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

- **Product identifier**
- **Trade name:** Resin solution X 50
- **Article number:** 1234567890
- **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
- **Information department:** Product safety department
- **Emergency telephone number:**  
 During normal opening times: environment protection department, Ext 123  
 at other times: factory fire brigade, Ext 222

### 2 Composition/information on ingredients




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

· **Dangerous components:**

25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\approx$ 700)	25-50%
108-88-3	toluene	10-25%
141-78-6	ethyl acetate	10-25%
78-92-2	butanol	2.5-10%
67-63-0	propan-2-ol	2.5-10%

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### 3 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  -  **Harmful**  
 Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child.
  -  **Irritant**  
 Irritating to eyes and skin. May cause sensitisation by skin contact.
  -  **Dangerous for the environment**  
 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 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 international guidelines.

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· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Code letter and hazard designation of product:**



Harmful  
Dangerous for the environment

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

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

· **Risk phrases:**

Irritating to eyes and skin.

May cause sensitisation by skin contact.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

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

Possible risk of harm to the unborn child.

Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

Keep out of the reach of children.

Keep away from sources of ignition - No smoking.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin and eyes.

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

Wear suitable gloves.

If swallowed, seek medical advice immediately and show this container or label.

Use only in well-ventilated areas.

· **Special labelling of certain preparations:**

Contains epoxy constituents. See information supplied by the manufacturer.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 3  
Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	*2	Health = *2
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

## \* 4 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.

· **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.

## \* 5 Firefighting measures

· **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing 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.

· **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.

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## 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:**  
Do not spray on a naked flame or any incandescent material.  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

- **Components with limit values that require monitoring at the workplace:**

### 108-88-3 toluene

PEL	Short-term value: C 300; 500* ppm Long-term value: 200 ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m <sup>3</sup> , 150 ppm Long-term value: 375 mg/m <sup>3</sup> , 100 ppm
TLV	(188) NIC-75 mg/m <sup>3</sup> , (50) NIC-20 ppm (Skin); (BEI)

### 141-78-6 ethyl acetate

PEL	1400 mg/m <sup>3</sup> , 400 ppm
REL	1400 mg/m <sup>3</sup> , 400 ppm
TLV	1440 mg/m <sup>3</sup> , 400 ppm

### 78-92-2 butanol

PEL	450 mg/m <sup>3</sup> , 150 ppm
REL	Short-term value: 455 mg/m <sup>3</sup> , 150 ppm Long-term value: 305 mg/m <sup>3</sup> , 100 ppm
TLV	300 mg/m <sup>3</sup> , 100 ppm

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

PEL	980 mg/m <sup>3</sup> , 400 ppm
REL	Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
TLV	Short-term value: 984 mg/m <sup>3</sup> , 400 ppm Long-term value: 492 mg/m <sup>3</sup> , 200 ppm BEI

- **Additional information:** The lists that were valid during the creation were used as basis.

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- **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.
- **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.
- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- |                              |                                    |
|------------------------------|------------------------------------|
| · <b>General Information</b> |                                    |
| · <b>Appearance:</b>         |                                    |
| Form:                        | Fluid                              |
| Color:                       | According to product specification |
| · Odor:                      | Characteristic                     |
| · Odour threshold:           | Not determined.                    |
| · pH-value:                  | Not determined.                    |
| · <b>Change in condition</b> |                                    |
| Melting point/Melting range: | Undetermined.                      |
| Boiling point/Boiling range: | 77°C (171 °F)                      |
| · Flash point:               | 26°C (79 °F)                       |

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· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	390°C (734 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	11.5 Vol %
· <b>Vapor pressure at 20°C (68 °F):</b>	97 hPa (73 mm Hg)
· <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>VOC content:</b>	50.0 %
<b>Solids content:</b>	50.0 %
· <b>Other information</b>	No further relevant information available.

## \* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## \* 11 Toxicological information

### · Acute toxicity:

#### · LD/LC50 values that are relevant for classification:

##### 108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)

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Inhalative	LC50/4 h	5320 mg/l (mouse)
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**· 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

## 12 Ecological information

· **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.

**· Ecotoxic effects:**

· **Remark:** Toxic for fish

**· 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.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

## 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.

## 14 Transport information

**· UN-Number**

**· DOT, ADR, IMDG, IATA**

UN1866

**· UN proper shipping name**

**· IMDG, IATA**

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· **Transport hazard class(es)**· **DOT, IMDG, IATA**· **Class**

3 Flammable liquids.

· **Label**

3

· **ADR**· **Class**

3 Flammable liquids

· **Label**

3

· **Packing group**· **DOT, 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.

## 15 Regulatory information

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

None of the ingredients is listed.

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

108-88-3 toluene

78-92-2 butanol

67-63-0 propan-2-ol

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

All ingredients are listed.

· **Proposition 65**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

108-88-3	toluene
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· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

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

108-88-3	toluene
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

108-88-3	toluene	II
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· **IARC (International Agency for Research on Cancer)**

108-88-3	toluene	3
67-63-0	propan-2-ol	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

108-88-3	toluene	A4
67-63-0	propan-2-ol	A4

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



Harmful  
Dangerous for the environment

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

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

· **Risk phrases:**

Irritating to eyes and skin.  
May cause sensitisation by skin contact.  
Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Possible risk of harm to the unborn child.  
Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

Keep out of the reach of children.  
Keep away from sources of ignition - No smoking.  
Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

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*Avoid contact with skin and eyes.*

*Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.*

*Wear suitable gloves.*

*If swallowed, seek medical advice immediately and show this container or label.*

*Use only in well-ventilated areas.*

· **Special labeling of certain preparations:**

*Contains epoxy constituents. See information supplied by the manufacturer.*

*Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.*

*Do not spray on a naked flame or any incandescent material.*

## 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.*

· **Department issuing MSDS:** Environment protection department.

· **Contact:** Dr. Peter Mayer

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

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