

## 1 Identification of the substance/mixture and of the company/undertaking

- **Creation date:** 08/31/2015
- **Product identifier**
- **Trade name:** Resin solution X 50
- **Article number:** 1234567890
- **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 for formulation of preparations and articles (multistage and/or significant contact)
- **Environmental release category ERC2** Formulation of preparations
- **Article category AC13** Plastic articles
- **Application of the substance / the mixture** Raw material for resins
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Chemix GmbH  
Chemixstraße 17  
A-5020 Salzburg  
Tel.: 0043/662/21 22 23
- **Further information obtainable from:** Product safety department.
- **Emergency telephone number:**  
During normal opening times: environment protection department, Ext 123  
at other times: factory fire brigade, Ext 222

## 2 Hazards identification

- **Classification of the substance or mixture**  
Flam. Liq. 3      H226 Flammable liquid and vapour.  
Acute Tox. 5      H333 May be harmful if inhaled.  
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.  
Repr. 2            H361 Suspected of damaging fertility or the unborn child. Route of exposure: Inhalation.  
  
STOT SE 3        H336 May cause drowsiness or dizziness.  
STOT RE 2        H373 May cause damage to the digestive system through prolonged or repeated exposure. Route of exposure: Dermal.  
  
Asp. Tox. 1        H304 May be fatal if swallowed and enters airways.  
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

---

- **Label elements**

- **GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

- **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  $\leq 700$ )  
toluene

## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

**Trade name: Resin solution X 50**

(Contd. of page 1)

**· Hazard statements***Flammable liquid and vapour.**May be harmful if inhaled.**Causes skin irritation.**Causes serious eye irritation.**May cause an allergic skin reaction.**Suspected of damaging fertility or the unborn child. Route of exposure: Inhalation.**May cause drowsiness or dizziness.**May cause damage to the digestive system through prolonged or repeated exposure. Route of exposure: Dermal.**May be fatal if swallowed and enters airways.**Toxic to aquatic life with long lasting effects.***· Precautionary statements***If medical advice is needed, have product container or label at hand.**Keep out of reach of children.**Read label before use.**Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***· Other hazards****· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.

### 3 Composition/information on ingredients

**· Chemical characterisation: Mixtures****· Description:** Mixture of substances listed below with nonhazardous additions.**· Dangerous components:**

25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\leq 700$ ) ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	25-50%
108-88-3	toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	20-<25%
141-78-6	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336	20-<25%
78-92-2	butanol ⚠ Flam. Liq. 3, H226; ⚠ Eye Irrit. 2A, H319; STOT SE 3, H335-H336	2,5-<10%
67-63-0	propan-2-ol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336	2,5-<10%

**· Additional information:** For the wording of the listed risk phrases refer to section 16.

### 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.*

(Contd. on page 3)

## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

Trade name: Resin solution X 50

(Contd. of page 2)

- **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Sand. Do not use water.  
CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **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.
- **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.  
Do not flush with water or aqueous cleansing agents
- **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.

### 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 fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.

(Contd. on page 4)

ZA

## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

Trade name: Resin solution X 50

(Contd. of page 3)

- **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.
- **Storage class:** 3
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

#### · **Ingredients with limit values that require monitoring at the workplace:**

##### **108-88-3 toluene**

OEL (South Africa)	Short-term value: 560 mg/m <sup>3</sup> , 150 ppm
	Long-term value: 188 mg/m <sup>3</sup> , 50 ppm
	Sk

##### **141-78-6 ethyl acetate**

OEL (South Africa)	Long-term value: 700 mg/m <sup>3</sup> , 200 ppm
--------------------	--

##### **78-92-2 butanol**

OEL (South Africa)	Short-term value: 450 mg/m <sup>3</sup> , 150 ppm
	Long-term value: 300 mg/m <sup>3</sup> , 100 ppm

##### **67-63-0 propan-2-ol**

OEL (South Africa)	Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm
	Long-term value: 980 mg/m <sup>3</sup> , 400 ppm

#### · **DNELs**

##### **108-88-3 toluene**

Oral	DNEL	10 mg/kg/day (consumer) (Long Time Systemic)
------	------	--

- **Additional information:** The lists valid during the making 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.

##### · **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

(Contd. on page 5)

## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

**Trade name: Resin solution X 50**

(Contd. of page 4)

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

### 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	According to product specification
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	77 °C

- **Flash point:** 26 °C

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

- **Ignition temperature:** 390 °C

- **Decomposition temperature:** Not determined.

- **Self-igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

<b>Lower:</b>	1,2 Vol %
<b>Upper:</b>	11,5 Vol %

- **Vapour pressure at 20 °C:** 97 hPa

- **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:**

<b>Organic solvents:</b>	50,0 %
<b>VOC (EC)</b>	50,00 %

(Contd. on page 6)

ZA

## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

Trade name: Resin solution X 50

(Contd. of page 5)

- |                          |  |
|--------------------------|--|
| <b>Solids content:</b>   | 50,0 %                                     |
| <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:** No dangerous decomposition products known.

### 11 Toxicological information

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

· **LD/LC50 values relevant for classification:**

Oral	LD50	25000 mg/kg (rat)
Inhalation	LC50/4 h	558 mg/l (rat)

**108-88-3 toluene**

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50-E	12124 mg/kg (rabbit)
Inhalation	LC50/4 h	5320 mg/l (mouse)

**141-78-6 ethyl acetate**

Oral	LD50	5620 mg/kg (rabbit)
Inhalation	LC50/4 h	1600 mg/l (rat)

**78-92-2 butanol**

Oral	LD50	6480 mg/kg (rat)
------	------	------------------

**67-63-0 propan-2-ol**

Oral	LD50	5045 mg/kg (rat)
Dermal	LD50-E	12800 mg/kg (rabbit)
Inhalation	LC50/4 h	30 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.

(Contd. on page 7)

## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

Trade name: Resin solution X 50

(Contd. of page 6)

- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological 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
- **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 together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other dangerous substances

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

### 14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1866
- **UN proper shipping name**
- **ADR** RESIN SOLUTION, special provision 640E,  
ENVIRONMENTALLY HAZARDOUS
- **IMDG, IATA** RESIN SOLUTION

- **Transport hazard class(es)**

- **ADR**



- **Class** 3 Flammable liquids.
- **Label** 3

(Contd. on page 8)

ZA



## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

Trade name: Resin solution X 50

(Contd. of page 7)

· **IMDG, IATA**

- **Class** 3 Flammable liquids.
- **Label** 3

- **Packing group** III
- **ADR, IMDG, IATA**

- **Environmental hazards:** Product contains environmentally hazardous substances: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\leq 700$ )
- **Special marking (ADR):** Symbol (fish and tree)

- **Special precautions for user** Warning: Flammable liquids.
- **Danger code (Kemler):** 30
- **EMS Number:** F-E,S-E

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

· **Transport/Additional information:**

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

- **UN "Model Regulation":** UN 1866 RESIN SOLUTION, SPECIAL PROVISION 640E, 3, III, (D/E), ENVIRONMENTALLY HAZARDOUS

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **GHS label elements**  
The product is classified and labelled according to the Globally Harmonised System (GHS).
- **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  $\leq 700$ )

(Contd. on page 9)



**Safety data sheet**  
in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

**Trade name: Resin solution X 50**

(Contd. of page 8)

toluene

**· Hazard statements***Flammable liquid and vapour.**May be harmful if inhaled.**Causes skin irritation.**Causes serious eye irritation.**May cause an allergic skin reaction.**Suspected of damaging fertility or the unborn child. Route of exposure: Inhalation.**May cause drowsiness or dizziness.**May cause damage to the digestive system through prolonged or repeated exposure. Route of exposure: Dermal.**May be fatal if swallowed and enters airways.**Toxic to aquatic life with long lasting effects.***· Precautionary statements***If medical advice is needed, have product container or label at hand.**Keep out of reach of children.**Read label before use.**Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***· 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**· National regulations:****· Other regulations, limitations and prohibitive regulations****· Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients is listed.

**· 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.***· 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.**H336 May cause drowsiness or dizziness.**H361 Suspected of damaging fertility or the unborn child. Route of exposure: Inhalation.**H373 May cause damage to the digestive system through prolonged or repeated exposure. Route of exposure: Dermal.**H411 Toxic to aquatic life with long lasting effects.***· Department issuing MSDS:** Product safety department.

(Contd. on page 10)

## Safety data sheet in accordance with SANS

Printing date 11.09.2015

Version number 2.3

Revision: 11.09.2015

**Trade name: Resin solution X 50**

(Contd. of page 9)

· **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*

*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)*

*DNEL: Derived No-Effect Level (REACH)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*SVHC: Substances of Very High Concern*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Liq. 2: Flammable liquids, Hazard Category 2*

*Flam. Liq. 3: Flammable liquids, Hazard Category 3*

*Acute Tox. 5: Acute toxicity, Hazard Category 5*

*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*

*Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A*

*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*

*Repr. 2: Reproductive toxicity, Hazard Category 2*

*STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

*STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2*

*Asp. Tox. 1: Aspiration hazard, Hazard Category 1*

*Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2*

ZA