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

- 1.1 Product identifier
  - Trade name: Resin solution X 50
  - Article number: 1234567890

- 1.2 Relevant identified uses of the substance or mixture and uses advised against
  - Sector of Use SU3  Industrial uses: Uses of substances as such or in preparations at industrial sites
  - Product category PC19  Intermediate
  - Process category PROC5  Mixing or blending in batch processes
  - Environmental release category ERC2  Formulation into mixture
  - Article category AC13  Plastic articles
  - Application of the substance / the mixture Raw material for resins

- 1.3 Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    Chemix GmbH
    Chemixstrasse 2
    5020 Salzburg
    Tel.:0043/662/212223
  - Further information obtainable from: Product safety department.
  - 1.4 Emergency telephone number: 123 456 789

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
  - Classification according to Regulation (EC) No 1272/2008

  - GHS02
    * Flam. Liq. 3 H226 Flammable liquid and vapour.

  - GHS08
    * Repr. 2 H361d Suspected of damaging the unborn child.
    * STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
    * Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

  - GHS09
    * Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

  - GHS07
    * Skin Irrit. 2 H315 Causes skin irritation.
    * Eye Irrit. 2 H319 Causes serious eye irritation.
    * Skin Sens. 1 H317 May cause an allergic skin reaction.
    * STOT SE 3 H336 May cause drowsiness or dizziness.

- 2.2 Label elements
  - Labelling according to Regulation (EC) No 1272/2008
    The product is classified and labelled according to the CLP regulation.
Trade name: Resin solution X 50

- **Hazard pictograms**
  
  GHS02  GHS07  GHS08  GHS09

- **Signal word** Danger

- **Hazard-determining components of labelling:**
  reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
  toluene
  ethyl acetate

- **Hazard statements**
  H226 Flammable liquid and vapour.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H317 May cause an allergic skin reaction.
  H361d Suspected of damaging the unborn child.
  H336 May cause drowsiness or dizziness.
  H373 May cause damage to organs through prolonged or repeated exposure.
  H304 May be fatal if swallowed and enters airways.
  H411 Toxic to aquatic life with long lasting effects.

- **Precautionary statements**
  P101 If medical advice is needed, have product container or label at hand.
  P102 Keep out of reach of children.
  P103 Read label before use.
  P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
  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.
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

---

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

- **3.2 Chemical characterisation: Mixtures**
  - **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**
SECTION 4: First aid measures

4.1 Description of first aid measures

General information:
Immediate removal of clothing may be necessary.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:
Supply fresh air and to be sure call for a doctor.

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.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.
SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
  Mount respiratory protective device.
  Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions:
  Do not allow product to reach sewage system or any water course.
  Inform respective authorities in case of seepage into water course or sewage system.
  Do not allow to enter sewers/surface or ground water.
- 6.3 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.
- 6.4 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.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling
  Ensure good ventilation/exhaustion at the workplace.
  Open and handle receptacle with care.
  Prevent formation of aerosols.
- Information about fire - and explosion protection:
  Keep ignition sources away - Do not smoke.
  Protect against electrostatic charges.
  Keep respiratory protective device available.
- 7.2 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 container tightly sealed.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 8.1 Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    108-88-3 toluene
    WEL Short-term value: 384 mg/m³, 100 ppm
    Long-term value: 191 mg/m³, 50 ppm
    Sk
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 24.08.2017
Version number 1.0
Revision: 23.08.2017

Trade name: Resin solution X 50

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Trade Name</th>
<th>WEL</th>
<th>Short-term Value</th>
<th>Long-term Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>ethyl acetate</td>
<td>Short-term value: 400 ppm</td>
<td>Long-term value: 200 ppm</td>
<td></td>
</tr>
<tr>
<td>78-92-2</td>
<td>butanol</td>
<td>Short-term value: 462 mg/m³, 150 ppm</td>
<td>Long-term value: 308 mg/m³, 100 ppm</td>
<td></td>
</tr>
<tr>
<td>87-63-0</td>
<td>propan-2-ol</td>
<td>Short-term value: 1250 mg/m³, 500 ppm</td>
<td>Long-term value: 999 mg/m³, 400 ppm</td>
<td></td>
</tr>
<tr>
<td>7732-18-5</td>
<td>water, distilled, conductivity or of similar purity</td>
<td>Long-term value: 650 mg/m³, 250 ppm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Regulatory information WEL: EH40/2011**
- **Additional information:** The lists valid during the making were used as basis.

### 8.2 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.

#### Respiratory protection:
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

#### 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.

#### Eye protection:

Tightly sealed goggles

(Contd. on page 6)
### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - Form: Liquid
    - Colour: According to product specification
  - **Odour:** Characteristic
  - **Odour threshold:** Not determined.
  - **pH-value:** Not determined.
  - **Change in condition**
    - **Melting point/freezing point:** Undetermined.
    - **Initial boiling point and boiling range:** 77 - 78°C
  - **Flash point:** 26°C
  - **Flammability (solid, gas):** Not applicable.
  - **Ignition temperature:** 390°C
  - **Decomposition temperature:** Not determined.
  - **Auto-ignition temperature:** Product is not selfigniting.
  - **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
  - **Explosion limits:**
    - Lower: 1.2Vol %
    - Upper: 12Vol %
  - **Vapour pressure at 20°C:** 97hPa
  - **Density:** Not determined.
  - **Relative density** Not determined.
  - **Vapour density** Not determined.
  - **Evaporation rate** Not determined.
  - **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
  - **Partition coefficient: n-octanol/water:** Not determined.
  - **Viscosity:**
    - Dynamic: Not determined.
    - Kinematic: Not determined.
  - **Solvent content:**
    - Organic solvents: 66.0%
    - Water: 4.0%
    - VOC (EC) 66.00 %
  - **Solids content:** 50.0%
  - **9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
10.2 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: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
· Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Route</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-88-3 toluene</td>
<td>Oral</td>
<td>5,000 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td>Dermal</td>
<td>12,124 mg/kg (rabbit)</td>
</tr>
<tr>
<td></td>
<td>Inhalative</td>
<td>5,320 mg/l (mouse)</td>
</tr>
<tr>
<td>141-78-6 ethyl acetate</td>
<td>Oral</td>
<td>5,620 mg/kg (rabbit)</td>
</tr>
<tr>
<td></td>
<td>Inhalative</td>
<td>1,600 mg/l (rat)</td>
</tr>
<tr>
<td>78-92-2 butanol</td>
<td>Oral</td>
<td>6,480 mg/kg (rat)</td>
</tr>
<tr>
<td>67-63-0 propan-2-ol</td>
<td>Oral</td>
<td>5,045 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td>Dermal</td>
<td>12,800 mg/kg (rabbit)</td>
</tr>
<tr>
<td></td>
<td>Inhalative</td>
<td>30 mg/l (rat)</td>
</tr>
</tbody>
</table>

· Primary irritant effect:
· Skin corrosion/irritation
  Causes skin irritation.
· Serious eye damage/irritation
  Causes serious eye irritation.
· Respiratory or skin sensitisation
  May cause an allergic skin reaction.
· CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
· Germ cell mutagenicity Based on available data, the classification criteria are not met.
· Carcinogenicity Based on available data, the classification criteria are not met.
· Reproductive toxicity
  Suspected of damaging the unborn child.
· STOT-single exposure
  May cause drowsiness or dizziness.
· STOT-repeated exposure
  May cause damage to organs through prolonged or repeated exposure.
· Aspiration hazard
  May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1 Toxicity
· Aquatic toxicity: No further relevant information available.
Safety data sheet
according to 1907/2006/EC, Article 31

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Trade name: Resin solution X 50

· 12.2 Persistence and degradability No further relevant information available.
· 12.3 Bioaccumulative potential No further relevant information available.
· 12.4 Mobility in soil No further relevant information available.
· Ecotoxic effects:
  · Remark: Toxic for fish
  · Additional ecological information:
    · General notes:
      Water hazard class 2 (German Regulation) (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.
      Also poisonous for fish and plankton in water bodies.
      Toxic for aquatic organisms
  · 12.5 Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.
  · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods
  · Recommendation
    Must not be disposed together with household garbage. Do not allow product to reach sewage system.

<table>
<thead>
<tr>
<th>HP 3</th>
<th>Flammable</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 4</td>
<td>Irritant - skin irritation and eye damage</td>
</tr>
<tr>
<td>HP 5</td>
<td>Specific Target Organ Toxicity (STOT)/Aspiration Toxicity</td>
</tr>
<tr>
<td>HP 10</td>
<td>Toxic for reproduction</td>
</tr>
<tr>
<td>HP 13</td>
<td>Sensitising</td>
</tr>
<tr>
<td>HP 14</td>
<td>Ecotoxic</td>
</tr>
</tbody>
</table>

· Uncleaned packaging: 
  · Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN-Number
  · ADR, IMDG, IATA UN1993
· 14.2 UN proper shipping name
  · ADR 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, TOLUENE)
  · IMDG FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, TOLUENE), MARINE POLLUTANT
  · IATA FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, TOLUENE)
## Safety data sheet
### according to 1907/2006/EC, Article 31

**Trade name:** Resin solution X 50

### 14.3 Transport hazard class(es)
- ADR, IMDG, IATA

| Class | 3 Flammable liquids. |
| Label | 3 |

### 14.4 Packing group
- ADR, IMDG, IATA

| Packing group | III |

### 14.5 Environmental hazards:
Product contains environmentally hazardous substances:
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

### 14.6 Special precautions for user
- Warning: Flammable liquids.
- Danger code (Kemler): 30
- EMS Number: F-E, S-E
- Stowage Category: A

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable.

### Transport/Additional information:
- **ADR**
  - Limited quantities (LQ): 5L
  - Exempted quantities (EQ): Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml
  - Transport category: 3
  - Tunnel restriction code: D/E

- **IMDG**
  - Limited quantities (LQ): 5L
  - Exempted quantities (EQ): Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

- **UN "Model Regulation"**
  - UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, TOLUENE), 3, III

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - Directive 2012/18/EU
  - Named dangerous substances - ANNEX I None of the ingredients is listed.
  - Seveso category
    - E2 Hazardous to the Aquatic Environment
    - P5c FLAMMABLE LIQUIDS
  - Qualifying quantity (tonnes) for the application of lower-tier requirements: 200 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements: 500 t
  - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 48

(Contd. on page 10)
Trade name: Resin solution X 50

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

## SECTION 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.

### Relevant phrases
- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H360 May cause drowsiness or dizziness.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H411 Toxic to aquatic life with long lasting effects.

### Classification according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Classification</th>
<th>Bridging principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td></td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td></td>
</tr>
<tr>
<td>Hazardous to the aquatic environment - long-term (chronic) aquatic hazard</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Expert judgement</td>
</tr>
</tbody>
</table>

### Department issuing SDS: Product safety department.

### Contact: Dr. Peter Mayer

### Abbreviations and acronyms:
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- 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)
- 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
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Repr. 2: Reproductive toxicity – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Asp. Tox. 1: Aspiration hazard – Category 1
Annex: Exposure scenario

- Short title of the exposure scenario
  Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

- Sector of Use
  SU3  Industrial uses: Uses of substances as such or in preparations at industrial sites

- Product category
  PC19  Intermediate

- Process category
  PROC5  Mixing or blending in batch processes

- Article category
  AC13  Plastic articles

- Environmental release category
  ERC2  Formulation into mixture

- Description of the activities / processes covered in the Exposure Scenario
  See section 1 of the annex to the Safety Data Sheet.

- Conditions of use
  - Duration and frequency
    5 workdays/week.

- Physical parameters
  - Physical state
    Fluid
  - Concentration of the substance in the mixture
    The substance is main component.
  - Used amount per time or activity
    1 tons per day
  - Other operational conditions
  - Other operational conditions affecting environmental exposure
    Use only on hard ground.
  - Other operational conditions affecting worker exposure
    Avoid contact with eyes.
    Avoid contact with the skin.
    Take precautionary measures against static discharge.
    Keep away from sources of ignition - No smoking.

- Other operational conditions affecting consumer exposure
  - No special measures required.
  - Other operational conditions affecting consumer exposure during the use of the product
    Not applicable.

- Risk management measures

- Worker protection
  - Organisational protective measures
    No special measures required.
  - Technical protective measures
    Provide explosion-proof electrical equipment.
    Use product only in enclosed systems.
    Ensure that suitable extractors are available on processing machines

- Personal protective measures
  - Do not inhale gases / fumes / aerosols.
  - Avoid contact with the skin.
  - Avoid contact with the eyes.
  - Pregnant women should strictly avoid inhalation or skin contact.
  - Tightly sealed goggles
  - 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

- Measures for consumer protection
  - Ensure adequate labelling.

- Environmental protection measures

- Water
  - Do not allow to reach sewage system.

- Soil
  - Prevent contamination of soil.

- Disposal measures
  - Disposal must be made according to official regulations.
  - Ensure that waste is collected and contained.
Disposal procedures
- Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Waste type
- Partially emptied and uncleaned packaging

Exposure estimation
- Consumer: Not relevant for this Exposure Scenario.

Guidance for downstream users
- No further relevant information available.