th>Route of application</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>LD50</td>
<td>1.045 mg/kg</td>
<td>dermal</td>
<td></td>
<td>rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>3.600 mg/kg</td>
<td>dermal</td>
<td></td>
<td>rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>1.260 mg/kg</td>
<td>dermal</td>
<td></td>
<td>rabbit</td>
<td></td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol</td>
<td></td>
<td></td>
<td>dermal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td></td>
<td></td>
<td>dermal</td>
<td></td>
<td>rat</td>
<td></td>
</tr>
<tr>
<td>3,6,9-Triazaundecamethyleneamine</td>
<td></td>
<td></td>
<td>dermal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Result</th>
<th>Exposition time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>corrosive</td>
<td>15 min</td>
<td>rabbit</td>
<td>BASF Test</td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td>corrosive</td>
<td>4 h</td>
<td>rabbit</td>
<td>OECD Guideline 404 (Acute Dermal Irritation / Corrosion)</td>
</tr>
<tr>
<td>3,6,9-Triazaundecamethyleneamine</td>
<td>corrosive</td>
<td>4 h</td>
<td>rabbit</td>
<td>Draize Test</td>
</tr>
<tr>
<td>Diisobutyl ketone</td>
<td>not irritating</td>
<td></td>
<td>rabbit</td>
<td>OECD Guideline 404 (Acute Dermal Irritation / Corrosion)</td>
</tr>
</tbody>
</table>

### Serious eye damage/irritation:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Result</th>
<th>Exposition time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>corrosive</td>
<td>30 s</td>
<td>rabbit</td>
<td></td>
</tr>
<tr>
<td>Diisobutyl ketone</td>
<td>not irritating</td>
<td></td>
<td>rabbit</td>
<td>OECD Guideline 405 (Acute Eye Irritation / Corrosion)</td>
</tr>
</tbody>
</table>

### Respiratory or skin sensitization:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Result</th>
<th>Test type</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>sensitising</td>
<td>Mouse local lymphnode assay (LLNA)</td>
<td>mouse</td>
<td>OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)</td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td>not sensitising</td>
<td>Buehler test</td>
<td>guinea pig</td>
<td>OECD Guideline 406 (Skin Sensitisation)</td>
</tr>
<tr>
<td>3,6,9-Triazaundecamethyleneamine</td>
<td>sensitising</td>
<td>Guinea pig maximisation test</td>
<td>guinea pig</td>
<td>OECD Guideline 406 (Skin Sensitisation)</td>
</tr>
</tbody>
</table>
### Germ cell mutagenicity:

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Result</th>
<th>Type of study / Route of administration</th>
<th>Metabolic activation / Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-Isopropylidenediphenol 80-05-7</td>
<td>negative</td>
<td>bacterial reverse mutation assay (e.g. Ames test)</td>
<td>with and without</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2</td>
<td>negative</td>
<td>bacterial reverse mutation assay (e.g. Ames test)</td>
<td>with and without</td>
<td></td>
<td>OECD Guideline 471 (Bacterial Reverse Mutation Assay)</td>
</tr>
<tr>
<td></td>
<td>negative</td>
<td>in vitro mammalian chromosome aberration test</td>
<td>with and without</td>
<td></td>
<td>OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)</td>
</tr>
<tr>
<td></td>
<td>negative</td>
<td>mammalian cell gene mutation assay</td>
<td>with and without</td>
<td></td>
<td>OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)</td>
</tr>
<tr>
<td>Diisobutyl ketone 108-83-8</td>
<td>negative</td>
<td>bacterial reverse mutation assay (e.g. Ames test)</td>
<td>with and without</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

**General ecological information:**
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

#### 12.1. Toxicity

**Ecotoxicity:**
Harmful to aquatic life with long lasting effects.
Do not empty into drains / surface water / ground water.
<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Value type</th>
<th>Value</th>
<th>Acute Toxicity Study</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>LC50</td>
<td>430 mg/l</td>
<td>Fish</td>
<td>96 h</td>
<td>Pseudoria reticulata</td>
<td>EU Method C.1 (Acute Toxicity for Fish)</td>
</tr>
<tr>
<td>Diethylenetriamine</td>
<td>EC50</td>
<td>64.6 mg/l</td>
<td>Daphnia</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>EU Method C.2 (Acute Toxicity for Daphnia)</td>
</tr>
<tr>
<td>Diethylenetriamine</td>
<td>EC50</td>
<td>187 mg/l</td>
<td>Algae</td>
<td>72 h</td>
<td>Selenastrum capricornutum (new name: <em>Pseudokirchnerella subcapitata</em>)</td>
<td>EU Method C.3 (Algal Inhibition test)</td>
</tr>
<tr>
<td>Diethylenetriamine</td>
<td>NOEC</td>
<td>10.2 mg/l</td>
<td>Algae</td>
<td>72 h</td>
<td>Selenastrum capricornutum (new name: <em>Pseudokirchnerella subcapitata</em>)</td>
<td>EU Method C.3 (Algal Inhibition test)</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>EC0</td>
<td>500 mg/l</td>
<td>Bacteria</td>
<td>24 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>LC50</td>
<td>9.9 mg/l</td>
<td>Fish</td>
<td>96 h</td>
<td>Brachydanio rerio (new name: <em>Danio rerio</em>)</td>
<td>OECD Guideline 203 (Fish, Acute Toxicity Test)</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>NOEC</td>
<td>16 µg/l</td>
<td>Fish</td>
<td>444 d</td>
<td>Pimephales promelas</td>
<td>EPA OPP 72-5 (Fish Life Cycle Toxicity)</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>EC50</td>
<td>3.9 mg/l</td>
<td>Daphnia</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>EC50</td>
<td>2.5 mg/l</td>
<td>Algae</td>
<td>96 h</td>
<td>Selenastrum capricornutum (new name: <em>Pseudokirchnerella subcapitata</em>)</td>
<td>OECD Guideline 201 (Alga, Growth Inhibition Test)</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>EC10</td>
<td>&gt; 320 mg/l</td>
<td>Bacteria</td>
<td>18 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>NOEC</td>
<td>&gt; 3,146 mg/l</td>
<td>chronic Daphnia</td>
<td>21 d</td>
<td>Daphnia magna</td>
<td>OECD Guideline 211 (Daphnia magna, Reproduction Test)</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol 80-05-7</td>
<td>LC50</td>
<td>153 mg/l</td>
<td>Fish</td>
<td>96 h</td>
<td>Brachydanio rerio (new name: <em>Danio rerio</em>)</td>
<td>ISO 7346-1 (Determination of the Acute Lethal Toxicity of Substances to a Freshwater Fish [Brachydanio rerio Hamilton-Buchanan (Teleostei, Cyprinidae)]</td>
</tr>
<tr>
<td>2,4,6'-Tris(dimethylaminomethyl)ph enol 90-72-2</td>
<td>EC50</td>
<td>84 mg/l</td>
<td>Algae</td>
<td>72,00 h</td>
<td>Scenedesmus subspicatus (new name: <em>Desmodesmus subspicatus</em>)</td>
<td>OECD Guideline 203 (Fish, Acute Toxicity Test)</td>
</tr>
<tr>
<td>2,4,6'-Tris(dimethylaminomethyl)ph enol 90-72-2</td>
<td>EC0</td>
<td>27 mg/l</td>
<td>Bacteria</td>
<td>16 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4,6'-Tris(dimethylaminomethyl)ph enol 90-72-2</td>
<td>LC50</td>
<td>420 mg/l</td>
<td>Fish</td>
<td>96 h</td>
<td>Pseudoria reticulata</td>
<td>OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)</td>
</tr>
<tr>
<td>Triazaundecamethylenediamine</td>
<td>LC50</td>
<td>24.1 mg/l</td>
<td>Daphnia</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>OECD Guideline 201 (Alga, Growth Inhibition Test)</td>
</tr>
<tr>
<td>Triazaundecamethylenediamine</td>
<td>NOEC</td>
<td>0.5 mg/l</td>
<td>Algae</td>
<td>72 h</td>
<td>Selenastrum capricornutum (new name: <em>Pseudokirchnerella subcapitata</em>)</td>
<td>OECD Guideline 201 (Alga, Growth Inhibition Test)</td>
</tr>
<tr>
<td>Triazaundecamethylenediamine</td>
<td>EC50</td>
<td>6.8 mg/l</td>
<td>Algae</td>
<td>72 h</td>
<td>Selenastrum capricornutum (new name: <em>Pseudokirchnerella subcapitata</em>)</td>
<td>OECD Guideline 201 (Alga, Growth Inhibition Test)</td>
</tr>
<tr>
<td>Triazaundecamethylenediamine</td>
<td>EC 50</td>
<td>1.600 mg/l</td>
<td>Bacteria</td>
<td>1 h</td>
<td></td>
<td>EU Method C.11 (Biodegradation: Activated Sludge Respiration Inhibition Test)</td>
</tr>
<tr>
<td>Disobutyl ketone</td>
<td>LC50</td>
<td>140 mg/l</td>
<td>Fish</td>
<td>96 h</td>
<td>Oncorhynchus mykiss</td>
<td>OECD Guideline 203 (Fish, Acute Toxicity Test)</td>
</tr>
</tbody>
</table>

**Species:**
- Pseudoria reticulata
- Daphnia magna
- *Selenastrum capricornutum* (new name: *Pseudokirchnerella subcapitata*)
- *Brachydanio rerio* (new name: *Danio rerio*)
- Pimephales promelas
- Scenedesmus subspicatus (new name: *Desmodesmus subspicatus*)
- Pseudoria reticulata
- *Selenastrum capricornutum* (new name: *Pseudokirchnerella subcapitata*)
- *Brachydanio rerio* (new name: *Danio rerio*)
- Daphnia magna
- Scenedesmus subspicatus (new name: *Desmodesmus subspicatus*)
- *Selenastrum capricornutum* (new name: *Pseudokirchnerella subcapitata*)
- *Brachydanio rerio* (new name: *Danio rerio*)
- *Pimephales promelas*
12.2. Persistence and degradability

**Persistence and Biodegradability:**
The product is not biodegradable.

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>CAS-No.</th>
<th>Result</th>
<th>Route of application</th>
<th>Degradability</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>111-40-0</td>
<td>readily biodegradable</td>
<td>aerobic</td>
<td>83 %</td>
<td>EU Method C.9 (Biodegradation: Zahn-Wellens Test)</td>
</tr>
<tr>
<td>4,4’-Isopropylidenediphenol</td>
<td>80-05-7</td>
<td>readily biodegradable</td>
<td>aerobic</td>
<td>87 %</td>
<td>OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)</td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td>90-72-2</td>
<td>Not readily biodegradable</td>
<td></td>
<td>4,000000 %</td>
<td>OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)</td>
</tr>
<tr>
<td>3,6,9-Triazaundecamethylenediamine</td>
<td>112-57-2</td>
<td>under test conditions no biodegradation observed</td>
<td>aerobic</td>
<td>0 %</td>
<td>OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential / 12.4. Mobility in soil

**Mobility:**
Cured adhesives are immobile.

**Bioaccumulative potential:**
No data available.

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>CAS-No.</th>
<th>LogKow</th>
<th>Bioconcentration factor (BCF)</th>
<th>Exposure time</th>
<th>Species</th>
<th>Temperature</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>111-40-0</td>
<td>-2,13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)</td>
</tr>
<tr>
<td>4,4’-Isopropylidenediphenol</td>
<td>80-05-7</td>
<td>3,4</td>
<td>5,1 - 13,8</td>
<td>42 d</td>
<td>Cyprinus carpio</td>
<td>21,5 °C</td>
<td>EPA OPPTS 830.7550 (Partition Coefficient, n-octanol / H2O, Shake Flask Method)</td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol</td>
<td>90-72-2</td>
<td>-0,66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,6,9-Triazaundecamethylenediamine</td>
<td>112-57-2</td>
<td>-3,16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.5. Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>PBT/vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td></td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Diethylenetriamine 111-40-0</td>
<td>No data available.</td>
</tr>
<tr>
<td>4,4’-Isopropylidenediphenol 80-05-7</td>
<td>No data available.</td>
</tr>
<tr>
<td>2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2</td>
<td>No data available.</td>
</tr>
<tr>
<td>3,6,9-Triazaundecamethylenediamine 112-57-2</td>
<td>No data available.</td>
</tr>
<tr>
<td>Diisobutyl ketone 108-83-8</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

### 12.6. Other adverse effects

No data available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product disposal:
Collection and delivery to recycling enterprise or other registered elimination institution.
Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:
After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code:
08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances
The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.
SECTION 14: Transport information

14.1. UN number
ADR 1760
RID 1760
ADN 1760
IMDG 1760
IATA 1760

14.2. UN proper shipping name
ADR CORROSIVE LIQUID, N.O.S. (Diethylenetriamine,2,4,6-Tris(dimethyl amino methyl) phenole)
RID CORROSIVE LIQUID, N.O.S. (Diethylenetriamine,2,4,6-Tris(dimethyl amino methyl) phenole)
ADN CORROSIVE LIQUID, N.O.S. (Diethylenetriamine,2,4,6-Tris(dimethyl amino methyl) phenole)
IMDG CORROSIVE LIQUID, N.O.S. (Diethylenetriamine,2,4,6-Tris(dimethyl amino methyl) phenole)
IATA Corrosive liquid, n.o.s. (Diethylenetriamine,2,4,6-Tris(dimethyl amino methyl) phenole)

14.3. Transport hazard class(es)
ADR 8
RID 8
ADN 8
IMDG 8
IATA 8

14.4. Packing group
ADR II
RID II
ADN II
IMDG II
IATA II

14.5. Environmental hazards
ADR not applicable
RID not applicable
ADN not applicable
IMDG not applicable
IATA not applicable

14.6. Special precautions for user
ADR not applicable
Tunnelcode: (E)
RID not applicable
ADN not applicable
IMDG not applicable
IATA not applicable

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
VOC content < 3.00 %
15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- H226 Flammable liquid and vapor.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H335 May cause respiratory irritation.
- H361f Suspected of damaging fertility.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Label elements (DPD):

- C - Corrosive

Risk phrases:
- R34 Causes burns.
- R43 May cause sensitisation by skin contact.
- R62 Possible risk of impaired fertility.

Safety phrases:
- S24 Avoid contact with skin.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S53 Avoid exposure - obtain special instructions before use.

Additional labeling:

For consumer use only: S2 Keep out of the reach of children.
S46 If swallowed, seek medical advice immediately and show this container or label.

Contains:
- Diethylenetriamine,
- 4,4'-Isopropylidenediphenol,
- 3,6,9-Triazaundecamethylenediamine
Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.