



**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 10/19/2021

Reviewed on 10/19/2021

**1 Identification**

- **Product identifier**
- **Trade name:** TCC410 Resin
- **Article number:** 1410088
- **Application of the substance / the mixture** Epoxy resin
- **Details of the supplier of the safety data sheet**  
 Sika Advanced Resins, US  
 EHS Department
- **Manufacturer/Supplier:**  
 Manufacturer:  
 Sika Advanced Resins  
 30800 Stephenson Hwy  
 Madison Heights  
 MI 48071  
 USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
 During normal opening times: +1 (248) 588-2270  
 CHEMTREC 24-hour Emergency: +1 (800) 424-9300

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 1A H350 May cause cancer.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07



GHS08

- **Signal word** *Danger*

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**Trade name: TCC410 Resin**

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**Hazard-determining components of labeling:**

Reaction Product of Bisphenol A and Epichlorohydrin  
 Quartz (SiO<sub>2</sub>)  
 oxirane, mono[(C12-14-alkyloxy)methyl] derivs  
 Alkyl C12-C14 Glycidyl Ether  
 Polyglycol  
 epichlorohydrin polymer

**Hazard statements**

Causes skin irritation.  
 Causes serious eye irritation.  
 May cause an allergic skin reaction.  
 May cause cancer.

**Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Wash thoroughly after handling.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 If on skin: Wash with plenty of water.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 IF exposed or concerned: Get medical advice/attention.  
 Specific treatment (see on this label).  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

**NFPA ratings (scale 0 - 4)**



Health = 2  
 Fire = 1  
 Reactivity = 0

**HMIS-ratings (scale 0 - 4)**



Health = \*2  
 Fire = 1  
 Reactivity = 0

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

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· **vPvB:** Not applicable.

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**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|                                      |   |         |
|--------------------------------------|---|---------|
| CAS: 25068-38-6<br>NLP: 500-033-5    | Reaction Product of Bisphenol A and Epichlorohydrin                           | 20-50%  |
| CAS: 68609-97-2<br>EINECS: 271-846-8 | oxirane, mono[(C12-14-alkyloxy)methyl] derivs<br>Alkyl C12-C14 Glycidyl Ether | ≥5-<10% |
| CAS: 41638-13-5                      | Polyglycol<br>epichlorohydrin polymer   | 1-5%    |
| CAS: 14808-60-7<br>EINECS: 238-878-4 | Quartz (SiO <sub>2</sub> )  | 0.1-1%  |

**4 First-aid measures**

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**  
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.  
· **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

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- **Additional information**  
 Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
 Dilute with plenty of water.  
 Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Dispose contaminated material as waste according to item 13.  
 Ensure adequate ventilation.
- **Reference to other sections**  
 See Section 7 for information on safe handling.  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

|            |   |                         |
|------------|---|-------------------------|
| 25068-38-6 | Reaction Product of Bisphenol A and Epichlorohydrin | 90 mg/m <sup>3</sup>    |
| 14808-60-7 | Quartz (SiO <sub>2</sub> )                          | 0.075 mg/m <sup>3</sup> |

· **PAC-2:**

|            |   |                       |
|------------|---|-----------------------|
| 25068-38-6 | Reaction Product of Bisphenol A and Epichlorohydrin | 990 mg/m <sup>3</sup> |
| 14808-60-7 | Quartz (SiO <sub>2</sub> )                          | 33 mg/m <sup>3</sup>  |

· **PAC-3:**

|            |   |                         |
|------------|---|-------------------------|
| 25068-38-6 | Reaction Product of Bisphenol A and Epichlorohydrin | 5,900 mg/m <sup>3</sup> |
| 14808-60-7 | Quartz (SiO <sub>2</sub> )                          | 200 mg/m <sup>3</sup>   |

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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· *Specific end use(s) No further relevant information available.*

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** *No further data; see item 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
*The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
*Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing.  
 Wash hands before breaks and at the end of work.  
 Store protective clothing separately.  
 Avoid contact with the eyes and skin.*
- **Breathing equipment:**  
*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

- **Material of gloves**  
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*
- **Penetration time of glove material**  
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

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· Eye protection:



Tightly sealed goggles

**9 Physical and chemical properties**

· Information on basic physical and chemical properties

· General Information

· Appearance:

|                   |                 |
|-------------------|-----------------|
| · Form:           | Viscous         |
| · Color:          | Silver grey     |
| · Odor:           | Amine-like      |
| · Odor threshold: | Not determined. |

· pH-value: Not determined.

· Change in condition

|                                |                      |
|--------------------------------|----------------------|
| · Melting point/Melting range: | Undetermined.        |
| · Boiling point/Boiling range: | 2,500 °C (36.500 °F) |

· Flash point: 150 °C (302 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 400 °C (752 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

|          |                 |
|----------|-----------------|
| · Lower: | Not determined. |
| · Upper: | Not determined. |

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 1.95 g/cm<sup>3</sup> (16.27 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

· Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

· Dynamic: Not determined.

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|                          |  |
|--------------------------|--|
| <b>Kinematic:</b>        | Not determined.                            |
| <b>Solvent content:</b>  |  |
| Organic solvents:        | 0.4 %                                      |
| VOC content:             | 0.38 %<br>7.4 g/l / 0.06 lb/gal            |
| <b>Solids content:</b>   | 61.5 %                                     |
| <b>Other information</b> | No further relevant information available. |

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

· **Carcinogenic categories**

|  |                     |   |
|--|---------------------|---|
| · <b>IARC (International Agency for Research on Cancer)</b>        |                     |   |
| 14807-96-6   | Talc (Mg3H2(SiO3)4) | 3 |
| 14808-60-7   | Quartz (SiO2)       | 1 |
| · <b>NTP (National Toxicology Program)</b>                         |                     |   |
| 14808-60-7   | Quartz (SiO2)       | K |
| · <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b> |                     |   |
| None of the ingredients is listed.                                 |                     |   |

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**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 2 (Self-assessment): hazardous for water*  
*Do not allow product to reach ground water, water course or sewage system.*  
*Danger to drinking water if even small quantities leak into the ground.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- |                                  |  |
|----------------------------------|--|
| · <b>UN-Number</b>               |  |
| · <b>DOT</b>                     | not regulated  |
| · <b>IMDG, IATA</b>              | UN3082   |
|                                  |  |
| · <b>UN proper shipping name</b> |  |
| · <b>DOT</b>                     | not regulated  |
| · <b>IMDG</b>                    | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,<br>N.O.S. (Epoxy Resin), MARINE POLLUTANT |
| · <b>IATA</b>                    | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,<br>N.O.S. (Epoxy Resin)                   |

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|   |  |
|---|--|
| · <b>Transport hazard class(es)</b>   |  |
| · <b>DOT</b>  |  |
| · <b>Class</b>  | <i>not regulated</i>   |
| · <b>IMDG, IATA</b>   |  |
|  |  |
| · <b>Class</b>  | <i>9 Miscellaneous dangerous substances and articles</i>                                 |
| · <b>Label</b>  | <i>9</i>   |
| · <b>Packing group</b>  |  |
| · <b>DOT</b>  | <i>not regulated</i>   |
| · <b>IMDG, IATA</b>   | <i>III</i>   |
| · <b>Environmental hazards:</b>   |  |
| · <b>Marine pollutant:</b>  | <i>Yes</i>   |
|   | <i>Symbol (fish and tree)</i>  |
| · <b>Special marking (IATA):</b>  | <i>Symbol (fish and tree)</i>  |
| · <b>Special precautions for user</b>   |  |
| · <b>EMS Number:</b>  | <i>Warning: Miscellaneous dangerous substances and articles</i>                          |
| · <b>Stowage Category</b>   | <i>F-A,S-F</i>   |
|   | <i>A</i>   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>  |  |
|   | <i>Not applicable.</i>   |
| · <b>UN "Model Regulation":</b>   |  |
|   | <i>UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN), 9, III</i> |

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 · **Sara**

|  |
|--|
| · <b>Section 355 (extremely hazardous substances):</b>   |
| <i>None of the ingredients is listed.</i>                |
| · <b>Section 313 (Specific toxic chemical listings):</b> |
| <i>7429-90-5 aluminum powder (stabilised)</i>            |
| · <b>TSCA (Toxic Substances Control Act):</b>            |
| <i>All components have the value ACTIVE.</i>             |
| · <b>Chemicals regulated by TSCA Section 12(b)</b>       |
| <i>None of the ingredients is listed.</i>                |

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· **Chemical regulated by TSCA 5(a)(2) rule:**

None of the ingredients is listed.

· **Hazardous Air Pollutants**

98-82-8 cumene

· **Proposition 65**

· **Chemicals known to cause cancer:**

1317-65-3 Calcium Carbonate

14808-60-7 Quartz (SiO<sub>2</sub>)

14808-60-7 Quartz (SiO<sub>2</sub>)

98-82-8 cumene

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **TLV (Threshold Limit Value)**

14808-60-7 Quartz (SiO<sub>2</sub>)

A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7 Quartz (SiO<sub>2</sub>)

· **Listed in CWC Regulations**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Reaction Product of Bisphenol A and Epichlorohydrin

Quartz (SiO<sub>2</sub>)

oxirane, mono[(C12-14-alkyloxy)methyl] derivs

Alkyl C12-C14 Glycidyl Ether

Polyglycol

epichlorohydrin polymer

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**Trade name: TCC410 Resin**

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· **Hazard statements**

- Causes skin irritation.
- Causes serious eye irritation.
- May cause an allergic skin reaction.
- May cause cancer.

· **Precautionary statements**

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Wash thoroughly after handling.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If on skin: Wash with plenty of water.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF exposed or concerned: Get medical advice/attention.
- Specific treatment (see on this label).
- Take off contaminated clothing and wash it before reuse.
- If skin irritation or rash occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- Wash contaminated clothing before reuse.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Information about limitation of use:**

- Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
- Exceptions can be made by the authorities in certain cases.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Contact:**

· **Date of preparation / last revision** 10/19/2021 / 4

· **Abbreviations and acronyms:**

- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety

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*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*Carc. 1A: Carcinogenicity – Category 1A*

***\* Data compared to the previous version altered.***

US



**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 08/31/2022

Reviewed on 08/31/2022

**1 Identification**

- **Product identifier**
- **Trade name:** TCC105 (B) Hardener
- **Article number:** 656941
- **Application of the substance / the mixture** Epoxy resin
- **Details of the supplier of the safety data sheet**  
 Sika Advanced Resins, US  
 EHS Department  
 advanced.resins.ehs@us.sika.com
- **Manufacturer/Supplier:**  
 Manufacturer:  
 Sika Advanced Resins  
 30800 Stephenson Hwy  
 Madison Heights  
 MI 48071  
 USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
 During normal opening times: +1 (248) 588-2270  
 CHEMTREC 24-hour Emergency: +1 (800) 424-9300

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion 1B  
 Eye Damage 1

H314 Causes severe skin burns and eye damage.  
 H318 Causes serious eye damage.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

- **Label elements**

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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**Trade name: TCC105 (B) Hardener**

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· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*4,4'-methylenebis(cyclohexylamine)*  
*Di-(3-aminopropyl) ether of diethylene glycol*  
*diethylmethylbenzenediamine*

· **Hazard statements**

*Harmful if swallowed.*  
*Causes severe skin burns and eye damage.*  
*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Avoid breathing dust/fume/gas/mist/vapors/spray*  
*Do not breathe dusts or mists.*  
*Wash thoroughly after handling.*  
*Do not eat, drink or smoke when using this product.*  
*Wear protective gloves/protective clothing/eye protection/face protection.*  
*If swallowed: Call a poison center/doctor if you feel unwell.*  
*If swallowed: Rinse mouth. Do NOT induce vomiting.*  
*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*Immediately call a poison center/doctor.*  
*Specific treatment (see on this label).*  
*Get medical advice/attention if you feel unwell.*  
*Wash contaminated clothing before reuse.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



*Health = 3*  
*Fire = 1*  
*Reactivity = 0*

· **HMIS-ratings (scale 0 - 4)**



*Health = \*3*  
*Fire = 1*  
*Reactivity = 0*

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**Trade name: TCC105 (B) Hardener**

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- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|                                      |   |        |
|--------------------------------------|---|--------|
| CAS: 4246-51-9                       | Di-(3-aminopropyl) ether of diethylene glycol | 20-50% |
| CAS: 1761-71-3<br>EINECS: 217-168-8  | 4,4'-methylenebis(cyclohexylamine)            | 20-50% |
| CAS: 68479-98-1<br>EINECS: 270-877-4 | diethylmethylbenzenediamine                   | 20-50% |

**4 First-aid measures**

- **Description of first aid measures**
- **General information:**  
 Immediately remove any clothing soiled by the product.  
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
 Immediately call a doctor.  
 Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
 No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
 During heating or in case of fire poisonous gases are produced.

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- **Advice for firefighters**
- **Protective equipment:**  
 Mouth respiratory protective device.  
 Wear self-contained respiratory protective device.
- **Additional information**  
 Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
 Mount respiratory protective device.  
 Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
 Dilute with plenty of water.  
 Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Use neutralizing agent.  
 Dispose contaminated material as waste according to item 13.  
 Ensure adequate ventilation.
- **Reference to other sections**  
 See Section 7 for information on safe handling.  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

|           |   |                      |
|-----------|---|----------------------|
| 4246-51-9 | Di-(3-aminopropyl) ether of diethylene glycol | 13 mg/m <sup>3</sup> |
|-----------|---|----------------------|

· **PAC-2:**

|           |   |                       |
|-----------|---|-----------------------|
| 4246-51-9 | Di-(3-aminopropyl) ether of diethylene glycol | 140 mg/m <sup>3</sup> |
|-----------|---|-----------------------|

· **PAC-3:**

|           |   |                       |
|-----------|---|-----------------------|
| 4246-51-9 | Di-(3-aminopropyl) ether of diethylene glycol | 850 mg/m <sup>3</sup> |
|-----------|---|-----------------------|

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
 The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing.  
 Wash hands before breaks and at the end of work.  
 Store protective clothing separately.  
 Avoid contact with the eyes.  
 Avoid contact with the eyes and skin.
- **Breathing equipment:**  
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

|                          |                 |
|--------------------------|-----------------|
| · <b>Form:</b>           | Liquid          |
| · <b>Color:</b>          | Amber colored   |
| · <b>Odor:</b>           | Amine-like      |
| · <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

|                                       |                   |
|---------------------------------------|-------------------|
| · <b>Melting point/Melting range:</b> | Undetermined.     |
| · <b>Boiling point/Boiling range:</b> | 181 °C (357.8 °F) |

· **Flash point:** 105 °C (221 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 420 °C (788 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

|                 |                 |
|-----------------|-----------------|
| · <b>Lower:</b> | Not determined. |
| · <b>Upper:</b> | Not determined. |

· **Vapor pressure:** Not determined.

· **Density at 20 °C (68 °F):** 1 g/cm<sup>3</sup> (8.35 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· **Dynamic:** Not determined.

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|                            |  |
|----------------------------|--|
| <b>Kinematic:</b>          | Not determined.                            |
| · <b>Solvent content:</b>  |  |
| <b>VOC content:</b>        | 0.00 %<br>0.0 g/l / 0.00 lb/gal            |
| <b>Solids content:</b>     | 0.0 %                                      |
| · <b>Other information</b> | No further relevant information available. |

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

|  |      |                      |
|--|------|----------------------|
| · <b>LD/LC50 values that are relevant for classification:</b>  |      |                      |
| <b>4246-51-9 Di-(3-aminopropyl) ether of diethylene glycol</b> |      |                      |
| Oral   | LD50 | 4,290 mg/kg (rat)    |
| Dermal   | LD50 | 2,500 mg/kg (rabbit) |
| <b>68479-98-1 diethylmethylbenzenediamine</b>                  |      |                      |
| Oral   | LD50 | 738 mg/kg (rat)      |
| Dermal   | LD50 | >2,000 mg/kg (rat)   |

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Corrosive  
Irritant

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Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:**

**4246-51-9 Di-(3-aminopropyl) ether of diethylene glycol**

|                   |                    |
|-------------------|--------------------|
| 48 hr EC50        | 220 mg/l (daphnia) |
| 96 hr LC50        | 220 mg/l (Fish)    |
| 72 or 96 hr ErC50 | 69 mg/l (Algea)    |

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- **UN-Number**
- **DOT** NA2735
- **IMDG, IATA** UN2735

- **UN proper shipping name**
- **DOT** Amines, liquid, corrosive, n.o.s. (Cycloaliphatic Amine, diethylmethylbenzenediamine)
- **IMDG** AMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic Amine, diethylmethylbenzenediamine), MARINE POLLUTANT
- **IATA** AMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic Amine, diethylmethylbenzenediamine)

· **Transport hazard class(es)**

· **DOT**



- **Class** 8 Corrosive substances
- **Label** 8

· **IMDG**



- **Class** 8 Corrosive substances
- **Label** 8

· **IATA**



- **Class** 8 Corrosive substances
- **Label** 8

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|   |  |
|---|--|
| · <b>Packing group</b>  | III  |
| · <b>DOT, IMDG, IATA</b>  | III  |
| · <b>Environmental hazards:</b>   | Product contains environmentally hazardous substances: diethylmethylbenzenediamine   |
| · <b>Marine pollutant:</b>  | Yes<br>Symbol (fish and tree)  |
| · <b>Special precautions for user</b>   | Warning: Corrosive substances  |
| · <b>Hazard identification number (Kemler code):</b>                              | 80   |
| · <b>EMS Number:</b>  | F-A,S-B  |
| · <b>Segregation groups</b>   | (SGG18) Alkalis  |
| · <b>Stowage Category</b>   | A  |
| · <b>Segregation Code</b>   | SG35 Stow "separated from" SGG1-acids  |
| · <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | Not applicable.  |
| · <b>Transport/Additional information:</b>  |  |
| · <b>DOT</b>  |  |
| · <b>Quantity limitations</b>   | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L  |
| · <b>Remarks:</b>   | Special marking with the symbol (fish and tree).   |
| · <b>IMDG</b>   |  |
| · <b>Limited quantities (LQ)</b>  | 5L   |
| · <b>Excepted quantities (EQ)</b>   | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml                 |
| · <b>UN "Model Regulation":</b>   | UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (CYCLOALIPHATIC AMINE, DIETHYLMETHYLBENZENEDIAMINE), 8, III, ENVIRONMENTALLY HAZARDOUS |

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

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· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Chemicals regulated by TSCA Section 12(b)**

None of the ingredients is listed.

· **Chemical regulated by TSCA 5(a)(2)rule:**

None of the ingredients is listed.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Listed in CWC Regulations**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05



GHS07



GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

4,4'-methylenebis(cyclohexylamine)  
 Di-(3-aminopropyl) ether of diethylene glycol

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*diethylmethylbenzenediamine*

**· Hazard statements**

*Harmful if swallowed.*

*Causes severe skin burns and eye damage.*

*May cause damage to organs through prolonged or repeated exposure.*

**· Precautionary statements**

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*If swallowed: Call a poison center/doctor if you feel unwell.*

*If swallowed: Rinse mouth. Do NOT induce vomiting.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Immediately call a poison center/doctor.*

*Specific treatment (see on this label).*

*Get medical advice/attention if you feel unwell.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

**· Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**· Contact:**

**· Date of preparation / last revision** 08/31/2022

**· Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*Acute Toxicity - Oral 4: Acute toxicity – Category 4*

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*Skin Corrosion 1B: Skin corrosion/irritation – Category 1B*

*Eye Damage 1: Serious eye damage/eye irritation – Category 1*

*Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2*

**\* Data compared to the previous version altered.**

US