Fischer Elektronik GmbH & Co. KG • Nottebohmstr. 28 • D-58511 Lüdenscheid • Tel. +49 (0)2351 /435-0
www.fischerelektronik.de info@fischerelektronik.de

Safety Data Sheet

according to 1907/2006/EC, Article 31

1.) Identification of the substance / preparation and of the company/undertaking

Product details

Trade name: WLK (liquid epoxy hardener)

Application of the substance / the preparation: hardener

Supplier: Fischer Elektronik GmbH & Co. KG
P.O. Box: 1590 • D-58465 Lüdenscheid
Nottebohmstr. 28 • D-58511 Lüdenscheid
Phone:+ 49 (0) 2351/435-0 / Fax. + 49 (0) 2351/45754

Department responsible for information: Technical Service e-mail: reach@fischerelektronik.de

Emergency information: Toxicological Information Centre, Bonn
Emergency number: **+ 49 (0)228 19240**

2.) Hazards identification

Definition of hazard:

corrosive

Special information on the danger to human and environment: Causes burns to eyes, respiratory tract and skin. The product is hazardous to water.

3.) Composition / Information on ingredients

Chemical characterization (substance)

Description: Aliphate polyamine

Hazardous ingredients:

CAS-no.: **4246-51-9**

Designation to EC directive: 4,7,10-Trioxa-1, 13-tridecandiamine

Content: > 90 *Unit: Weight %*

Hazard Symbol: C *R-phrases :* 34

Additional Information: *4,7,10-Trioxa-1, 13-tridecandiamine (EINECS 224-207-2, UN 2735, RTECS ID 6475000, BRN 1760709)*

Safety Data Sheet

according to 1907/2006/EC, Article 31

4.) First aid measures

General information:	Consult a physician if problems persist.
In case of inhalation:	Breath fresh air, respiration if necessary. Seek medical assistance immediately. **Caution: Danger of burns**
In case of skin contact:	Rinse with plenty of water, remove contaminated clothing. Wash carefully using water and soap. Avoid rubbing the skin. Consult a physician if problems persist.
In case of eye contact:	Keep eye lids open and rinse for at least 15 minutes with plenty of water. Seek immediately advice of an eye specialist. Protect the eye which has not been in contact with the agent.
In case of ingestion:	Do not initiate vomiting. The patient should drink plenty of water, if conscious. Get medical assistance immediately.
Information to physician:	Symptomatic treatment, see also safety specification sheet.

5.) Fire fighting measures

Suitable extinguishing media:	Carbon dioxide, extinguishing powder, foam (resistant to alcohol), water spray jet

Extinguishing media which may not be used for safety reasons: N/A

Special exposure hazards arising from the substance of preparation itself, combustion products, resulting gases:

Carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxides, pyrolysis products (smoke). In case of fire, closed containers may burst.
Cool with water.

Special protective equipment: Chemical-resistant protective clothing including a breathing mask with it's own air supply

Safety Data Sheet

according to 1907/2006/EC, Article 31

6.) Accidental release measures

Personal precautions:	Ventilate the area or suck the air off using mobile equipment. Wipe or absorb the liquid using a 'vermiculite' type of material. Use protective clothing including goggles, gloves and shoes.
Environment precautions:	Seal off the area, close the source of the leak, if possible. Ventilate and suck the air off. Do not allow to enter drains/surface water/ground-water.
Methods for cleaning up:	Collect spillage, remove residue using an absorbent. Clean with soapy water. Take up mechanically, placing in appropriate containers for disposal.
Additional information:	

7.) Handling and storage

Handling

Advice on safe handling:	Do not breath gas/fume/vapour/spray. Avoid contact with skin and eyes.
Protections against fire and explosion:	In the event of fire, containers should be cooled with water. The product is not explosive hazardous.

Storage

Requirements for storage rooms and vessels:	Store containers in a cool, dry and ventilated area. Containers must be tightly closed. Keep them off flames and away from sources of heat.
Hints on storage assembly:	Do not store together with acids, oxydisers and alkylating agents.

Further information on storage conditions: Keep away from food, drink and animal feeding-stuffs.

Storage class:	8; caustic substances (directive for storage together with VCI chemicals)

8.) Exposure controls/personal protection

Additional information for technical equipment: Ensure adequate ventilation by local air Extraction or by a general exhaust system.

Components, workplace-related limiting values which must be monitored:

CAS-no.	Substance name	Type	Value	Remark	Unit
4246-51-9	4,7,10-Trioxa-1,13-tridecandiandiamine		no exposure limit value		

Additional information: The substance is not quoted in the list of limit values TRGS 90. However, in view of its properties, concentration at the workplace should be minimised. Aerosol formation should be avoided.

Personal protection equipment:

General protective and hygienic measures: Wash before breaks and after finishing work.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection: Wear PVC gloves. .

Eye protection: Wear face protection and tightly fitting goggles.

Protective clothing: Wear protective clothing. An emergency shower should be available.

Safety Data Sheet

according to 1907/2006/EC, Article 31

9.) Physical and chemical properties

Form: liquid
Odour: like amine
Colour: clear to amber

Change of condition	Values	Unit	Method (67/548)
Type (1) Melting point/melting range:	not determined		
Type (2) Boiling point/boiling range:	not determined		
Flash point:	139	℃	
Ignition temperature:	not determined		
Autoflammability:	The product is not autoflammable		
Explosive properties:	The product is not explosive		
Explosion limits: UEG			
OEG			
Vapour pressure at (T1)	< 0,001	hPa	(20 ºC)
Density at (T1)	1.01	g/cm³	(20 ºC)
Solubility: soluble			T= ℃
in water		mg/L	T= ℃
ph-value:	not determined		
Distribution coefficient n-$C_8H_{17}OH/H_2O$ comp.:	not determined		
Viscosity dynamic:	not determined		
Solvent separation test:	no measurable separating layer		
Solvent content:	> 90 %		
Other information:	no information		

Safety Data Sheet

according to 1907/2006/EC, Article 31

10.) Stability and reactivity

Conditions to avoid:	Heat, sources of ignition
Materials to avoid:	Oxidisers, acids and alkalimetals
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, nitrogen oxides and other organic decomposition products.
Additional information:	When the product is used as intended, hazardous decomposition products or undesirable reactions (polymerisation) will not occur. Make sure that the product is handled and stored in an appropriate manner.

Safety Data Sheet

according to 1907/2006/EC, Article 31

11.) Toxicological information

Acute toxicity

Type	Values	Species	Method
oral	3160 mg/kg	rat	LD 50
dermal	2500 mg/kg	rabbit	LD 50

Specific symptoms in animal studies: no data available

Primary cauterising/ caustic effect: Causes burns to eyes, skin and respiratory tract.

Sensitising effect: Respiratory tract is affected!

Other information (concerning experimental toxicology): no indication.

Sabacute to chronic toxicity

Investigation:
Species max. dose mg/kg Method

Result: no data available

Experience with human: When in contact with eyes, the product causes damage to the cornea and burns. Permanent opacity or blindness may result. On the skin, the product may cause severe burns and blisters. Vapours or aerosols inhaled may cauterise the respiratory tract and cause nausea and headaches. Furthermore, symptoms such as tightness of the chest, asthma-like symptoms and difficulties in breathing may occur. The product is detrimental to health when swallowed and may cause burns in the mouth and in the gastro-intestinal tract. The product may aggravate existing cauterised areas of skin, eyes and respiratory tract.

Additional toxicological information (especially for preparation): none

Safety Data Sheet

according to 1907/2006/EC, Article 31

12.) Ecological information

Information about elimination (persistence and degradation)

Method: no indication
Analyses:

Degree of elimination: no indication
Classification:

Evaluation text: no indication

Other information: none

Behaviour in environment compartments

Component: no indication

Mobility and biological accumulation potential: no indication

Other information: none

Ecotoxic effects

Aquatic toxicity:

Kind of test	Effective concentration	Method	Evaluation

Remark: no indication

Behaviour in sewage treatment plants:

Kind of test	Effective concentration	Method	Evaluation

Remark: no indication

Safety Data Sheet
according to 1907/2006/EC, Article 31

Other information:

Other ecological information

CSB value:	*mg/g*	*Remark:* no indication
BSB_5 value:	*mg/g*	*Remark:* no indication
AOX information:		*Remark:* no indication

Contains the following heavy metals and bonds as per EC Directive no. 76/464/EEC, as provided for in the recipe: none

General information: Prevent the liquid from entering rivers and lakes, sewage systems or soil. Hazard to drinking water. The product is incompatible with water.

13.) Disposal considerations

Product:

Recommendation: Dispose of waste according to applicable with local regulations. Do not dispose of it together with household waste. Waste requires monitoring, in accordance with § 41 of the law on recirculation of materials and waste (Kreislaufwirtschafts-/ Abfallgesetz)

Classification according to Directive 75/442/EEC:	*EWC code:*	*EW designation:*
	070104	Other organic solvents

Packaging: Cured material can be disposed into normal household waste in accordance with local legal regulations (EWG-code: 200301)

Uncleaned packages

Recommendation: Handle contaminated packaging in the same way as the substance itself. Cleaned packages may be reused / recycled.

Recommended cleaning agents: no indication

Safety Data Sheet

according to 1907/2006/EC, Article 31

14.) Transport information

Land transport ADR/RID

ADR/RID class:	8
Packaging group:	II
Hazard label:	8
UN-Number:	2735
Description of goods:	2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S., (4,7,10-Trioxa-1, 13-tridecandiamin),8, VG II
Remarks:	hazardlabel no.8, special provisions 274, LQ 19

Marine transport IMDG

IMDG class:	8
UN-Number :	2735
Packaging group :	II
EMS no. :	F-A, S-B
MFAG:	320
Marine pollutant:	yes
Proper shipping name:	POLYAMINES, LIQUID, CORROSIVE, N.O.S., (4,7,10-Trioxa-1 13-tridecanediamine)
Remark:	Loading category A; IMDG code page 8103

Air transport ICAO-TI and IATA-DGR

ICAO/IATA class:	8
UN/ID Number:	2735
Packaging group :	II
Proper shipping name:	POLYAMINES, LIQUID, CORROSIVE, N.O.S., (4,7,10-Trioxa-1, 13-tridecanediamine)
Remark:	CAO 818, PAX 820

Transport/additional information: Delivery by post is permitted.

Safety Data Sheet
according to 1907/2006/EC, Article 31

15.) Regulatory information

Marking in accordance with the EEC regulations / guideline (GefStoffV)
Hazards symbol and hazard statement of dangerous substances and preparations:
C, corrosive

Hazardous component(s) for labelling: 4,7,10-Trioxa-1, 13-tridecandiamine

R-phrases:	34	Causes burns
S-phrases:	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	45	In case of accident or if you feel unwell, seek medical advice immediately.

Special marking of specific recipes: none

National regulations

Additional classification according to GefStoffV appendix II no: none
(only applicable in case of deviation from the EC classification)

Information on restrictions imposed on occupation: see § 8 - 10 GefStoffV

Störfallverordnung: no indication

Classification to VbF: N/A

Protection against emission (TA-Luft): no indication

Water hazard class(WGK) : 2 (hazardous to water, self-assessment)

Other prescriptions, restrictions and bans;
VBG 1; ZH 1/24.2, 132; TRGS 440,555; WHG; VwVwS
TRGS 200, Classification of materials, recipes and products
TRGS 220; Safety specification sheet for hazardous materials and recipes
TRGS 900; Limit values in the atmosphere at the workplace ‘Air limit values’
Prescription on hazardous goods
Law on recirculation of materials and waste (Kreislaufwirtschafts-/ Abfallgesetz)

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16.) Other information

The information contained in this safety specification sheet reflects our present technical knowledge and satisfies legal requirements at national and EC level. The users' working conditions, however, are not known to us and are beyond our control. Users are responsible for observing all applicable legal provisions. The information contained in this specification sheet describes the safety requirements applicable to our product and implies no guarantee of the properties of the product.

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