Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC EG-1(E) Part A

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

ARC EG-1(E) Part A

UFI: EMXV-0XTM-YADE-WCMJ

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

Use of the substance/mixture

ARC Polymer Composite. Repair damage caused by impact, abrasion or erosion and chemical attack.

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	Chesterton International GmbH		
Street:	Am Lenzenfleck 23		
Place:	D-85737 Ismaning GERMANY		
Telephone:	+49 89 99 65 46 - 0	Telefax:	+49 89 99 65 46 - 50
E-mail:	eu-sds@chesterton.com		
Contact person:	eu-sds@chesterton.com	Telephone:	+49 89 99 65 46 - 0
E-mail:	eu-sds@chesterton.com		
Internet:	www.chesterton.com		
Responsible Department:	eu-sds@chesterton.com		

1.4. Emergency telephone number:

+49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Repr. 1B; H360F
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
benzyl alcohol

Signal word: Danger

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Pictograms:



Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P201	Obtain special instructions before use.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.

Special labelling of certain mixtures

EUH205	Contains epoxy constituents. May produce an allergic reaction.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran			50 -< 75 %
	216-823-5	603-073-00-2	01-2119456619-26	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane			10 -< 25 %
	701-263-0		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.			5 -< 10 %
	271-846-8	603-103-00-4	01-2119485289-22	
	Repr. 1B, Skin Irrit. 2, Skin Sens. 1; H360F H315 H317			
100-51-6	benzyl alcohol			5 -< 10 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1B; H302 H319 H317			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
1675-54-3	216-823-5	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran	50 -< 75 %
	inhalation: LC50 = ca. 24,6 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 15000 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100		
	701-263-0	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	10 -< 25 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg		
68609-97-2	271-846-8	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	5 -< 10 %
	oral: LD50 = > 2000 mg/kg		
100-51-6	202-859-9	benzyl alcohol	5 -< 10 %
	dermal: LD50 = > 2000 mg/kg; oral: ATE 1200 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection!

Remove affected person from the danger area and lay down. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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After inhalation

Remove casualty to fresh air and keep warm and at rest.

After contact with skin

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.

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

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Let 1 glass of water be drunken in little sips (dilution effect). Do NOT induce vomiting. Call a physician immediately.

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

Allergic reactions

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

- Dry extinguishing powder.
- Carbon dioxide (CO2).
- alcohol resistant foam.
- Water spray jet

Unsuitable extinguishing media

- Full water jet

5.2. Special hazards arising from the substance or mixture

- Carbon monoxide
- Carbon dioxide (CO2).
- Nitrogen oxides (NOx)

5.3. Advice for firefighters

Special protective equipment for firefighters Protective clothing. In case of fire: Wear self-contained breathing apparatus.

Co-ordinate fire-fighting measures to the fire surroundings.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Safe handling: see section 7

Personal protection equipment: see section 8

Provide adequate ventilation.

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For non-emergency personnel

No information available.

For emergency responders

No information available.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Cover drains. Adverse environmental effects

6.3. Methods and material for containment and cleaning up

For containment

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

For cleaning up

No information available.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Personal protection equipment: see section 8
People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this mixture.
Avoid contact with skin, eyes and clothes.
Avoid breathing dust/fume/gas/mist/vapours/spray.
When using do not eat, drink or smoke.
Never use pressure to empty container. Keep/Store only in original container.
Do not allow to enter into surface water or drains.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Avoid contact with skin, eyes and clothes. Use protective skin cream before handling the product. Remove contaminated, saturated clothing immediately. When using do not eat, drink, smoke, sniff. Wash hands and face before breaks and after work and take a shower if necessary.

Further information on handling

Wash hands before breaks and after work. Used working clothes should not be worn outside the work area. Street clothing should be stored separately from work clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container. Protect from direct sunlight.

Hints on joint storage

Keep away from:

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- Food and feedingstuffs

Further information on storage conditions

Keep away from:
- Frost
- Heat
- Humidity

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran			
Worker DNEL, long-term		inhalation	local	310 mg/m³
Consumer DNEL, long-term		inhalation	local	55 mg/m³
Worker DNEL, long-term		inhalation	systemic	4,93 mg/m³
Worker DNEL, long-term		dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,0893 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane			
Worker DNEL, long-term		inhalation	systemic	29,39 mg/m³
Worker DNEL, long-term		dermal	systemic	104,15 mg/kg bw/day
Worker DNEL, long-term		inhalation	local	0,0083 mg/m³
Consumer DNEL, long-term		inhalation	systemic	8,7 mg/m³
Consumer DNEL, long-term		dermal	systemic	62,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	6,25 mg/kg bw/day
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.			
Worker DNEL, long-term		inhalation	systemic	3,6 mg/m³
Worker DNEL, long-term		dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day
,				
100-51-6	benzyl alcohol			
Worker DNEL, long-term		inhalation	systemic	22 mg/m³
Worker DNEL, acute		inhalation	systemic	110 mg/m³
Worker DNEL, long-term		dermal	systemic	8 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	40 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	5,4 mg/m³
Consumer DNEL, acute		inhalation	systemic	27 mg/m³
Consumer DNEL, long-term		dermal	systemic	4 mg/kg bw/day

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Consumer DNEL, acute	dermal	systemic	20 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	4 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	20 mg/kg bw/day
,			

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PNEC values

CAS No	Substance	
Environmental compartment		Value
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran	
Freshwater		0,006 mg/l
Freshwater (intermittent releases)		0,018 mg/l
Marine water		0,001 mg/l
Freshwater sediment		0,341 mg/kg
Marine sediment		0,034 mg/kg
Secondary poisoning		11 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,065 mg/kg
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	
Freshwater		0,003 mg/l
Freshwater (intermittent releases)		0,025 mg/l
Marine water		0 mg/l
Freshwater sediment		0,294 mg/kg
Marine sediment		0,029 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,237 mg/kg
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	
Freshwater		0,106 mg/l
Freshwater (intermittent releases)		0,072 mg/l
Marine water		0,011 mg/l
Freshwater sediment		307,16 mg/kg
Marine sediment		30,72 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		1,234 mg/kg
100-51-6	benzyl alcohol	
Freshwater		1 mg/l
Freshwater (intermittent releases)		2,3 mg/l
Marine water		0,1 mg/l
Freshwater sediment		5,27 mg/kg
Marine sediment		0,527 mg/kg
Micro-organisms in sewage treatment plants (STP)		39 mg/l
Soil		0,456 mg/kg

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8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection:
- Eye glasses with side protection
- goggles
- Wear face protection.

Hand protection

Tested protective gloves must be worn: EN ISO 374
NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)
Thickness of the glove material >= 0,4 mm
Breakthrough times and swelling properties of the material must be taken into consideration.
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.
Wearing time with occasional contact (splashes): max. 480 min. (NBR (Nitrile rubber))
Wearing time with permanent contact 240 - 480 min (NBR (Nitrile rubber))
Observe the wear time limits as specified by the manufacturer.

Skin protection

Protective clothing. Chemical protection clothing

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient , respiratory protection must be worn.
Combination filtering device A-P3
Self-contained respirator (breathing apparatus)

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	transparent	
Odour:	characteristic	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		> 95 °C

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Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH-Value:	No data available
Water solubility:	No data available

Solubility in other solvents

No information available.

Partition coefficient n-octanol/water:	No data available
Vapour pressure:	No data available
Density (at 23 °C):	~ 1,13 g/cm³
Relative vapour density:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No information available.

Self-ignition temperature

Solid:	No data available
Gas:	No data available

Oxidizing properties

No information available.

Other safety characteristics

Evaporation rate:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
Viscosity / dynamic: (at 23 °C)	~ 750 mPa·s

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

Does not decompose when used for intended uses. No known hazardous decomposition products.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions
- Amines
- Acid
- Alkali (lye)

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

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10.6. Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 5000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran				
	oral	LD50 > 15000 mg/kg	Rat	Study report (1974)	Rats were orally gavaged and followed fo
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402
	inhalation (4 h) vapour	LC50 ca. 24,6 mg/l	Rat	AMA Arch. Ind. Hyg. Occ. Med. 10: 61-68	Rats were exposed to 8000 ppm of the tes
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1988)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1988)	OECD Guideline 402
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1977)	Three groups each of four female rats re
100-51-6	benzyl alcohol				
	oral	ATE 1200 mg/kg			
	dermal	LD50 > 2000 mg/kg	Rabbit	Raw Material Data Handbook, Vol.1:(Orga	EPA OTS 798.1100

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising effects

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May cause an allergic skin reaction. (2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran; Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane; oxirane, mono[(C12-14-alkyloxy)methyl] derivs.; benzyl alcohol)
Contains epoxy constituents. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility. (oxirane, mono[(C12-14-alkyloxy)methyl] derivs.)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

No information available.

Specific effects in experiment on an animal

No information available.

Additional information on tests

No information available.

Practical experience

No information available.

11.2. Information on other hazards

Endocrine disrupting properties

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

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CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran						
	Acute fish toxicity	LC50	3,6 mg/l	96 h	Oncorhynchus mykiss	Study report (1982)	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Raphidocelis subcapitata	Study report (2007)	OECD Guideline 201
	Acute crustacea toxicity	EC50	2,8 mg/l	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC	0,3 mg/l	21 d	Daphnia magna	REACh Registration Dossier	OECD Guideline 211
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane						
	Acute fish toxicity	LC50 mg/l	> 1000	96 h	Oncorhynchus mykiss	Study report (1998)	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 1,8	72 h	Raphidocelis subcapitata	Study report (1993)	OECD Guideline 201
	Acute crustacea toxicity	EL50 mg/l	> 1000	48 h	Daphnia magna	Study report (1998)	OECD Guideline 202
	Crustacea toxicity	NOEC	0,3 mg/l	21 d	Daphnia magna	Study report (1984)	OECD Guideline 211
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.						
	Acute fish toxicity	LL50 mg/l	> 100	96 h	Oncorhynchus mykiss	Study report (2015)	OECD Guideline 203
	Crustacea toxicity	NOEC	56 mg/l	21 d	Daphnia magna	(2017)	OECD Guideline 211
100-51-6	benzyl alcohol						
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Oryzias latipes	Review article or handbook (2009)	OECD Guideline 203
	Acute algae toxicity	ErC50	770 mg/l	72 h	Raphidocelis subcapitata	Review article or handbook (2009)	OECD Guideline 201
	Acute crustacea toxicity	EC50	230 mg/l	48 h	Daphnia magna	Review article or handbook (2009)	OECD Guideline 202
	Fish toxicity	NOEC mg/l	48,897	30 d	Fish species	http://epa.gov/oppt/exposure/pubs/episui	other: QSAR
	Crustacea toxicity	NOEC	51 mg/l	21 d	Daphnia magna	Review article or handbook (2009)	OECD Guideline 211
	Acute bacteria toxicity	EC50 mg/l ( )	1385	3 h	activated sludge, domestic	Study report (1989)	OECD Guideline 209

12.2. Persistence and degradability

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CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran			
	OECD 302B	12%	28	
	Not readily biodegradable (according to OECD criteria)			
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.			
	OECD 301F	87%	28	

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran	>= 2,64
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	2,7
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3,77
100-51-6	benzyl alcohol	1

BCF

CAS No	Chemical name	BCF	Species	Source
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran	31		Study report (2010)
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	150		Other company data (
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	>= 160		REACh Registration D
100-51-6	benzyl alcohol	1,371	QSAR model	http://epa.gov/oppt/

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

No information available.

12.7. Other adverse effects

No information available.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. The waste code has to be identified in agreement with the disposal company or the competent authority.

Contaminated packaging

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601 650
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601 650
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

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Special Provisions:	274 335 375 969
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Special Provisions:	A97 A158 A197 A215
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y964
Excepted quantity:	E1
IATA-packing instructions - Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	epoxy resin

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

No information available.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Directive 2004/42/EC on VOC in paints and varnishes:	< 500 g/l (A+B)
Subcategory according to Directive 2004/42/EC:	Two-pack reactive performance coatings for specific end use such as floors - Solvent-borne coatings, VOC limit value: 500 g/l

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	2 - obviously hazardous to water

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15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
benzyl alcohol

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,5,6,7,11,12,14,15.

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Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4
Skin Irrit. 2: Skin irritation, hazard category 2
Eye Irrit. 2: Eye irritation, hazard category 2
Skin Sens. 1: Skin sensitisation, hazard category 1
Repr. 1B: Reproductive toxicity, hazard category 1B
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID:Règlement international conernat 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
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Refulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Repr. 1B; H360F	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

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H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.
EUH205	Contains epoxy constituents. May produce an allergic reaction.

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

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