1. IDENTIFICATION

Product identifier
Mixture identification:
  Trade name: ROPPE 5100C PART A

Recommended use of the chemical and restrictions on use
Recommended use: Adhesive
Restrictions on use: N.A.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
Company: Roppe Holding Company
  1602 North Union St.
  44830-1158 - Fostoria - OH - USA
  Phone: 1-800-537-9527

Emergency 24 hour numbers:
(USA) CHEMTREC 1-800-424-9300
(Canada) CANUTEC 1-613-996-6666

2. HAZARD(S) IDENTIFICATION

Classification of the chemical

Skin Irrit. 2  Causes skin irritation.
Eye Irrit. 2A  Causes serious eye irritation.
Skin Sens. 1A  May cause an allergic skin reaction.
Carc. 1A  May cause cancer if inhaled.
Repr. 2  Suspected of damaging fertility or the unborn child if inhaled.
STOT RE 1  Causes damage to organs through prolonged or repeated exposure if inhaled.

Label elements

Symbols:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H350.A</td>
<td>May cause cancer if inhaled.</td>
</tr>
<tr>
<td>H361.A</td>
<td>Suspected of damaging fertility or the unborn child if inhaled.</td>
</tr>
<tr>
<td>H372.A</td>
<td>Causes damage to organs through prolonged or repeated exposure if inhaled.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P201</td>
<td>Obtain special instructions before use.</td>
</tr>
<tr>
<td>P202</td>
<td>Do not handle until all safety precautions have been read and understood.</td>
</tr>
<tr>
<td>P260.B</td>
<td>Do not breathe dust.</td>
</tr>
<tr>
<td>P264.2</td>
<td>Wash skin thoroughly after handling.</td>
</tr>
<tr>
<td>P270</td>
<td>Do not eat, drink or smoke when using this product.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves/protective clothing/eye protection/face protection.</td>
</tr>
<tr>
<td>P302+P352.A</td>
<td>IF ON SKIN: Wash with plenty of water.</td>
</tr>
</tbody>
</table>
3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

<table>
<thead>
<tr>
<th>List of components</th>
<th>Quantity</th>
<th>Name</th>
<th>Identity. Numb.</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30 %</td>
<td>Reaction product: Bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;=700)</td>
<td>CAS:25068-38-6</td>
<td>Eye Irrit. 2A, H319; Skin Irrit. 2, H315; Skin Sens. 1, H317</td>
<td></td>
</tr>
<tr>
<td>10-20 %</td>
<td>Trimethylolpropane triacrylate</td>
<td>CAS:15625-89-5</td>
<td>Eye Irrit. 2A, H319; Skin Irrit. 2, H315; Skin Sens. 1, H317</td>
<td></td>
</tr>
<tr>
<td>1-5 %</td>
<td>Benzyl alcohol</td>
<td>CAS:100-51-6</td>
<td>Acute Tox. 4, H302; Acute Tox. 4, H332</td>
<td></td>
</tr>
<tr>
<td>1-5 %</td>
<td>Bisphenol A epoxy resin</td>
<td>CAS:25085-99-8</td>
<td>Skin Sens. 1B; Skin Irrit. 2, H315; Eye Irrit. 2A, H319</td>
<td></td>
</tr>
<tr>
<td>1-5 %</td>
<td>Dimethyl silicone polymer with silica</td>
<td>CAS:67762-90-7</td>
<td>Skin Irrit. 2, H315; Eye Irrit. 2B, H320</td>
<td></td>
</tr>
<tr>
<td>1-5 %</td>
<td>Silica Sand</td>
<td>CAS:14808-60-7</td>
<td>Carc. 1A, H350.A; STOT RE 1, H372.A</td>
<td></td>
</tr>
<tr>
<td>0.1-1 %</td>
<td>Caster oil glycidyl ether</td>
<td>CAS:74398-71-3</td>
<td>Skin Irrit. 2, H315; Skin Sens. 1A, H317</td>
<td></td>
</tr>
<tr>
<td>0.1-1 %</td>
<td>Toluene</td>
<td>CAS:108-88-3</td>
<td>Flam. Liq. 2, H225; Repr. 2, H361; Asp. Tox. 1, H304; STOT RE 2, H373; Skin Irrit. 2, H315; STOT SE 3, H336</td>
<td></td>
</tr>
<tr>
<td>0.1-1 %</td>
<td>Hydroquinone</td>
<td>CAS:123-31-9</td>
<td>Carc. 2, H351; Muta. 2, H341; Eye Dam. 1, H318; Skin Sens. 1, H317; Aquatic Acute 1, H400; Acute Tox. 4, H302</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
Remove contaminated clothing immediately and dispose off safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

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

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.
In case of inhalation, consult a doctor immediately and show him packing or label.

Most important symptoms/effects, acute and delayed

Eye irritation
Eye damages
Skin Irritation
Erythema

Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321.A Specific treatment (see supplementary instructions on this label)
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501.A Dispose of contents/container in accordance with applicable regulations.
Water.
Carbon dioxide (CO2).

Unsuitable extinguishing media:
None in particular.

Specific hazards arising from the chemical
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
Hazardous combustion products: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.

Special protective equipment and precautions for fire-fighters
Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
- Wear personal protection equipment.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
- Provide adequate ventilation.
- Use appropriate respiratory protection.
- See protective measures under point 7 and 8.

Methods and material for containment and cleaning up
Suitable material for taking up: absorbing material, organic, sand
Wash with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Exercise the greatest care when handling or opening the container.
Use localized ventilation system.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities
Storage temperature: N.A.
Incompatible materials:
- None in particular.
Instructions as regards storage premises:
- Adequately ventilated premises.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>OEL Type</th>
<th>Country</th>
<th>Ceiling</th>
<th>Long Term Ceiling</th>
<th>Long Term ppm</th>
<th>Short Term Ceiling</th>
<th>Short Term ppm</th>
<th>Behaviour</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica Sand</td>
<td>ACGIH</td>
<td></td>
<td></td>
<td>0.025</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A2 - Suspected Human Carcinogen;lung cancer; pulmonary fibrosis;</td>
</tr>
<tr>
<td>Toluene</td>
<td>OSHA</td>
<td></td>
<td></td>
<td>200</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>A4 - Not Classifiable as a Human Carcinogen; female reproductive; pregnancy loss; visual impairment;</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA</td>
<td>C</td>
<td></td>
<td>192</td>
<td>300</td>
<td></td>
<td></td>
<td>Indicative</td>
<td>Possibility of significant uptake through the skin;</td>
</tr>
<tr>
<td></td>
<td>EU</td>
<td></td>
<td></td>
<td>50</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydroquinone</td>
<td>OSHA</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans; eye irritation; eye damage; Sensitizer;</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Biological Exposure Index

Date: 7/28/2015
Production Name: ROPPE 5100C PART A
Appropriate engineering controls: N.A.

**Individual protection measures**

**Eye protection:**
Use close fitting safety goggles, don't use eye lens.

**Protection for skin:**
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

**Protection for hands:**
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

**Respiratory protection:**
Use adequate protective respiratory equipment.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

- **Physical state:** Liquid
- **Appearance and colour:** Paste whitish
- **Odour:** N.A.
- **Odour threshold:** N.A.
- **Melting point / freezing point:** N.A.
- **Initial boiling point and boiling range:** N.A.
- **Flash point:** >94 °C (201 °F)
- **Evaporation rate:** N.A.
- **Upper/lower flammability or explosive limits:** N.A.
- **Vapour density:** N.A.
- **Vapour pressure:** N.A.
- **Relative density:** N.A.
- **Solubility in water:** N.A.
- **Solubility in oil:** N.A.
- **Partition coefficient (n-octanol/water):** N.A.
- **Auto-ignition temperature:** N.A.
- **Decomposition temperature:** N.A.
- **Viscosity:** N.A.
- **Explosive properties:** N.A.
- **Oxidizing properties:** N.A.
- **Solid/gas flammability:** N.A.

**Other information**

- Substance Groups relevant properties N.A.
- Miscibility: N.A.
- Fat Solubility: N.A.
- Conductivity: N.A.

### 10. STABILITY AND REACTIVITY

**Reactivity**
Stable under normal conditions

**Chemical stability**
Data not Available.

**Possibility of hazardous reactions**
None.

**Conditions to avoid**
Stable under normal conditions.

**Incompatible materials**
None in particular.

**Hazardous decomposition products**
None.

### 11. TOXICOLOGICAL INFORMATION

**Information on toxicological effects**
Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

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

a) acute toxicity
LD50 Oral Rat 11400mg/kg

Benzyl alcohol

a) acute toxicity
LD50 Skin Rabbit = 2000,00000mg/kg
LCS0 Inhalation Rat = 8,80000mg/l 4h
LD50 Oral Rat = 1230mg/kg

Silica Sand

a) acute toxicity
LD50 Oral Rat = 500mg/kg

Hydroquinone

a) acute toxicity
LD50 Skin Rat > 900mg/kg
LD50 Oral Rat = 320mg/kg

Toluene

a) acute toxicity
LD50 Skin Rabbit = 8390mg/kg
LC50 Inhalation Rat = 125mg/l 4h
LD50 Oral Rat = 636mg/kg
LD50 Skin Rat = 12124,00000ml/kg
LC50 Inhalation Rat > 26700,00000ppm 1h

If not differently specified, the information required in the regulation and listed below must be considered as N.A.

a) acute toxicity
b) skin corrosion/irritation
c) serious eye damage/irritation
d) respiratory or skin sensitisation
e) germ cell mutagenicity
f) carcinogenicity
g) reproductive toxicity
h) STOT-single exposure
i) STOT-repeated exposure
j) aspiration hazard

Substance(s) listed on the IARC Monographs:

Silica Sand Group 1
Hydroquinone Group 3
Toluene Group 3

Substance(s) listed as OSHA Carcinogen(s):

Silica Sand

Substance(s) listed as NIOSH Carcinogen(s):

Silica Sand

Substance(s) listed on the NTP report on Carcinogens:

Silica Sand

12. ECOLOGICAL INFORMATION

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of components with eco-toxicological properties

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
<th>Ident. Numb.</th>
<th>Ecotox Infos</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 %</td>
<td>Benzyl alcohol</td>
<td>CAS: 100-51-6</td>
<td>LC50 a) Aquatic acute toxicity Fish Pimephales promelas= 460mg/L 96h EPA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LC50 a) Aquatic acute toxicity Fish Lepomis macrochirus= 10mg/L 96h EPA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EC50 a) Aquatic acute toxicity Daphnia water flea= 23mg/L 48h</td>
</tr>
</tbody>
</table>
13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.

14. TRANSPORT INFORMATION

UN number
ADR-UN number: N/A
DOT-UN Number: N/A
IATA-Un number: N/A
IMDG-Un number: N/A

UN proper shipping name
ADR-Shipping Name: N/A
DOT-Proper Shipping Name: N/A
IATA-Technical name: N/A
IMDG-Technical name: N/A

Transport hazard class(es)
ADR-Class: N/A
DOT-Hazard Class: N/A
IATA-Class: N/A
IMDG-Class: N/A

Packing group
ADR-Packing Group: N/A
DOT-Packing group: N/A
IATA-Packing group: N/A
IMDG-Packing group: N/A

Environmental hazards
Marine pollutant: No
Environmental Pollutant: N.A.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N.A.

Special precautions
Department of Transportation (DOT):
DOT-Special Provision(s): N/A
DOT-Label(s): N/A
DOT-Symbol: N/A
DOT-Cargo Aircraft: N/A
DOT-Passenger Aircraft: N/A
DOT-Bulk: N/A
DOT-Non-Bulk: N/A

Road and Rail (ADR-RID):
ADR-Label: N/A
ADR-Hazard identification number: N/A
ADR-Tunnel Restriction Code: N/A

Air (IATA):
IATA-Passenger Aircraft: N/A
IATA-Cargo Aircraft: N/A
IATA-Label: N/A
IATA-Subrisk: N/A
IATA-Erg: N/A
IATA-Special Provisions: N/A

Sea (IMDG):
IMDG-Stowage Code: N/A
IMDG-Stowage Note: N/A
IMDG-Subrisk: N/A
IMDG-Special Provisions: N/A
IMDG-Page: N/A
IMDG-Label: N/A
IMDG-EMS: N/A
IMDG-MFAG: N/A

15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

TSCA inventory:
All the components are listed on the TSCA inventory

TSCA listed substances:

<table>
<thead>
<tr>
<th>Substance</th>
<th>TSCA Section</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: Bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;=700)</td>
<td>Section 8b</td>
<td>is listed in TSCA</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>Section 8b</td>
<td>is listed in TSCA</td>
</tr>
<tr>
<td>Bisphenol A epoxy resin</td>
<td>Section 8b</td>
<td>is listed in TSCA</td>
</tr>
<tr>
<td>Dimethyl silicone polymer with silica</td>
<td>Section 8b</td>
<td>is listed in TSCA, Section 8b, Section 8a - PAIR</td>
</tr>
<tr>
<td>Silica Sand</td>
<td>Section 8b</td>
<td>is listed in TSCA</td>
</tr>
<tr>
<td>Caster oil glycidyl ether</td>
<td>Section 8b</td>
<td>is listed in TSCA</td>
</tr>
<tr>
<td>Toluene</td>
<td>Section 8b</td>
<td>is listed in TSCA</td>
</tr>
<tr>
<td>Hydroquinone</td>
<td>Section 8b</td>
<td>is listed in TSCA</td>
</tr>
</tbody>
</table>

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:
Hydroquinone

Section 304 - Hazardous substances:
Toluene
Hydroquinone

Section 313 - Toxic chemical list:
Toluene
Hydroquinone

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Reportable quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>1000</td>
<td>pounds</td>
</tr>
<tr>
<td>Hydroquinone</td>
<td>100</td>
<td>pounds</td>
</tr>
<tr>
<td></td>
<td>Reportable quantity for mixture: 90909.091</td>
<td>pounds</td>
</tr>
</tbody>
</table>

CAA - Clean Air Act

Date: 7/28/2015
Production Name: ROPPE 5100C PART A
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H320</td>
<td>Causes eye irritation.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects &lt;state route of exposure if it is conclusively proven that</td>
</tr>
<tr>
<td></td>
<td>no other routes of exposure cause the hazard&gt;.</td>
</tr>
<tr>
<td>H350.A</td>
<td>May cause cancer if inhaled.</td>
</tr>
<tr>
<td>H351</td>
<td>Suspected of causing cancer &lt;state route of exposure if it is conclusively proven that no other</td>
</tr>
<tr>
<td></td>
<td>routes of exposure cause the hazard&gt;.</td>
</tr>
<tr>
<td>H361</td>
<td>Suspected of damaging fertility or the unborn child &lt;state specific effect if known&gt; &lt;state</td>
</tr>
<tr>
<td></td>
<td>route of exposure if it is conclusively proven that no other routes of exposure cause the</td>
</tr>
<tr>
<td></td>
<td>hazard&gt;.</td>
</tr>
<tr>
<td>H361.A</td>
<td>Suspected of damaging fertility or the unborn child if inhaled.</td>
</tr>
<tr>
<td>H372.A</td>
<td>Causes damage to organs through prolonged or repeated exposure if inhaled.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs &lt;state all organs affected, if known&gt; through prolonged or repeated</td>
</tr>
<tr>
<td></td>
<td>exposure &lt;state route of exposure if it is conclusively proven that no other routes of exposure</td>
</tr>
<tr>
<td></td>
<td>cause the hazard&gt;.</td>
</tr>
</tbody>
</table>

Date: 7/28/2015  Production Name: ROPPE 5100C PART A
H400  Very toxic to aquatic life.

Safety Data Sheet dated: 7/28/2015 - version 2
Product code: FO000062

Additional classification information

HMIS Health: 1 = Slight
HMIS Flammability: 1 = Combustible if heated
HMIS Reactivity: 0 = Minimal
HMIS P.P.E.: Safety glasses, gloves
NFPA Health: 1 = Slight
NFPA Flammability: 1 = Combustible if heated
NFPA Reactivity: 0 = Minimal
NFPA Special Risk: NONE

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer’s responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
CLP: Classification, Labeling, Packaging.
EINECS: European Inventory of Existing Commercial Chemical Substances.
INCI: International Nomenclature of Cosmetic Ingredients.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
GefStoffVO: Ordinance on Hazardous Substances, Germany.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
DNEL: Derived No Effect Level.
PNEC: Predicted No Effect Concentration.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
WGK: German Water Hazard Class.
KSt: Explosion coefficient.

Paragraphs modified from the previous revision:
- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 4. FIRST AID MEASURES
- 6. ACCIDENTAL RELEASE MEASURES
- 7. HANDLING AND STORAGE
- 14. TRANSPORT INFORMATION
- 16. OTHER INFORMATION
1. IDENTIFICATION

Product identifier
Identification of the substance:
Trade name: ROPPE 5100C PART B

Recommended use of the chemical and restrictions on use
Recommended use: Adhesive
Restrictions on use: N.A.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
Company: Roppe Holding Company
1602 North Union St.
44830-1158 - Fostoria - OH - USA
Phone: 1-800-537-9527

Emergency 24 hour numbers:
(USA) CHEMTREC 1-800-424-9300
(Canada) CANUTEC 1-613-996-6666

2. HAZARD(S) IDENTIFICATION

Classification of the chemical

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corr. 1A</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Skin Sens. 1A</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Repr. 2</td>
<td>Suspected of damaging fertility or the unborn child if inhaled.</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

Label elements

Symbols:

Danger

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H361.A</td>
<td>Suspected of damaging fertility or the unborn child if inhaled.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P201</td>
<td>Obtain special instructions before use.</td>
</tr>
<tr>
<td>P202</td>
<td>Do not handle until all safety precautions have been read and understood.</td>
</tr>
<tr>
<td>P260.B</td>
<td>Do not breathe dust.</td>
</tr>
<tr>
<td>P271</td>
<td>Use only outdoors or in a well-ventilated area.</td>
</tr>
<tr>
<td>P272</td>
<td>Contaminated work clothing should not be allowed out of the workplace.</td>
</tr>
</tbody>
</table>
3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Hazard classification within the meaning of 29 CFR 1910.1200:

Mixtures
N.A.

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

<table>
<thead>
<tr>
<th>List of components</th>
<th>Quantity</th>
<th>Name</th>
<th>CAS</th>
<th>Ident. Numbr.</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-50%</td>
<td>4-Nonylphenol, branched</td>
<td>CAS:84852-15-3</td>
<td></td>
<td></td>
<td>Repr. 2, H361; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302</td>
</tr>
<tr>
<td>20-30%</td>
<td>Amides, from methyl epoxyhydroxyoctadecanoate, tetraethylenepentamine and vegetable-oil fatty acids</td>
<td>CAS:68443-08-3</td>
<td></td>
<td></td>
<td>Skin Corr. 1A, H314; Eye Dam. 1, H318; STOT SE 3, H335</td>
</tr>
<tr>
<td>5-10%</td>
<td>2,4,6-Tri(dimethylaminomethyl)phenol</td>
<td>CAS:90-72-2</td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314; Skin Sens. 1A, H317; Aquatic Chronic 3, H412</td>
</tr>
<tr>
<td>5-10%</td>
<td>Benzyl alcohol</td>
<td>CAS:100-51-6</td>
<td></td>
<td></td>
<td>Acute Tox. 4, H302; Acute Tox. 4, H332</td>
</tr>
<tr>
<td>1-5%</td>
<td>Dimethyl silicone polymer with silica</td>
<td>CAS:67762-90-7</td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315; Eye Irrit. 2B, H320</td>
</tr>
<tr>
<td>1-5%</td>
<td>Diethylene triamine</td>
<td>CAS:111-40-0</td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314; Skin Sens. 1, H317; Acute Tox. 4, H302; Acute Tox. 4, H312</td>
</tr>
<tr>
<td>1-5%</td>
<td>Bisphenol A</td>
<td>CAS:80-05-7</td>
<td></td>
<td></td>
<td>Repr. 2, H335; STOT SE 3, H318; Eye Dam. 1, H317</td>
</tr>
<tr>
<td>1-5%</td>
<td>Bis(dimethylamino)methylphenol</td>
<td>CAS:71074-89-0</td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td>0.1-1%</td>
<td>Silica sand</td>
<td>CAS:14808-60-7</td>
<td></td>
<td></td>
<td>Carc. 1A, H350.A; STOT RE 1, H372.A</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:
Immediately take off all contaminated clothing.
OBTAIN IMMEDIATE MEDICAL ATTENTION.
Remove contaminated clothing immediately and dispose off safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:
Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:
In case of inhalation, consult a doctor immediately and show him packing or label.

**Most important symptoms/effects, acute and delayed**

Eye irritation
Eye damages
Skin Irritation
Erythema

**Indication of any immediate medical attention and special treatment needed**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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### 5. FIRE-FIGHTING MEASURES

**Extinguishing media**

Suitable extinguishing media:
- Water.
- Carbon dioxide (CO2).

**Unsuitable extinguishing media:**
- None in particular.

**Specific hazards arising from the chemical**

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.
- Hazardous combustion products: N.A.
- Explosive properties: N.A.
- Oxidizing properties: N.A.

**Special protective equipment and precautions for fire-fighters**

- Use suitable breathing apparatus.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Move undamaged containers from immediate hazard area if it can be done safely.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

- Wear personal protection equipment.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
- Provide adequate ventilation.
- Use appropriate respiratory protection.
- See protective measures under point 7 and 8.

**Methods and material for containment and cleaning up**

- Suitable material for taking up: absorbing material, organic, sand
- Wash with plenty of water.

### 7. HANDLING AND STORAGE

**Precautions for safe handling**

- Avoid contact with skin and eyes, inhalation of vapours and mists.
- Exercise the greatest care when handling or opening the container.
- Do not use on extensive surface areas in premises where there are occupants.
- Use localized ventilation system.
- Don't use empty container before they have been cleaned.
- Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
- Contaminated clothing should be changed before entering eating areas.
- Do not eat or drink while working.
- See also section 8 for recommended protective equipment.

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

- Storage temperature: N.A.
- Always keep in a well ventilated place.

**Incompatible materials:**
- None in particular.

**Instructions as regards storage premises:**
- Cool and adequately ventilated.

### 8. EXPOSURE CONTROLS/PERSHONAL PROTECTION

**Control parameters**

**List of components with OEL value**

<table>
<thead>
<tr>
<th>Component</th>
<th>OEL Type</th>
<th>Country</th>
<th>Ceiling Long Term mg/m³</th>
<th>Long Term ppm</th>
<th>Short Term mg/m³</th>
<th>Short Term ppm</th>
<th>Behaviour</th>
<th>Note</th>
</tr>
</thead>
</table>

**Date** 7/28/2015

**Production Name** ROPPE 5100C PART B
Appropriate engineering controls: N.A.

Individual protection measures

Eye protection:
Use close fitting safety goggles, don't use eye lens.

Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:
Use adequate protective respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state: Liquid
Appearance and colour: Paste yellow
Odour: like: Amines
Odour threshold: N.A.
pH: N.A.
Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: >94 °C (201 °F)
Evaporation rate: N.A.
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: N.A.
Solubility in water: N.A.
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.
Solid/gas flammability: N.A.

Other information

Substance Groups relevant properties N.A.
Miscibility: N.A.
Fat Solubility: N.A.
Conductivity: N.A.

10. STABILITY AND REACTIVITY

Reactivity
Data not Available.

Chemical stability
Data not Available.

Possibility of hazardous reactions
None.

Conditions to avoid
Data not Available.

Incompatible materials
Data not Available.

Hazardous decomposition products
Data not Available.
11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

4-Nonylphenol, branched
a) acute toxicity
LD50 Oral Rat 1300mg/kg
LD50 Skin Rabbit > 2000mg/kg

2,4,6-Tris(dimethylaminomethyl)phenol
a) acute toxicity
LD50 Skin Rat = 1280mg/kg
LD50 Oral Rat = 1000mg/kg

Benzyl alcohol
a) acute toxicity
LD50 Skin Rabbit = 2000,00000mg/kg
LC50 Inhalation Rat = 8,80000mg/ 4h
LD50 Oral Rat = 1230mg/kg

Diethylene triamine
a) acute toxicity
LD50 Skin Rabbit = 672mg/kg
LD50 Oral Rat = 819mg/kg

Bisphenol A
a) acute toxicity
LD50 Skin Rabbit = 3000,00000mg/kg
LD50 Oral Rat = 3200mg/kg
LD50 Skin Rabbit = 3ml/kg

Silica Sand
a) acute toxicity
LD50 Oral Rat = 500mg/kg

If not differently specified, the information required in the regulation and listed below must be considered as N.A.

a) acute toxicity
b) skin corrosion/irritation
c) serious eye damage/irritation
d) respiratory or skin sensitisation
e) germ cell mutagenicity
f) carcinogenicity
g) reproductive toxicity
h) STOT-single exposure
i) STOT-repeated exposure
j) aspiration hazard

Substance(s) listed on the IARC Monographs:
Silica Sand
Group 1

Substance(s) listed as OSHA Carcinogen(s):
Silica Sand

Substance(s) listed as NIOSH Carcinogen(s):
Silica Sand

Substance(s) listed on the NTP report on Carcinogens:
Silica Sand

12. ECOLOGICAL INFORMATION

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of components with eco-toxicological properties

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
<th>Ident. Numb.</th>
<th>Ecotox Infos</th>
</tr>
</thead>
</table>
Persistence and degradability

Bioaccumulative potential

Mobility in soil

Other adverse effects

13. DISPOSAL CONSIDERATIONS
Waste treatment methods
Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.
14. TRANSPORT INFORMATION

UN number
ADR-UN number: 2735
DOT-UN Number: UN2735
IATA-Un number: 2735
IMDG-Un number: 2735

UN proper shipping name
ADR-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
DOT- Proper Shipping Name: Amines, liquid, corrosive, n.o.s., or Polyamines, liquid, corrosive, n.o.s.
IATA-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
IMDG-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Transport hazard class(es)
ADR-Class: 8
DOT-Hazard Class: 8
IATA-Class: 8
IMDG-Class: 8

Packing group
ADR-Packing Group: III
DOT-Packing group: III
IATA-Packing group: III
IMDG-Packing group: III

Environmental hazards
Marine pollutant: Yes
Environmental Pollutant: N.A.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N.A.

Special precautions
Department of Transportation (DOT):
DOT-Special Provision(s): IB3, T7, TP1, TP28
DOT-Label(s): 8
DOT-Symbol: N/A
DOT-Cargo Aircraft: N/A
DOT-Passenger Aircraft: N/A
DOT-Bulk: N/A
DOT-Non-Bulk: N/A

Road and Rail (ADR-RID):
ADR-Label: 8
ADR-Hazard identification number: 80
ADR-Tunnel Restriction Code: 3 (E)

Air (IATA):
IATA-Passenger Aircraft: 852
IATA-Cargo Aircraft: 856
IATA-Label: 8
IATA-Subrisk: -
IATA-Erg: 8L
IATA-Special Provisions: A3 A803

Sea (IMDG):
IMDG-Stowage Code: Category A
IMDG-Stowage Note: "Separated from" acids.
IMDG-Subrisk: -
IMDG-Special Provisions: 223 274
IMDG-Page: N/A
IMDG-Label: N/A
IMDG-EMS: F-A, S-B
IMDG-MFAG: N/A

15. REGULATORY INFORMATION

USA - Federal regulations

Date  7/28/2015  Production Name  ROPPE 5100C PART B
**TSCA - Toxic Substances Control Act**

**TSCA inventory:**

All the components are listed on the TSCA inventory

**TSCA listed substances:**

- 4-Nonylphenol, branched is listed in TSCA Section 8b, Section 8a - PAIR
- Amides, from methyl epoxyhydroxyoctadecanoate, tetraethylenepentamine and vegetable-oil fatty acids is listed in TSCA Section 8b
- 2,4,6-Tr(dimethylaminomethyl)phenol is listed in TSCA Section 8b
- Benzyl alcohol is listed in TSCA Section 8b
- Dimethyl silicone polymer with silica is listed in TSCA Section 8b, Section 8a - PAIR
- Diethylene triamine is listed in TSCA Section 8b
- Bisphenol A is listed in TSCA Section 8b
- Silica Sand is listed in TSCA Section 8b

**SARA - Superfund Amendments and Reauthorization Act**

**Section 302 - Extremely Hazardous Substances:**

no substances listed

**Section 304 - Hazardous substances:**

no substances listed

**Section 313 - Toxic chemical list:**

Bisphenol A

**CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act**

**Substance(s) listed under CERCLA:**

no substances listed

**CAA - Clean Air Act**

**CAA listed substances:**

- Benzyl alcohol is listed in CAA Section 112(b) - HON
- Bisphenol A is listed in CAA Section 112(b) - HON

**CWA - Clean Water Act**

**CWA listed substances:**

no substances listed

**USA - State specific regulations**

**California Proposition 65**

**Substance(s) listed under California Proposition 65:**

- Diethylene triamine Listed as carcinogen
- Silica Sand Listed as carcinogen

**Massachusetts Right to know**

**Substance(s) listed under Massachusetts Right to know:**

- Benzyl alcohol
- Diethylene triamine
- Bisphenol A
- Silica Sand

**Pennsylvania Right to know**

**Substance(s) listed under Pennsylvania Right to know:**

- Benzyl alcohol
- Diethylene triamine
- Bisphenol A
- Silica Sand

**New Jersey Right to know**
Substance(s) listed under New Jersey Right to know:
  - Diethylene triamine
  - Bisphenol A
  - Silica Sand

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H320</td>
<td>Causes eye irritation</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H350.A</td>
<td>May cause cancer if inhaled.</td>
</tr>
<tr>
<td>H361</td>
<td>Suspected of damaging fertility or the unborn child &lt;state specific effect if known&gt; &lt;state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard&gt;.</td>
</tr>
<tr>
<td>H361.A</td>
<td>Suspected of damaging fertility or the unborn child if inhaled.</td>
</tr>
<tr>
<td>H372.A</td>
<td>Causes damage to organs through prolonged or repeated exposure if inhaled.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

Safety Data Sheet dated: 7/28/2015 - version 2
Product code: RM000032

Additional classification information

HMIS Health: 3 = Serious
HMIS Flammability: 1 = Combustible if heated
HMIS Reactivity: N.A.
HMIS P.P.E.: Safety glasses, gloves, chemical apron
NFPA Health: 3 = Serious
NFPA Flammability: 1 = Combustible if heated
NFPA Reactivity: 0 = Minimal
NFPA Special Risk: N.A.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:
  - ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
  - RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
  - IATA: International Air Transport Association.
  - IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
  - ICAO: International Civil Aviation Organization.
  - ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
  - GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
  - CLP: Classification, Labeling, Packaging.
  - EINECS: European Inventory of Existing Commercial Chemical Substances.
INCI: International Nomenclature of Cosmetic Ingredients.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
GefStoffVO: Ordinance on Hazardous Substances, Germany.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
DNEL: Derived No Effect Level.
PNEC: Predicted No Effect Concentration.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
WGK: German Water Hazard Class.
KSt: Explosion coefficient.

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- 14. TRANSPORT INFORMATION