

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/24/2008

Reviewed on 06/24/2008

1 Identification of substance

• **Product details**

• **Trade name:** Resin solution X 50

• **Article number:** 1234567890

• **Application of the substance / the preparation** Raw material for resins

• **Manufacturer/Supplier:**

Chemix GmbH
Chemixstrasse 17
A-5020 Salzburg

Tel.: 0043/662/21 22 23

Email: peter.mayer@chemix.com

• **Information department:** Product safety department

• **Emergency information:**

During normal opening times: environment protection department, Ext 123
at other times: factory fire brigade, Ext 222

2 Hazards identification

• **Hazard description:**



Harmful

Dangerous for the environment

• **Information pertaining to particular dangers for man and environment:**

The product has to be labelled due to the calculation procedure of international guidelines.
Flammable.

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.

Harmful: may cause lung damage if swallowed.

Vapours may cause drowsiness and dizziness.

Contains epoxy constituents. See information supplied by the manufacturer.

• **Classification system:**

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

• **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 3

Reactivity = 0

• **GHS label elements**

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**Danger**

- 3.10/1 - May be fatal if swallowed and enters airways.
 3.7/2 - Suspected of damaging fertility or the unborn child.
 3.9/2 - May cause damage to organs through prolonged or repeated exposure.

**Warning**

- 2.6/3 - Flammable liquid and vapour.

**Warning**

- 3.2/2 - Causes skin irritation.
 3.3/2A - Causes serious eye irritation.
 3.4/1 - May cause an allergic skin reaction.
 3.8/3 - May cause drowsiness or dizziness.



- 4.1/2 - Toxic to aquatic life with long lasting effects.

Prevention:

- Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/ equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Do not breathe dust/fume/gas/mist/vapours/spray.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Use personal protective equipment as required.

Response:

- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 IF ON SKIN: Wash with plenty of soap and water.
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
 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.
 Call a POISON CENTER or doctor/physician if you feel unwell.
 Get medical advice/attention if you feel unwell.
 Specific treatment (see label).
 Do NOT induce vomiting.
 If skin irritation occurs: Get medical advice/attention.
 If skin irritation or rash occurs: Get medical advice/attention.

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If eye irritation persists: Get medical advice/attention.
 Take off contaminated clothing and wash before reuse.
 Wash contaminated clothing before reuse.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Collect spillage.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.

Disposal:

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

3 Composition/Data on components

Chemical characterization

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 ≤ 700) Warning:  3.2/2, 3.3/2A, 3.4.S/1  4.1.C/2	25-50%
108-88-3	toluene Danger:  2.6/2;  3.10/1, 3.7/2, 3.9/2 Warning:  3.2/2, 3.8/3	10-25%
141-78-6	ethyl acetate Danger:  2.6/2 Warning:  3.3/2A, 3.8/3	10-25%
78-92-2	butanol Danger:  2.6/2 Warning:  3.3/2A, 3.8/3	2.5-10%
67-63-0	propan-2-ol Danger:  2.6/2 Warning:  3.3/2A, 3.8/3	2.5-10%

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 Fire fighting measures

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

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- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
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.
- **Measures for cleaning/collecting:**
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

7 Handling and storage

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

8 Exposure controls and 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 ³ , 150 ppm Long-term value: 375 mg/m ³ , 100 ppm
TLV	75 mg/m ³ , 20 ppm

141-78-6 ethyl acetate

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

78-92-2 butanol

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

67-63-0 propan-2-ol

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

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

• General Information

Form: Fluid

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Color:	According to product specification
Odor:	Characteristic
· Change in condition Melting point/Melting range: Undetermined. Boiling point/Boiling range: 77°C (171°F)	
· Flash point:	26°C (79°F)
· Ignition temperature:	390°C (734°F)
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	11.5 Vol %
· Vapor pressure at 20°C (68°F):	97 hPa (73 mm Hg)
· Density at 20°C (68°F):	0.93 g/cm ³
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Solvent content:	
Organic solvents:	50.0 %
VOC content:	50.0 %
	465.0 g/l / 3.88 lb/gl
· Solids content:	50.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous products of decomposition:** 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)
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 internally approved calculation methods for preparations:

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Irritant

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12 Ecological information

- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **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

- **Product:**
- **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

- **DOT regulations:**



- **Hazard class:** 3
- **Identification number:** UN1866
- **Packing group:** III
- **Proper shipping name (technical name):** RESIN SOLUTION
- **Label:** 3

- **Land transport ADR/RID (cross-border):**



- **ADR/RID class:** 3 Flammable liquids
- **Danger code (Kemler):** 30
- **UN-Number:** 1866
- **Packaging group:** III
- **Label:** 3
- **Description of goods:** 1866 RESIN SOLUTION, special provision 640E

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· Maritime transport IMDG:



- **IMDG Class:** 3
- **UN Number:** 1866
- **Label** 3
- **Packaging group:** III
- **EMS Number:** F-E,S-E
- **Marine pollutant:** No
- **Propper shipping name:** RESIN SOLUTION

· Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1866
- **Label** 3
- **Packaging group:** III
- **Propper shipping name:** RESIN SOLUTION

- **UN "Model Regulation":** UN1866, RESIN SOLUTION, 3, III
- **Environmental hazards:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID

15 Regulations

· 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.

· 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:

108-88-3 toluene

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· **Carcinogenicity 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
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67-63-0	propan-2-ol	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

108-88-3	toluene	A4
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67-63-0	propan-2-ol	A4
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· **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 ≤ 700)
toluene

· **Risk phrases:**

Flammable.

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.

Harmful: may cause lung damage if swallowed.

Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

Keep out of the reach of children.

Keep away from food, drink and animal feedingstuffs.

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.

· **Special labeling of certain preparations:**

Contains epoxy constituents. See information supplied by the manufacturer.

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.

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- **Department issuing MSDS:** Environment protection 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 internationale 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

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

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

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