

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC 797(E) Part B

Revision date: 13.10.2017

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

1.1. Product identifier

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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:	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:

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Harmful if inhaled.

Harmful if swallowed.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause an allergic skin reaction.

Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

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Hazard components for labelling

3-aminomethyl-3,5,5-trimethylcyclohexylamin

benzyl alcohol

2-methylpentane-1,5-diamine

Signal word: Danger

Pictograms:



Hazard statements

- | | |
|-----------|--|
| H302+H332 | Harmful if swallowed or if inhaled. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary statements

- | | |
|----------------|--|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P264 | Wash hands thoroughly after handling. |
| 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. |
| P310 | Immediately call a POISON CENTER/doctor. |

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamin			25-<50 %
	220-666-8	612-067-00-9	01-2119514687-32	
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412			
100-51-6	benzyl alcohol			25-<50 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Acute Tox. 4; H332 H302			
15520-10-2	2-methylpentane-1,5-diamine			5-<10 %
	239-556-6		01-2119976310-41	
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1, Eye Dam. 1, STOT SE 3; H332 H312 H302 H314 H318 H335			

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 accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Remove casualty to fresh air and keep warm and at rest. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After contact with skin

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

After contact with eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

After ingestion

If swallowed, rinse mouth with water (only if the person is conscious).
Do NOT induce vomiting. Seek medical advice immediately.

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

- Causes severe skin burns and eye damage.
- Allergic reactions
- Gastrointestinal complaints

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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

High power water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO₂). Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

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). People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

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.

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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.

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.

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	Exposure route	Effect	Value
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamin			
Worker DNEL, long-term		inhalation	local	0,073 mg/m ³
Worker DNEL, acute		inhalation	local	0,073 mg/m ³
Consumer DNEL, long-term		oral	systemic	0,526 mg/kg bw/day
100-51-6	benzyl alcohol			
Worker DNEL, long-term		inhalation	systemic	22 mg/m ³
Worker DNEL, acute		inhalation	systemic	110 mg/m ³
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/m ³
Consumer DNEL, acute		inhalation	systemic	27 mg/m ³
Consumer DNEL, long-term		dermal	systemic	4 mg/kg bw/day
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
15520-10-2	2-methylpentane-1,5-diamine			
Worker DNEL, long-term		inhalation	local	0,25 mg/m ³
Worker DNEL, long-term		dermal	systemic	1,5 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	0,125 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,75 mg/kg bw/day

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PNEC values

CAS No	Substance	Value
Environmental compartment		
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamin	
Freshwater		0,06 mg/l
Marine water		0,006 mg/l
Freshwater sediment		5,784 mg/kg
Marine sediment		0,578 mg/kg
Soil		1,121 mg/kg
100-51-6	benzyl alcohol	
Freshwater		1 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
15520-10-2	2-methylpentane-1,5-diamine	
Freshwater		0,42 mg/l
Marine water		0,042 mg/l
Freshwater sediment		7,58 mg/kg
Marine sediment		0,758 mg/kg
Soil		1,27 mg/kg

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.

Use protective skin cream before handling the product.

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 \geq 0,4 mm

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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

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
Combination filtering device (EN 14387) A-P3
Self-contained respirator (breathing apparatus) (DIN EN 133)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid	
Colour:	transparent	
Odour:	characteristic	
pH-Value:		not determined

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	>83 °C

Flammability

Solid:	not determined
Gas:	not determined

Explosive properties

No information available.

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	>350 °C

Auto-ignition temperature

Solid:	not determined
Gas:	not determined

Decomposition temperature:	not determined
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Oxidizing properties

No information available.

Vapour pressure:	not determined
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Density (at 23 °C):	~1,0 g/cm ³
Water solubility:	Immiscible
Solubility in other solvents	
No information available.	
Partition coefficient:	not determined
Viscosity / dynamic: (at 23 °C)	~300 mPa·s
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.

10.3. Possibility of hazardous reactions

No further Information available.

10.4. Conditions to avoid

No further Information available.

10.5. Incompatible materials

No further Information available.

10.6. Hazardous decomposition products

No further Information available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if swallowed or if inhaled.

ATEmix calculated

ATE (oral) 1251,7 mg/kg; ATE (inhalative aerosol) 2,778 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamin				
	oral	LD50 mg/kg	1030	Rat	
	dermal	ATE mg/kg	1100		
100-51-6	benzyl alcohol				
	oral	LD50 mg/kg	1620	Rat	
	inhalative vapour	ATE	11 mg/l		
	inhalative (4 h) aerosol	LC50 mg/l	>4178	Rat	
15520-10-2	2-methylpentane-1,5-diamine				
	oral	LD50 mg/kg	1170	Rat	Study report (1986) OECD Guideline 401
	dermal	LD50 mg/kg	1870	Rat	Study report (1978) OECD Guideline 402
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1,5 mg/l		

Irritation and corrosivity

Causes severe skin burns and eye damage.

Sensitising effects

May cause an allergic skin reaction. (3-aminomethyl-3,5,5-trimethylcyclohexylamin)

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
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamin					
	Acute fish toxicity	LC50 110 mg/l	96 h			
	Acute algae toxicity	ErC50 37 mg/l	72 h			
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)		
	Algae toxicity	NOEC 51 mg/l	3 d			
	Crustacea toxicity	NOEC 310 mg/l	21 d			
15520-10-2	2-methylpentane-1,5-diamine					
	Acute fish toxicity	LC50 1825 mg/l	96 h	Pimephales promelas	Study report (1985)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2010)	OECD Guideline 201
	Acute crustacea toxicity	EC50 19,8 mg/l	48 h	Daphnia magna	Study report (1985)	OECD Guideline 202
	Crustacea toxicity	NOEC 4,16 mg/l	21 d	Daphnia magna	Study report (2003)	OECD Guideline 211

12.2. Persistence and degradability

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamin				
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	8 %	28		
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
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamin	0,99
100-51-6	benzyl alcohol	1,1
15520-10-2	2-methylpentane-1,5-diamine	0

BCF

CAS No	Chemical name	BCF	Species	Source
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)

<u>14.1. UN number:</u>	UN 2735
<u>14.2. UN proper shipping name:</u>	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamin, 2-methylpentane-1,5-diamine)
<u>14.3. Transport hazard class(es):</u>	8
<u>14.4. Packing group:</u>	III
Hazard label:	8
Classification code:	C7
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

<u>14.1. UN number:</u>	UN 2735
<u>14.2. UN proper shipping name:</u>	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamin, 2-methylpentane-1,5-diamine)
<u>14.3. Transport hazard class(es):</u>	8
<u>14.4. Packing group:</u>	III
Hazard label:	8
Classification code:	C7
Special Provisions:	274

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Limited quantity: 5 L
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number: UN 2735
14.2. UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S.
(3-aminomethyl-3,5,5-trimethylcyclohexylamin,
2-methylpentane-1,5-diamine)
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8
Special Provisions: 223, 274
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-A, S-B
Segregation group: alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 2735
14.2. UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S.
(3-aminomethyl-3,5,5-trimethylcyclohexylamin,
2-methylpentane-1,5-diamine)
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8
Special Provisions: A3 A803
Limited quantity Passenger: 1 L
Passenger LQ: Y841
Excepted quantity: E1
IATA-packing instructions - Passenger: 852
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 856
IATA-max. quantity - Cargo: 60 L

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

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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:

3-aminomethyl-3,5,5-trimethylcyclohexylamin

benzyl alcohol

2-methylpentane-1,5-diamine

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 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

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
Acute Tox. 4; H332	Calculation method
Acute Tox. 4; H302	Calculation method
Skin Corr. 1A; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

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H302+H332	Harmful if swallowed or if inhaled.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful 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.)