



# Material Safety Data Sheet

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

<b>Product:</b>	Epoxy Resin L
<b>Manufacturer:</b>	Conrad Electronic SE
<b>Address:</b>	Klaus-Conrad-Str. 1, D-92240 Hirschau
<b>Telephone:</b>	+49 (0) 9604 / 40 - 8988
<b>Date of issue:</b>	25.02.2019

### 1.1. Product identifier

Epoxy Resin L

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### Use of the substance/mixture

Epoxy resin products, low in solvents, sensitising

## 2. Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No. 1272/2008

Hazard categories:           Skin corrosion/irritation: Skin Irrit. 2  
   Serious eye damage/eye irritation: Eye Irrit. 2  
   Respiratory or skin sensitisation: Skin Sens. 1  
   Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:        Causes skin irritation.  
   May cause an allergic skin reaction.  
   Causes serious eye irritation.  
   Toxic to aquatic life with long lasting effects.

### 2.2. Label elements Regulation (EC) No. 1272/2008

#### Hazard components for labelling

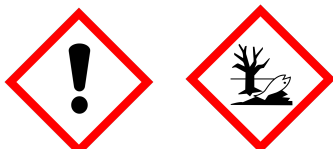
Epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)

Bisphenol-F-Epoxy resin

1,6-Bis(2,3-epoxypropoxy)hexane

**Signal word: Warning**

**Pictograms:**





## Material Safety Data Sheet

### Hazard statements

- H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H411 Toxic to aquatic life with long lasting effects.

### Precautionary statements

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Special labelling of certain mixtures

EUH205 Contains epoxy constituents. May produce an allergic reaction.

### 2.3. Other hazards

No information available.

## 3. Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous components

#### Gefährliche Inhaltsstoffe

CAS No.	Chemical name			Quantity
	EC No.	Index No.	REACH No.	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
25068-38-6	Epoxy resin (number average molecular weight ≤ 700), reaction product: bisphenol-A-(epichlorhydrin)			50 - 100 %
	500-033-5	603-074-00-8		
	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H319 H315 H317 H411			
16096-31-4	1,6-Bis(2,3-epoxypropoxy)hexane			10 - 25 %
	240-260-4		01-2119463471-41	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H317 H412			
28064-14-4	Phenol, polymer with formaldehyde, glycidyl ether			10 - 25 %
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			

Full text of H and EUH statements: see section 16.



## Material Safety Data Sheet

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### 4. First aid measures

#### 4.1. Description of first aid measures

##### General information

Take off immediately all contaminated clothing.

##### After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary.

##### After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs.

##### After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

##### After ingestion

Seek medical advice immediately.

#### 4.2. Most important symptoms and effects, both acute and delayed

No information available.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### 5. Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>), Extinguishing powder, Water spray jet.

##### Unsuitable extinguishing media

Full water jet

#### 5.2. Special hazards arising from the substance or mixture

The product itself does not burn. In case of fire may be liberated: Gases/vapours, toxic.

#### 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.



## **Material Safety Data Sheet**

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### **6. Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protection equipment.

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Do not allow to enter the soil or subsoil.

#### **6.3. Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

#### **6.4. Reference to other sections**

Carefully cleaning scene of an accident.

### **7. Handling and storage**

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

The usual precautions when handling chemicals must be observed.

##### **Advice on protection against fire and explosion**

No special fire protection measures are necessary.

#### **7.2. Conditions for safe storage, including any incompatibilities**

##### **Requirements for storage rooms and vessels**

Keep/Store only in original container. Provide for retaining containers, eg. floor pan without outflow.

##### **Advice on storage compatibility**

Store separately from foodstuffs.

##### **Further information on storage conditions**

Keep receptacles tightly sealed.

#### **7.3. Specific end use(s)**

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.



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### 8. Exposure controls/personal protection

#### 8.1. Control parameters

#### 8.2. Exposure controls



#### Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

#### Eye/face protection

Suitable eye protection: goggles.

#### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Suitable material: FKM (fluoro rubber), NBR (Nitrile rubber) Thickness of the glove material: > 0,5mm

#### Skin protection

Wear suitable protective clothing.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection. ABEK-P2



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### 9. Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Yellowish
Odour:	Characteristic
pH-Value:	not determined

#### Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	200 °C
Flash point:	150 °C

#### Flammability

Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined

#### Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined

#### Oxidizing properties

Not oxidising.

Vapour pressure:	1 hPa (at 20 °C)
Density (at 23 °C):	1,1 g/cm <sup>3</sup> ISO 2811-2
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.
Solubility in other solvents:	not determined
Partition coefficient:	not determined
Viscosity / dynamic:	875 mPa·s ISO 3219 (at 23 °C)
Vapour density:	not determined
Evaporation rate:	not determined

#### 9.2. Other information

Solid content:	not determined
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## Material Safety Data Sheet

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### 10. Stability and reactivity

#### 10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

#### 10.2. Chemical stability

No decomposition when stored and handled properly

#### 10.3. Possibility of hazardous reactions

Reaction with strong oxidising agents Alkalis (alkalis). Acids

#### 10.4. Conditions to avoid

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

#### 10.5. Incompatible materials

Keep away from oxidising agents.

#### 10.6. Hazardous decomposition products

No decomposition when stored and handled properly. In case of fire may be liberated: toxic and caustic gases and vapours

### 11. Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

CAS No.	Chemical name			
	Exposure route	Dose	Species	Source
25068-38-6	Epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)			
	oral	LD50 11400 mg/kg	Rat	GESTIS
	dermal	LD50 > 22800 mg/kg	Rabbit	GESTIS
16096-31-4	1,6-Bis(2,3-epoxypropoxy)hexane			
	oral	LD50 3010 mg/kg	Rat	OECD 401
	dermal	LD50 > 2000 mg/kg	Rat	OECD 402
28064-14-4	Phenol, polymer with formaldehyde, glycidyl ether			
	oral	LD50 > 2000 mg/kg	Rat	
	dermal	LD50 > 2000 mg/kg	Rat	

##### Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].



## Material Safety Data Sheet

### 12. Ecological information

#### 12.1. Toxicity

CAS No.	Chemical name				
	Aquatic toxicity	Dose	[h]   [d]	Spe Species	Source
25068-38-6	Epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)				
	Acute fish toxicity	LC50 4,4 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	EPA-660/3-75-009
	Acute algae toxicity	ErC50 9,4 mg/l	72 h	Scenedesmus capricornutum	EPA-660/3-75-009
	Acute crustacea toxicity	EC50 2,8 mg/l	48 h	Daphnia magna	OECD 202
	Acute bacteria toxicity	(> 100 mg/l)	3 h	Activated sludge	
16096-31-4	1,6-Bis(2,3-epoxypropoxy)hexane				
	Acute fish toxicity	LC50 30 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	OECD 203
	Acute crustacea toxicity	EC50 39 - 57 mg/l	48 h	Daphnia magna	OECD 202

#### 12.2. Persistence and degradability

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

CAS No.	Chemical name			
	Method	Value	d	Source
	Evaluation			
25068-38-6	Epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)			
	OECD 301F	5%	28	Manufacturer
	Not readily biodegradable (according to OECD criteria)			
	OECD 301B	6-12%	28	Manufacturer
	Not readily biodegradable (according to OECD criteria)			
16096-31-4	1,6-Bis(2,3-epoxypropoxy)hexane			
	OECD 301D	47%	28	Manufacturer
	Readily biodegradable (according to OECD criteria).			

#### 12.3. Bioaccumulative potential

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

#### Partition coefficient n-octanol/water

CAS No.	Chemical name	Log Pow
25068-38-6	Epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)	3,24

#### BCF

CAS No.	Chemical name	BCF	Species	Source
25068-38-6	Epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)	31		Quantitative structure-activity relationship (QSAR)
16096-31-4	1,6-Bis(2,3-epoxypropoxy)hexane	3,57		





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### 12.4. Mobility in soil

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

### 12.5. Results of PBT and vPvB assessment

Not applicable

### 12.6. Other adverse effects

No information available.

### Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

## 13. Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

#### Waste disposal number of waste from residues/unused products

080299

WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of other coatings (including ceramic materials); wastes not otherwise specified

#### Waste disposal number of used product

080299

WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of other coatings (including ceramic materials); wastes not otherwise specified

#### Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself. Dispose of waste according to applicable legislation.



## Material Safety Data Sheet

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### 14. Transport information

#### Land transport (ADR/RID)

14.1. UN number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxydharz)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 601
Limited quantity:	5 L
Transport category:	3
Hazard No:	90
Tunnel restriction code:	E



#### **Other applicable information (land transport)**

E1

#### Inland waterways transport (ADN)

14.1. UN number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxydharz)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 601
Limited quantity:	5 L



#### **Other applicable information (inland waterways transport)**

E1



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### Marine transport (IMDG)

<b>14.1. UN number:</b>	UN 3082
<b>14.2. UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	III
Hazard label:	9
Marine pollutant:	Yes
Special Provisions:	274, 335
Limited quantity:	5 L
EmS:	F-A, S-F



### **Other applicable information (marine transport)**

E1

### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number:</b>	UN 3082
<b>14.2. UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	III
<b>Hazard label:</b>	9
Special Provisions:	A97 A158
Limited quantity Passenger:	30 kg G
IATA-packing instructions-Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L



### **Other applicable information (air transport)**

E1

Passenger-LQ: Y964

### **14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: yes

Danger releasing substance: Epoxy resin (number average molecular weight <= 700), reaction product:  
bisphenol-A-(epichlorhydrin)

### **14.6. Special precautions for user**

No information available.

### **14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable



## Material Safety Data Sheet

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### 15. Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water contaminating class (D): 2 - clearly water contaminating

#### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

### 16. Other information

#### 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

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

#### Relevant H and EUH statements (number and full text)

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

EUH205 Contains epoxy constituents. May produce an allergic reaction.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)



# Material Safety Data Sheet

according to Regulation (EC) No 1907/2006

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

<b>Product:</b>	Hardener L
<b>Manufacturer:</b>	Conrad Electronic SE
<b>Address:</b>	Klaus-Conrad-Str. 1, D-92240 Hirschau
<b>Telephone:</b>	+49 (0) 9604 / 40 - 8988
<b>Date:</b>	04.03.2019

### 1.1. Product identifier

Hardener L

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

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## 2. Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Toxic if inhaled.

Harmful if swallowed.

Harmful in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

Causes skin irritation.

Causes serious eye damage.

May cause an allergic skin reaction.

Toxic to aquatic life with long lasting effects.



## Material Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2.2. Label elements

Regulation (EC) No. 1272/2008

#### Hazard components for labelling

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Phenol, styrenated

2,2'-iminodiethylamine; diethylenetriamine

**Signal word:** Danger

#### Pictograms:



#### Hazard statements:

H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312+H332	Harmful in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

#### Precautionary statements:

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



## Material Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 3. Composition/information on ingredients

#### 3.2. Mixtures

##### Chemical characterization:

Epoxy resin curing agent, formulation based on aliphatic polyamines

##### Hazardous components:

CAS No.	Chemical name			Quantity
	EC No.	Index No.	REACH No.	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			25-50%
	220-666-8	612-067-00-9		
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412			
100-51-6	benzyl alcohol			25-50%
	202-859-9	603-057-00-5		
	Acute Tox. 4, Acute Tox. 4; H332 H302			
140-31-8	2-piperazin-1-ylethylamine			2,5-10%
	205-411-0	612-105-00-4		
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412			
61788-44-1	Phenol, styrenated			< 2,5%
	262-975-0		01-2119979575-18	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
69-72-7	salicylic acid			< 2,5%
	200-712-3			
	Acute Tox. 4, Eye Dam. 1; H302 H318			

Full text of H and EUH statements: see section 16.



## Material Safety Data Sheet

according to Regulation (EC) No 1907/2006

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### 4. First aid measures

#### 4.1 Description of first aid measures

##### General information

Immediately take off soiled, impregnated clothing.

##### After inhalation

Consult a doctor.

##### After contact with skin

Washing places concerned with a lot of water and soap. If the symptom doesn't stop, consult doctor.

##### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

##### After ingestion

Rinse mouth immediately and drink plenty of water. Call a doctor, giving the substance's exact name.

#### 4.2. Most important symptoms and effects, both acute and delayed

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

#### 4.3. Indication of any immediate medical attention and special treatment needed

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

### 5. Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. Water spray. Fight major fires with a water spray jet or alcohol-resistant foam.

##### Unsuitable extinguishing media

High power water jet.

#### 5.2. Special hazards arising from the substance or mixture

When heating up or in the fire case formation of poisonous gasses possible.

##### Additional information

Fire residue and contaminated firefighting water must be disposed of in accordance with government regulations.





## **Material Safety Data Sheet**

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according to Regulation (EC) No 1907/2006

### **6. Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Wearing a personal protective clothing.

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Do not allow to enter the soil or subsoil.

#### **6.3. Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Dispose of contaminated material as § 13 waste. Provide adequate ventilation.

#### **6.4. Reference to other sections**

Carefully cleaning scene of an accident.

### **7. Handling and storage**

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

The usual precautions when handling chemicals must be observed. Provide adequate room ventilation, if necessary with vapour extraction at the workplace.

#### **7.2. Conditions for safe storage, including any incompatibilities**

##### **Requirements for storage rooms and vessels**

Keep only in the original container. Provide for retaining containers, eg. floor pan without outflow.

##### **Hints on joint storage**

Store separately from foodstuffs.

##### **Further information on storage conditions**

Provide for retaining containers, eg. floor pan without outflow.

#### **7.3. Specific end use(s)**

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.



## Material Safety Data Sheet

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according to Regulation (EC) No 1907/2006

### 8. Exposure controls/personal protection

#### 8.1. Control parameters

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#### 8.2. Exposure controls

##### Protective and hygiene measures

Keep away from food, drink and animal feed.

Immediately remove soiled, soaked clothing.

Wash hands before breaks and at the end of work.

Avoid contact with eyes and skin.

##### Eye/face protection

Sealed safety goggles

##### Hand protection

Only use chemical protective gloves with a category III CE marking. In order to minimise wetness in the glove due to perspiration, it is necessary for the gloves to waft during one shift. Before each new use of the glove the tightness must be checked. Preventive skin protection through the use of skin protection products is recommended.

Glove material: nitrile rubber, fluororubber (Viton)

Recommended material thickness:  $\geq 0,5\text{mm}$

##### Skin protection

Work protective clothing

##### Respiratory protection

Respiratory protection in case of insufficient ventilation. Recommended filter unit for short-term use: Combination filter A-P2



## Material Safety Data Sheet

according to Regulation (EC) No 1907/2006

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### 9. Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	yellowish
Odour:	amine-like

#### Changes in the physical state

Initial boiling point and boiling range:	> 200 °C
Flash point:	> 100 °C
Lower explosion limits:	
Upper explosion limits:	
Density (at 23 °C):	0,998 g/cm <sup>3</sup> ISO 2811-2
Water solubility:	slightly soluble
Viscosity / dynamic (at 25 °C):	115 mPa·s ISO 3219

### 10. Stability and reactivity

#### 10.2. Chemical stability

No decomposition when stored and handled properly

#### 10.3. Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4. Conditions to avoid

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

#### 10.5. Incompatible materials

Strong oxidizing agents.

#### 10.6. Hazardous decomposition products

Fire and decomposition may release irritant, caustic, ignitable, unhealthy, toxic gases and vapours.



## Material Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 11. Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

6864-37-5	2,2'-Dimethyö-4,4'methylenbis(cyclohexylamin) Oral LD50 320-460 mg/kg (rat) Dermal LD50 200-400 mg/kg (rabbit) Inhalative LC50/4 h 0,42 mg/l (rat)
100-51-6	Benzyl alcohol Oral LD50 1040 mg/kg (mouse) 1230 mg/kg (rat) 1040 mg/kg (rabbit) Dermal LD50 2000 mg/kg (rabbit) Inhalative LC 50/4 h >4,178 mg/l (rat)
2855-13-2	3-Aminomethyl-3,5,5-trimethyl-cyclohexylamine Oral LD 50 819-2600 mg/kg (rat) Dermal LD50 1840 mg/kg (rabbit)
111-40-0	3-Azapentan-1,5-diamine Oral LD50 819-2600 mg/kg (rat) Dermal LD50 670-1240 mg/kg (rabbit) Inhalative LC50/4 h 0,07-0,25 mg/l (rat) as aerosol

##### ATEmix calculated

ATE (dermal) 1690,5 mg/kg; ATE (inhalation aerosol) 3,750 mg/l



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CAS No.	Chemical name					
	Exposure route	Dose		Species	Source	Method
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine					
	oral	LD50 mg/kg	1030	Rat	OECD 401	
	dermal	LD50 mg/kg	1840	Rabbit	manufacturer	
	Inhalation (4 h) aerosol	LC50 mg/l	> 5,01	Rat	OECD 403	
100-51-6	benzyl alcohol					
	oral	LD50 mg/kg	1230	Rat	GESTIS	
	Inhalation vapour	ATE	11 mg/l			
	Inhalation aerosol	ATE	1,5 mg/l			
140-31-8	2-piperazin-1-ylethylamine					
	oral	ATE mg/kg	500			
	dermal	LD50 mg/kg	866	Rabbit	IUCLID	
61788-44-1	Phenol, styrenated					
	oral	LD50 mg/kg	2197	Rat	Quantitative structure-activity relationship (QSAR)	
	dermal	LD50 mg/kg	3166	Rat	Quantitative structure-activity relationship (QSAR)	
69-72-7	salicylic acid					
	oral	LD50 mg/kg	891	(Rat)		
	dermal	LD50 mg/kg	>2000	(Rat)		

### Irritation and corrosivity

Strong caustic effects on eyes, skin, and mucous membranes.

### Sensitising effects

May cause sensitization by skin contact.

### Additional information on tests

111-40-0 3-Azapentan-1,5-diamine

No effect level 30 mg/kg/d (-)

Reproductive toxicity screening test (OECD 421) rat

(90d) 70-80 mg/kg/d (rat)

Subchronic oral toxicity



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### 12. Ecological information

#### 12.1. Toxicity

not determined

CAS No.	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine					
	Acute fish toxicity	LC50	110 mg/l	96 h	Leuciscus idus (golden orfe)	Regulation (C) No. 440/2008, Annex, C.1
	Acute algae toxicity	ErC50	> 50 mg/l	72 h	Scenedesmus subspicatus	Regulation (C) No. 440/2008, Annex, C.3
	Acute crustacea toxicity	EC50	388 mg/l	48 h	Chaetogammarus marinus	IUCLID
140-31-8	2-piperazin-1-ylethylamine					
	Acute fish toxicity	LC50	2190 mg/l	96 h	Pimephales promelas (fathead minnow)	OECD 203
	Acute algae toxicity	ErC50	495 mg/l	72 h	Selenastrum capricornutum	OECD 201
	Acute crustacea toxicity	EC50	58 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202
61788-44-1	Phenol, styrenated					
	Acute fish toxicity	LC50	4 mg/l	96 h	Pimephales promelas (fathead minnow)	Quantitative structure-activity relationship (QSAR)
	Acute algae toxicity	ErC50	1,637 mg/l	72 h	Selenastrum capricornutum	Quantitative structure-activity relationship (QSAR)
	Acute crustacea toxicity	EC50	1,878 mg/l	48 h	Daphnia magna	Quantitative structure-activity relationship (QSAR)
69-72-7	salicylic acid					
	Acute fish toxicity	LC50	1380 mg/l	96 h	Pimephales promelas (fathead minnow)	
	Acute algae toxicity	ErC50	> 100 mg/l	72 h	Desmodesmus subspicatus	



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### 12.2. Persistence and degradability

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

CAS No.	Chemical name			
	Method	Value	d	Source
	Evaluation			
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	8 %	28	IUCLID
	Not readily biodegradable (according to OECD criteria)			
140-31-8	2-piperazin-1-ylethylamine			
	OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D	0%	28	
	Not readily biodegradable (according to OECD criteria)			
61788-44-1	Phenol, styrenated			
	OECD 301C/ ISO 9408/ EEC 92/69/V, C.4-F	73 %	14	
	Readily biodegradable (according to OECD criteria)			

### 12.3. Bioaccumulative potential

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

#### Partition coefficient n-octanol/water

CAS No.	Chemical name	Log Pow
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	0,8
100-51-6	benzyl alcohol	1,05
140-31-8	piperazin-1-ylethylamine	-1,48

#### BCF

CAS No.	Chemical name	BCF	Species	Source
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	3,16	Quantitative structure-activity relationship (QSAR)	IUCLID
61788-44-1	Phenol, styrenated	26,5	Carassius auratus (goldfish)	Quantitative structure-activity relationship (QSAR)

### 12.4. Mobility in soil

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

#### Further information

Undiluted or nonneutralised product may not enter waste water channel or main outfall.



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### 13. Disposal considerations

#### 13.1. Waste treatment methods

##### Waste disposal number of waste from residues/unused products

080299

WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of other coatings (including ceramic materials); wastes not otherwise specified

##### Waste disposal number of used product

080299

WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of other coatings (including ceramic materials); wastes not otherwise specified

##### Contaminated packaging

Dispose of waste according to applicable legislation.

### 14. Transport information

#### Land transport (ADR/RID)

##### 14.1. UN number:

UN 2735

##### 14.2. UN proper shipping name:

AMINES, LIQUID, CORROSIVE, N.O.S. (isophoronediamine)

##### 14.3. Transport hazard class(es):

8

##### 14.4. Packing group:

III

Hazard label:

8



Classification code:

C7

Special Provisions:

274

Limited quantity:

5 L

Transport category:

3

Hazard No:

80

Tunnel restriction code:

E

##### Other applicable information (land transport)

Special provisions:

274

Exempt quantity:

E2

Transport category:

2





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### Marine transport (IMDG)

14.1. UN number:	UN 2735
14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (isophoronediamine)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8



Marine pollutant:	No
Special Provisions:	223, 274
Limited quantity:	5 L
EmS:	F-A, S-B

### Other applicable information (marine transport)

Exempt quantity:	E1
Special Provisions:	274, 944
Exempt quantity:	E2
Exempt quantity:	E0



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### Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 2735
14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (isophoronediamine)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8



Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

### Other applicable information (air transport)

Exempt quantity:	E1
Passenger-LQ:	Y841
Exempt quantity:	E2
Passenger-LQ:	Y808
Special Provisions:	A3
Exempt quantity:	E0
Passenger-LQ:	Forbidden
Passenger-LQ:	Y840

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no



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### 15. Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### EU regulatory information

2004/42/EC (VOC): 26,25 &

##### National regulatory information

Water contaminating class (D): 3 - highly water contaminating

##### Additional information

BG Merkblatt:

Praxisleitfaden für den Umgang mit Epoxidharzen (herausgegeben von der Berufsgenossenschaft der Bauwirtschaft)  
[www.bgbau.de](http://www.bgbau.de) oder [www.gisbau.de](http://www.gisbau.de)

Epoxidharz-Systeme sicher handhaben (herausgegeben von PlasticsEurope [www.plasticseurope.org](http://www.plasticseurope.org))

BGR 227 "Tätigkeiten mit Epoxidharzen" (herausgegeben vom Hauptverband der gewerblichen Berufsgenossenschaften)  
[www.dguv.de](http://www.dguv.de)

BGR 190 - Regel für den Einsatz von Atemschutzgeräten

BGR 192 - Regeln für den Einsatz von Augen- und Gesichtsschutz

### 16. Other information

#### Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H312+H332	Harmful in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)