Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC 855(E) B (Part A), ARC 855(E) G (Part A)

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

1.1. Product identifier

ARC 855(E) B (Part A), ARC 855(E) G (Part A)

Product group: Zwischenprodukt

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, erosion or corrosion; rebuild worn areas; fill holes and cracks; provide abrasion resistant surfaces.

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:	DE-85737 Ismaning GERMANY	
Telephone:	+49 89 99 65 46 - 0	Telefax: +49 89 99 65 46 - 50
e-mail:	eu-sds@chesterton.com	
e-mail (Contact person):	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

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

2.2. Label elements

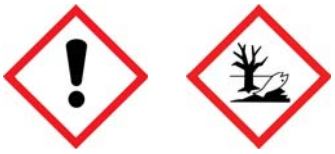
Regulation (EC) No. 1272/2008

Hazard components for labelling

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol

Signal word: Warning

Pictograms:



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

P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of Water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P501	Dispose of waste according to applicable legislation.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol			15 - < 20 %
	500-006-8		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
25068-38-6	2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol			10 - < 15 %
	500-033-5	603-074-00-8	01-2119456619-26	
	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.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

not applicable

After contact with skin

Take off contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately.

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.
Do NOT induce vomiting.

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

Causes eye irritation.
Causes skin irritation.

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

High power 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

See protective measures under point 7 and 8.
Provide adequate ventilation.
Personal protection equipment: see section 8
Remove persons to safety.

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

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

See protective measures under point 7 and 8.
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

See section 8. Wear personal protection equipment (refer to section 8). Keep container tightly closed.
Take off contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

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.

Advice on storage compatibility

Keep away from:
Food and feedingstuffs
Oxidising agent

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

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol			
Worker DNEL, long-term		inhalation	systemic	29,39 mg/m³
Worker DNEL, long-term		dermal	systemic	104,15 mg/kg bw/day
Worker DNEL, acute		dermal	local	0,0083 mg/cm²
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
25068-38-6	2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol			
Worker DNEL, long-term		inhalation	systemic	12,25 mg/m³
Worker DNEL, acute		inhalation	systemic	12,25 mg/m³
Worker DNEL, long-term		dermal	systemic	8,33 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	8,33 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	3,571 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	3,571 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,75 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,75 mg/kg bw/day
,				

PNEC values

CAS No	Substance	
Environmental compartment		Value
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	
Freshwater		0,003 mg/l
Freshwater sediment		0,294 mg/kg
Marine sediment		0,029 mg/kg
Soil		0,237 mg/kg
25068-38-6	2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol	
Freshwater		0,006 mg/l
Marine water		0,001 mg/l
Freshwater sediment		0,996 mg/kg
Marine sediment		0,1 mg/kg
Secondary poisoning		11 mg/kg
Soil		0,196 mg/kg

8.2. Exposure controls

Appropriate engineering controls

No special measures are necessary.
Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

Eye/face protection

Suitable eye protection:
Eye glasses with side protection
goggles

Hand protection

Tested protective gloves must be worn: DIN EN 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

Respiratory protection

Usually no personal respirative protection necessary.
If technical exhaust or ventilation measures are not possible or insufficient , respiratory protection must be worn.
Combination filtering device (EN 14387) A-P2

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	black or grey
Odour:	sweet odour

		Test method
pH-Value:	not applicable	
Changes in the physical state		
Melting point:	not determined	
Initial boiling point and boiling range:	not applicable	
Flash point:	249 °C	
Flammability		
Solid:	not determined	
Gas:	not determined	
Explosive properties		
not explosive according to EU A.14		
Lower explosion limits:	not applicable	
Upper explosion limits:	not applicable	
Ignition temperature:	not determined	
Auto-ignition temperature		
Solid:	not determined	
Gas:	not determined	
Decomposition temperature:	not determined	
Oxidizing properties		
Not oxidising.		
Vapour pressure:	not determined	
Density:	1,9 - 2 g/cm³	
Water solubility:	slightly soluble	
Solubility in other solvents		
No information available.		
Partition coefficient:	not determined	

Viscosity / dynamic: (at 25 °C)	700k mPa·s
Vapour density:	>1 (air = 1)
Evaporation rate:	<1 (Ether = 1)

9.2. Other 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

The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Heat > 149 °C

10.5. Incompatible materials

Strong alkali, Strong acid, Oxidising agent

10.6. Hazardous decomposition products

Carbon monoxide, aldehydes, Acid

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1988)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1988)	OECD Guideline 402
25068-38-6	2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 420
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol; 2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol)

Carcinogenic/mutagenic/toxic effects for reproduction

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.

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol						
	Acute fish toxicity	LC50	> 1000 mg/l	96 h	Oncorhynchus mykiss	Study report (1998)	OECD Guideline 203
	Acute algae toxicity	ErC50	> 1,8 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1993)	OECD Guideline 201
	Acute crustacea toxicity	EC50	> 1000 mg/l	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
25068-38-6	2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol						
	Acute fish toxicity	LC50	3,6 mg/l	96 h	Oncorhynchus mykiss	Study report (1982)	OECD Guideline 203
	Acute algae toxicity	ErC50	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2007)	OECD Guideline 201
	Acute crustacea toxicity	EC50	1,7 mg/l	48 h	Daphnia magna	Study report (1984)	OECD Guideline 202
	Crustacea toxicity	NOEC	0,3 mg/l	21 d	Daphnia magna	Study report (1984)	OECD Guideline 211

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	2,7
25068-38-6	2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol	>= 2,64

BCF

CAS No	Chemical name	BCF	Species	Source
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	150		Other company data (
25068-38-6	2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol	31		Study report (2010)

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.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

SECTION 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. (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
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN 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
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN 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
Marine pollutant:	P
Special Provisions:	274, 335, 969
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN 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
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. Transport in bulk according to Annex II of Marpol and the IBC Code

No information available.

SECTION 15: Regulatory information

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

National regulatory information

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

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
2-(chloromethyl)oxirane;4-[2-(4-hydroxyphenyl)propan-2-yl]phenol

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID:Règlement 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)
CAS: Chemical Abstracts Service (division of the American Chemical Society)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures,
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
EC50: Effectice concentration, 50 percent
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

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

Classification	Classification procedure
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)

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.

Further Information

This information is based solely on data privided by suppliers of the materials used, not on the mixture itself.
No warranty is expressed or implied regarding the suitability of the product for the user's particular purpose.
The user must make their own determination as to suitability.

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