

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.09.2011

Revision: 06.09.2011

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

- **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 preparation** 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**



GHS02 flame

H226 Flammable liquid and vapour.



GHS08 health hazard

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.



GHS09 environment

H411 Toxic to aquatic life with long lasting effects.



GHS07

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H336 May cause drowsiness or dizziness.

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· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

 Xn; Harmful


R48/20-63: Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
Possible risk of harm to the unborn child.

 Xi; Irritant

R36/38: Irritating to eyes and skin.

 Xi; Sensitising

R43: May cause sensitisation by skin contact.

 N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS02   GHS07   GHS08   GHS09

· **Signal word** Warning

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

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\bar{M}_n$  700)  
toluene

· **Hazard statements**

Flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

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.

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Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

IF ON SKIN (or hair): Remove/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 characterization: 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 $\approx$ 700)  Xi R36/38;  Xi R43;  N R51/53  H411;  H315; H319; H317	25-50%
108-88-3	toluene  Xn R48/20-63-65;  Xi R38;  F R11 R67 Repr. Cat. 3  H225;  H361; H373; H304;  H315; H336	10-25%
141-78-6	ethyl acetate  Xi R36;  F R11 R66-67  H225;  H319; H336	10-25%
78-92-2	butanol  Xi R36/37 R10-67  H226;  H319; H335+H336	2,5-10%
67-63-0	propan-2-ol  Xi R36;  F R11 R67  H225;  H319; 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:**  
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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- **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:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### \* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
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.
- **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.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Do not spray onto a naked flame or any incandescent material.  
Keep ignition sources away - Do not smoke.

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Protect against electrostatic charges.

- **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.
- **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

PEL (USA)	Short-term value: C 300; 500* ppm Long-term value: 200 ppm *10-min peak per 8-hr shift
REL (USA)	Short-term value: 560 mg/m <sup>3</sup> , 150 ppm Long-term value: 375 mg/m <sup>3</sup> , 100 ppm
TLV (USA)	75 mg/m <sup>3</sup> , 20 ppm NIC-BEI
WEL (Great Britain)	Short-term value: 384 mg/m <sup>3</sup> , 100 ppm Long-term value: 191 mg/m <sup>3</sup> , 50 ppm Sk

#### 141-78-6 ethyl acetate

PEL (USA)	1400 mg/m <sup>3</sup> , 400 ppm
REL (USA)	1400 mg/m <sup>3</sup> , 400 ppm
TLV (USA)	1440 mg/m <sup>3</sup> , 400 ppm
WEL (Great Britain)	Short-term value: 400 ppm Long-term value: 200 ppm

#### 78-92-2 butanol

PEL (USA)	450 mg/m <sup>3</sup> , 150 ppm
REL (USA)	Short-term value: 455 mg/m <sup>3</sup> , 150 ppm Long-term value: 305 mg/m <sup>3</sup> , 100 ppm
TLV (USA)	300 mg/m <sup>3</sup> , 100 ppm
WEL (Great Britain)	Short-term value: 462 mg/m <sup>3</sup> , 150 ppm Long-term value: 308 mg/m <sup>3</sup> , 100 ppm

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

PEL (USA)	980 mg/m <sup>3</sup> , 400 ppm
REL (USA)	Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
TLV (USA)	Short-term value: 984 mg/m <sup>3</sup> , 400 ppm Long-term value: 492 mg/m <sup>3</sup> , 200 ppm BEI
WEL (Great Britain)	Short-term value: 1250 mg/m <sup>3</sup> , 500 ppm Long-term value: 999 mg/m <sup>3</sup> , 400 ppm

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· **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.

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

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Fluid

Colour: According to product specification

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

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<b>Boiling point/Boiling range:</b>	77°C
· <b>Flash point:</b>	26°C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	390°C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1,2 Vol %
<b>Upper:</b>	11,5 Vol %
· <b>Vapour pressure at 20°C:</b>	97 hPa
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Segregation coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	50,0 %
<b>Solids content:</b>	50,0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **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.

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### 11 Toxicological information

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

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

**108-88-3 toluene**

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

- **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 the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant

### 12 Ecological information

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

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· **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** 1866 RESIN SOLUTION  
· **IMDG, IATA** RESIN SOLUTION· **Transport hazard class(es)**· **ADR**· **Class** 3 Flammable liquids.  
· **Label** 3· **IMDG, IATA**· **Class** 3 Flammable liquids.  
· **Label** 3· **Packing group**· **ADR, IMDG, IATA** III· **Environmental hazards:**· **Marine pollutant:** No  
· **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 MARPOL73/78 and the IBC Code**

Not applicable.

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· **Transport/Additional information:**· **ADR**· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**UN1866, RESIN SOLUTION, special provision 640E,  
ENVIRONMENTALLY HAZARDOUS, 3, III

### 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 Harmonized System (GHS).

· **Hazard pictograms**

GHS02

GHS07

GHS08

GHS09

· **Signal word** Warning· **Hazard-determining components of labelling:**reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\approx$  700)  
toluene· **Hazard statements**

Flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

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/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

IF ON SKIN (or hair): Remove/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.

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

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## 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.*
- H373 *May cause damage to organs through prolonged or repeated exposure.*
- H411 *Toxic to aquatic life with long lasting effects.*
- R10 *Flammable.*
- R11 *Highly flammable.*
- R36 *Irritating to eyes.*
- R36/37 *Irritating to eyes and respiratory system.*
- R36/38 *Irritating to eyes and skin.*
- R38 *Irritating to skin.*
- R43 *May cause sensitisation by skin contact.*
- R48/20 *Harmful: danger of serious damage to health by prolonged exposure through inhalation.*
- R51/53 *Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- R63 *Possible risk of harm to the unborn child.*
- R65 *Harmful: may cause lung damage if swallowed.*
- R66 *Repeated exposure may cause skin dryness or cracking.*
- R67 *Vapours may cause drowsiness and dizziness.*

· **Department issuing MSDS:** 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)
- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organization
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent

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