

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 1 of 13

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

1.1. Product identifier

ARC QRV (E)

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:

Respiratory or skin sensitisation: Skin Sens. 1

Hazard Statements:

May cause an allergic skin reaction.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

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

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Signal word: Warning

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 2 of 13

Pictograms:



Hazard statements

H317 May cause an allergic skin reaction.

Precautionary statements

P272 Contaminated work clothing should not be allowed out of the workplace.
 P280 Wear eye protection/face protection.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.

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]	
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)	1-2 %
	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	
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	<1 %
	500-006-8	
		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.	<1 %
	271-846-8	603-103-00-4
		01-2119485289-22
	Skin Irrit. 2, Skin Sens. 1; H315 H317	

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 3 of 13

immediately (show directions for use or safety data sheet if possible).

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 swallowed, rinse mouth with water (only if the person is conscious). Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. Call a physician immediately.

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

Contains epoxy constituents. May produce an allergic reaction.

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

Treat symptomatically.

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 (NO_x)

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

No special environmental measures are necessary.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 4 of 13

6.3. Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for 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.

Take off contaminated clothing and wash it before reuse.

Further information on handling

When using do not eat, drink or smoke.

Wash hands before breaks and after work.

Used working clothes should not be worn outside the work area.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a cool dry place. Keep container tightly closed.

Keep/Store only in original container.

Protect against direct sunlight.

Protect against: Frost

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 5 of 13

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)			
Worker DNEL, long-term		inhalation	systemic	12,25 mg/m ³
Worker DNEL, acute		inhalation	systemic	12,25 mg/m ³
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
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol			
Worker DNEL, long-term		inhalation	systemic	29,39 mg/m ³
Worker DNEL, long-term		dermal	systemic	104,15 mg/kg bw/day
Worker DNEL, acute		dermal	local	0,0083 mg/cm ²
Consumer DNEL, long-term		inhalation	systemic	8,7 mg/m ³
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/m ³
Worker DNEL, long-term		dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 6 of 13

PNEC values

CAS No	Substance	Value
Environmental compartment		
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)	
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
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
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

Additional advice on limit values

EU 2017/2398 air limit values A: respirable fraction 0,1 mg/m³

Extended inhalation at levels above the workplace limit value can cause irreversible damage to the lungs (silicosis).

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaust 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 7 of 13

Hand protection

Tested protective gloves must be worn: DIN EN 374
NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)
Thickness of the glove material $\geq 0,4$ 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.
Observe the wear time limits as specified by the manufacturer.

Skin protection

Protective clothing

Respiratory protection

Usually no personal respirative protection necessary.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid	
Colour:	beige	
Odour:	characteristic	
pH-Value:		not applicable

Changes in the physical state

Melting point:		not applicable
Initial boiling point and boiling range:		not applicable
Flash point:		128 °C

Flammability

Solid:		not determined
Gas:		not determined

Explosive properties

not applicable

Lower explosion limits:		not applicable
Upper explosion limits:		not applicable
Ignition temperature:		not determined

Auto-ignition temperature

Solid:		not applicable
Gas:		not applicable

Decomposition temperature:		not determined
----------------------------	--	----------------

Oxidizing properties

No data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 8 of 13

Vapour pressure:	not determined
Density:	1,5 g/cm ³
Water solubility:	slightly soluble
Solubility in other solvents	
No information available.	
Partition coefficient:	<1
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Vapour density:	>1(Air =1)
Evaporation rate:	<1 (Ether=1)
Solvent content:	not determined

9.2. Other information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

Strong alkali, Strong acid: Hydrochloric acid, sulphuric acid, Nitric acid
Oxidising agent, strong
Oxygen, Chlorine (Cl₂) Liquid

10.6. Hazardous decomposition products

Carbon monoxide, aldehydes, Acids, Gases/vapours, toxic

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 9 of 13

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 420
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402
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
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

Irritation and corrosivity

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

Sensitising effects

May cause an allergic skin reaction. (epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin); Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol; oxirane, mono[(C12-14-alkyloxy)methyl] derivs.)

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 10 of 13

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)					
	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
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
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.					
	Acute fish toxicity	LC50 > 5000 mg/l	96 h	Oncorhynchus mykiss	Study report (2006)	OECD Guideline 203
	Crustacea toxicity	NOEC 56 mg/l	21 d	Daphnia magna	(2017)	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
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)	>= 2,64
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	2,7
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3,77

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 11 of 13

BCF

CAS No	Chemical name	BCF	Species	Source
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)	31		Study report (2010)
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	150		Other company data (
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	>= 160		REACH Registration D

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.
Waste codes/waste designations according to EWC/AVV

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:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 12 of 13

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

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): 1 - slightly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
epoxy resin (number average molecular weight \leq 700), reaction product: bisphenol-A-(epichlorhydrin)

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 3.

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 concernant 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 Regulations 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC QRV (E)

Revision date: 18.05.2018

Page 13 of 13

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 Sens. 1; H317	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 provided 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.)