

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2020

Version 1.0

Reviewed on 01/02/2020

## 1 Identification

- **Product identifier**
- **Trade name:** *Resin solution X 50*
- **Article number:** 1234567890
- **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
- **Information department:** *Product safety department*
- **Emergency telephone number:** 123 456 789

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



*Flam. Liq. 3 H226 Flammable liquid and vapor.*



*Repr. 2 H361 Suspected of damaging fertility or 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.*



*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.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS02 GHS07 GHS08

- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

*reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\leq$  700)*

*toluene*

*ethyl acetate*

*butanol*

- **Hazard statements**

*Flammable liquid and vapor.*

*Causes skin irritation.*

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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.  
 May be fatal if swallowed and enters airways.

· **Precautionary statements**

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.  
 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/vapors/spray.  
 Wash thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 If swallowed: Immediately call a poison center/doctor.  
 Specific treatment (see on this label).  
 Do NOT induce vomiting.  
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep 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/doctor if you feel unwell.  
 Get medical advice/attention if you feel unwell.  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

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

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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### 3 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 $\leq 700$ )	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%

### 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.*
- **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 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
*CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet*
- **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.*
- **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.*

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See Section 13 for disposal information.

## · Protective Action Criteria for Chemicals

### · PAC-1:

25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\leq 700$ )	90 mg/m <sup>3</sup>
108-88-3	toluene	67 ppm
141-78-6	ethyl acetate	1,200 ppm
67-63-0	propan-2-ol	400 ppm
78-92-2	butanol	150 ppm

### · PAC-2:

25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\leq 700$ )	990 mg/m <sup>3</sup>
108-88-3	toluene	560 ppm
141-78-6	ethyl acetate	1,700 ppm
67-63-0	propan-2-ol	2000* ppm
78-92-2	butanol	220 ppm

### · PAC-3:

25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\leq 700$ )	5,900 mg/m <sup>3</sup>
108-88-3	toluene	3700* ppm
141-78-6	ethyl acetate	10000** ppm
67-63-0	propan-2-ol	12000** ppm
78-92-2	butanol	10000** ppm

## 7 Handling and storage

### · Handling:

· **Precautions for safe handling** No special precautions are necessary if used correctly.

### · Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

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 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.

### · Control parameters

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

The following constituents are the only constituents of the product which have a PEL, REL or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

#### 108-88-3 toluene

PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
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REL	Short-term value: 560 mg/m <sup>3</sup> , 150 ppm Long-term value: 375 mg/m <sup>3</sup> , 100 ppm
<b>141-78-6 ethyl acetate</b>	
PEL	Long-term value: 1400 mg/m <sup>3</sup> , 400 ppm
REL	Long-term value: 1400 mg/m <sup>3</sup> , 400 ppm
<b>67-63-0 propan-2-ol</b>	
PEL	Long-term value: 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
<b>78-92-2 butanol</b>	
PEL	Long-term value: 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

· **Additional information:** *The lists that were valid during the creation 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.*

· **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*

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## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form: *Fluid*  
 Color: *According to product specification*

· Odor: *Characteristic*

· Odor threshold: *Not determined.*

· pH-value: *Not determined.*

#### · Change in condition

Melting point/Melting range: *Undetermined.*

Boiling point/Boiling range: *77 °C (170.6 °F)*

· Flash point: *25 °C (77 °F)*

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

· Ignition temperature: *390 °C (734 °F)*

· Decomposition temperature: *Not determined.*

· 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 (72.8 mm Hg)*

· Density: *Not determined.*

· Relative density: *Not determined.*

· Vapor 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: *50.0 %*

Water: *4 %*

VOC content: *50.00 %*  
*500.0 g/l / 4.17 lb/gl*

Solids content: *50.0 %*

· Other information: *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.*

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- **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 that are relevant for classification:**

### *108-88-3 toluene*

<i>Oral</i>	<i>LD50</i>	<i>5,000 mg/kg (rat)</i>
<i>Dermal</i>	<i>LD50</i>	<i>12,124 mg/kg (rabbit)</i>
<i>Inhalative</i>	<i>LC50/4 h</i>	<i>5,320 mg/l (mouse)</i>

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

<i>Oral</i>	<i>LD50</i>	<i>5,620 mg/kg (rabbit)</i>
<i>Inhalative</i>	<i>LC50/4 h</i>	<i>1,600 mg/l (rat)</i>

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

<i>Oral</i>	<i>LD50</i>	<i>5,045 mg/kg (rat)</i>
<i>Dermal</i>	<i>LD50</i>	<i>12,800 mg/kg (rabbit)</i>
<i>Inhalative</i>	<i>LC50/4 h</i>	<i>30 mg/l (rat)</i>

### *78-92-2 butanol*

<i>Oral</i>	<i>LD50</i>	<i>6,480 mg/kg (rat)</i>
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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*

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

<i>108-88-3</i>	<i>toluene</i>	<i>3</i>
<i>67-63-0</i>	<i>propan-2-ol</i>	<i>3</i>

- **NTP (National Toxicology Program)**

*None of the ingredients is listed.*

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

*None of the ingredients is listed.*

## 12 Ecological information

- **Toxicity**
- **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.*
- **Mobility in soil** *No further relevant information available.*
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 2 (Self-assessment): hazardous for water*

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- Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even extremely small quantities leak into the ground.  
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 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, IMDG, IATA** *UN1993*
- **UN proper shipping name**
- **DOT** *Flammable liquids, 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)*
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** *3 Flammable liquids*
- **Label** *3*
- **IMDG**
- 
- **Class** *3 Flammable liquids*
- **Label** *3*
- **IATA**
- 
- **Class** *3 Flammable liquids*
- **Label** *3*

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· <b>Packing group</b> · <b>DOT, IMDG, IATA</b>	<i>III</i>
· <b>Environmental hazards:</b>	<i>Product contains environmentally hazardous substances: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <math>\leq</math> 700)</i>
· <b>Marine pollutant:</b>	<i>Yes Symbol (fish and tree)</i>
· <b>Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	<i>Warning: Flammable liquids 30 F-E,<u>S-E</u> A</i>
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	<i>Not applicable.</i>
· <b>Transport/Additional information:</b> · <b>DOT</b> · <b>Quantity limitations</b>	<i>On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L</i>
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	<i>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</i>
· <b>UN "Model Regulation":</b>	<i>UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, TOLUENE), 3, III, ENVIRONMENTALLY HAZARDOUS</i>

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
*No further relevant information available.*
- **Sara**

· <b>Section 355 (extremely hazardous substances):</b>
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<i>None of the ingredients is listed.</i>
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· <b>Section 313 (Specific toxic chemical listings):</b>
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<i>108-88-3 toluene</i>
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<i>67-63-0 propan-2-ol</i>
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<i>78-92-2 butanol</i>
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· <b>TSCA (Toxic Substances Control Act):</b>
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<i>All components have the value ACTIVE.</i>
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· <b>Hazardous Air Pollutants</b>
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<i>108-88-3 toluene</i>
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· <b>Proposition 65</b>
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· <b>Chemicals known to cause cancer:</b>
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<i>None of the ingredients is listed.</i>
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· <b>Chemicals known to cause reproductive toxicity for females:</b>
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<i>None of the ingredients is listed.</i>
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· <b>Chemicals known to cause reproductive toxicity for males:</b>
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<i>None of the ingredients is listed.</i>
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<b>· Chemicals known to cause developmental toxicity:</b>	
108-88-3	toluene

<b>· Carcinogenic categories</b>	
<b>· EPA (Environmental Protection Agency)</b>	
108-88-3	toluene
	II

<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
None of the ingredients is listed.	

**· GHS label elements**

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

**· Hazard pictograms**



GHS02

GHS07

GHS08

**· Signal word** *Danger*

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

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\leq 700$ )

toluene

ethyl acetate

butanol

**· Hazard statements**

Flammable liquid and vapor.

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.

May be fatal if swallowed and enters airways.

**· Precautionary statements**

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.

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/vapors/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep 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/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

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*If skin irritation or rash occurs: Get medical advice/attention.*  
*If eye irritation persists: Get medical advice/attention.*  
*Wash contaminated clothing before reuse.*  
*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*  
*Store in a well-ventilated place. Keep container tightly closed.*  
*Store in a well-ventilated place. Keep cool.*  
*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.

## 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 SDS:** Environment protection department.
- **Contact:** Dr. Peter Mayer
- **Date of preparation / last revision** 01/02/2020 / -
- **Abbreviations and acronyms:**  
*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*  
*ICAO: International Civil Aviation Organisation*  
*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*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)*  
*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*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*  
*Flam. Liq. 3: Flammable liquids – Category 3*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*  
*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*

US