

according to Regulation (EC) No 1907/2006

### ARC BX2(E) Part B

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

#### 1.1. Product identifier

ARC BX2(E) Part B

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

number:

### **SECTION 2: Hazards identification**

### 2.1. Classification of the substance or mixture

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

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1B

Serious eye damage/eye irritation: Eye Dam. 1 Respiratory or skin sensitisation: Skin Sens. 1

Hazard Statements: Harmful if swallowed.

Causes severe skin burns and eye damage.

Causes serious eye damage. May cause an allergic skin reaction.

### 2.2. Label elements

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

### Hazard components for labelling

Diethylenetriamine (2,2'-iminodi(ethylamine))

benzyl alcohol



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Signal word: Danger

Pictograms:





#### **Hazard statements**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

### **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P310 Immediately call a doctor.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

### 2.3. Other hazards

The safety and health hazards are detailed separately for Part A and Part B. The final cured material is considered nonhazardous. Upon machining, refer to the precautions in the safety data sheets for Part A and Part B.

### **SECTION 3: Composition/information on ingredients**

# 3.2. Mixtures



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### **Hazardous components**

CAS No	Chemical name					
	EC No	Index No	REACH No			
	Classification according to Regula	tion (EC) No. 1272/2008 [CLP]				
68411-71-2	1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer (Epoxypolyaminaddukt)					
	270-141-2					
	Acute Tox. 4; H302					
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))			5 - < 10 %		
	203-865-4	612-058-00-X	01-2119473793-27			
	Acute Tox. 2, Acute Tox. 4, Acute 1 H302 H314 H317 H335	TOT SE 3; H330 H312				
100-51-6	benzyl alcohol			<5 %		
	202-859-9	603-057-00-5	01-2119492630-38			
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H332 H302 H319					

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

#### **Further Information**

Diethylenetriamine (2,2'-iminodi(ethylamine)): This component is toxic by inhalation if sprayed or if aerosol/mist is created. The mixture is neither present in aerosol form nor may aerosols occur.

### **SECTION 4: First aid measures**

### 4.1. Description of first aid measures

### **General information**

First aider: Pay attention to self-protection!

Take off immediately all contaminated clothing and wash it before reuse.

IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

### After inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a doctor.

### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately. Do not wash with: Solvents/Thinner

#### 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

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.



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Do NOT induce vomiting.

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

Causes severe skin burns and eye damage.

Harmful if swallowed.

Skin sensitisation

### 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

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



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### Advice on safe handling

See section 8.

Wear personal protection equipment (refer to section 8).

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid contact with skin, eyes and clothes.

Take off contaminated clothing and wash it before reuse.

Contaminated work clothing should not be allowed out of the workplace.

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.

### 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.

### 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

### **Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
111-40-0	2,2'-Iminodi(ethylamine)	1	4.3		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
409-21-2	Silicon carbide (not whiskers), total inhalable	-	10		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL



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# **DNEL/DMEL values**

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
409-21-2	Silicon carbide			
Worker DNEL,	acute	inhalation	systemic	94 mg/m³
Consumer DN	EL, acute	inhalation	systemic	23 mg/m³
Consumer DN	EL, acute	dermal	systemic	200 mg/kg bw/day
Consumer DN	EL, acute	oral	systemic	13 mg/kg bw/day
,				
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))			
Worker DNEL,	long-term	inhalation	systemic	15,4 mg/m³
Worker DNEL,	acute	inhalation	systemic	92,1 mg/m³
Worker DNEL,	long-term	inhalation	local	0,87 mg/m³
Worker DNEL,	acute	inhalation	local	2,6 mg/m³
Worker DNEL,	long-term	dermal	systemic	11,4 mg/kg bw/day
Worker DNEL,	long-term	dermal	local	1,1 mg/cm²
Consumer DN	EL, long-term	inhalation	systemic	4,6 mg/m³
Consumer DN	EL, acute	inhalation	systemic	27,5 mg/m³
Consumer DN	EL, long-term	dermal	systemic	4,88 mg/kg bw/day
Consumer DN	EL, acute	dermal	systemic	4,88 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
Consumer DNEL, acute		dermal	systemic	20 mg/kg bw/day
Consumer DN	EL, long-term	oral	systemic	4 mg/kg bw/day
Consumer DN	EL, acute	oral	systemic	20 mg/kg bw/day
,				



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#### **PNEC values**

CAS No	Substance	
Environmental	compartment	Value
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))	
Freshwater		0,56 mg/l
Freshwater (int	ermittent releases)	0,32 mg/l
Marine water		0,056 mg/l
Freshwater sec	iment	1072 mg/kg
Marine sediment		107,2 mg/kg
Micro-organisms in sewage treatment plants (STP) 6 mg/l		6 mg/l
Soil 7		7,97 mg/kg
100-51-6	100-51-6 benzyl alcohol	
Freshwater		1 mg/l
Marine water	Marine water	
Freshwater sediment		5,27 mg/kg
Marine sediment 0		0,527 mg/kg
Micro-organisms in sewage treatment plants (STP)  39 mg/l		39 mg/l
Soil		0,456 mg/kg

### 8.2. Exposure controls

### Appropriate engineering controls

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.

Observe the wear time limits as specified by the manufacturer.



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### Skin protection

Protective clothing

### Respiratory protection

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: Paste Colour: red

Odour: characteristic

pH-Value: not determined

Changes in the physical state

Melting point:

Initial boiling point and boiling range:

Flash point:

not determined
not determined

>99 °C

**Flammability** 

Solid: not determined
Gas: not determined

**Explosive properties** 

No information available.

Lower explosion limits:

Upper explosion limits:

Ignition temperature:

not applicable

not applicable

**Auto-ignition temperature** 

Solid: not determined
Gas: not determined

Decomposition temperature: not determined

**Oxidizing properties** 

No information available.

Vapour pressure:>1 (air=1) hPaDensity:2,2 g/cm³Water solubility:Immiscible

Solubility in other solvents

No information available.

Partition coefficient: not determined



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Viscosity / dynamic: not determined

Vapour density: not determined

Evaporation rate: not determined

#### 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

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

### 10.3. Possibility of hazardous reactions

Exothermic reaction with: Acid, Oxidising agent

### 10.4. Conditions to avoid

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

## 10.5. Incompatible materials

Acid, Oxidising agent

### 10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

### **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

### **Acute toxicity**

Harmful if swallowed.

### **ATEmix calculated**

ATE (inhalation vapour) 8,18 mg/l; ATE (inhalation aerosol) 0,821 mg/l



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CAS No	Chemical name						
	Exposure route	Dose		Species	Source	Method	
68411-71-2	1,2-Ethanediamine, N-(2- (Epoxypolyaminaddukt)	1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer (Epoxypolyaminaddukt)					
	oral	ATE mg/kg	500				
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))						
	oral	LD50 mg/kg	ca. 1140	Rat	Study report (1957)	Conducted prior to guidelines	
	dermal	LD50 mg/kg	672	Rabbit			
	inhalation vapour	ATE	0,5 mg/l				
	inhalation aerosol	ATE	0,05 mg/l				
100-51-6	benzyl alcohol						
	oral	LD50 mg/kg	1620	Rat			
	inhalation vapour	ATE	11 mg/l				
	inhalation (4 h) aerosol	LC50 mg/l	>4,178	Rat			

### Irritation and corrosivity

Causes severe skin burns and eye damage.

### Sensitising effects

May cause an allergic skin reaction. (Diethylenetriamine (2,2'-iminodi(ethylamine)))

### 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



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CAS No	Chemical name							
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method	
111-40-0	Diethylenetriamine (2,2'-i	minodi(ethy	lamine))					
	Acute fish toxicity	LC50	430 mg/l	96 h	Poecilia reticulata	Study report (1989)	EU Method C.1	
	Acute algae toxicity	ErC50 mg/l	1164	72 h	Pseudokirchneriella subcapitata	Study report (1990)	OECD Guideline 201	
	Acute crustacea toxicity	EC50	64,6 mg/l	48 h	Daphnia magna	Study report (1989)	EU Method C.2	
	Fish toxicity	NOEC mg/l	> 10	28 d	Gasterosteus aculeatus	Study report (1992)	OECD Guideline 210	
	Crustacea toxicity	NOEC	5,6 mg/l	21 d	Daphnia magna	Study report (1992)	EU Method C.20	
	Acute bacteria toxicity	(32,7 m	g/l)	3 h	nitrifying bacteria	Study report (1989)	other: Blok, 1974; Respirometric measure	
100-51-6	benzyl alcohol					•		
	Acute fish toxicity	LC50	460 mg/l	96 h				
	Acute algae toxicity	ErC50	770 mg/l	72 h				
	Acute crustacea toxicity	EC50	230 mg/l	48 h	Daphnia magna (Big water flea)			
	Algea toxicity	NOEC	51 mg/l	3 d				
	Crustacea toxicity	NOEC	310 mg/l	21 d				

# 12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
100-51-6	benzyl alcohol			
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	95 - 97%	21	

### 12.3. Bioaccumulative potential

### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))	-1,58
100-51-6	benzyl alcohol	1,1

### BCF

CAS No	Chemical name	BCF	Species	Source
	Diethylenetriamine (2,2'-iminodi(ethylamine))	> 2,8	Cyprinus carpio	Publication (1992)
100-51-6	benzyl alcohol	1		



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### 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 3259

**14.2. UN** proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)

14.3. Transport hazard class(es): 14.4. Packing group: Ш Hazard label: 8 Classification code: C8 Special Provisions: 274 Limited quantity: 5 kg Excepted quantity: E1 Transport category: 3 Hazard No: 80 Ε Tunnel restriction code:

Inland waterways transport (ADN)

**14.1. UN number:** UN 3259

**14.2. UN** proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Classification code:C8Special Provisions:274Limited quantity:5 kgExcepted quantity:E1

Marine transport (IMDG)



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**14.1. UN number:** UN 3259

14.2. UN proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8

Special Provisions: 223, 274
Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-B
Segregation group: alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3259

14.2. UN proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)

 14.3. Transport hazard class(es):
 8

 14.4. Packing group:
 III

 Hazard label:
 8

Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Excepted quantity:

A3 A803

5 kg

Y845

Excepted quantity:

E1

IATA-packing instructions - Passenger:860IATA-max. quantity - Passenger:25 kgIATA-packing instructions - Cargo:864IATA-max. quantity - Cargo:100 kg

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): 2 - clearly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

Silicon carbide

Diethylenetriamine (2,2'-iminodi(ethylamine))



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benzyl alcohol

### **SECTION 16: Other information**

#### Changes

This data sheet contains changes from the previous version in section(s): 2.

#### 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]

outcomounted the control of the cont				
Classification	Classification procedure			
Acute Tox. 4; H302				
Skin Corr. 1B; H314	Calculation method			
Eye Dam. 1; H318	Calculation method			
Skin Sens. 1; H317	Calculation method			

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

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

#### **Further Information**

This information is based solely on data privided by suppliers of the materials used, not on the mixture itself.



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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.)