Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC S4+(E) Part B

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

UFI: HA7P-N3X0-PM4X-URFA

1.1. Product identifier

ARC S4+(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. To be mixed with ARC S4+(E) Part A to provide protection in corrosive environments.

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	
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

Skin Corr. 1; H314
Eye Dam. 1; H318
Skin Sens. 1; H317
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)
3-aminomethyl-3,5,5-trimethylcyclohexylamine
Phenol, styrenated
m-phenylenebis(methylamine)
Copolymer of benzenamine and formaldehyde, hydrogenated
4,4'-methylenebis(cyclohexylamine)
Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine
N-(3-(trimethoxysilyl)propyl)ethylenediamine

Signal word: Danger

Pictograms:

Hazard statements

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 mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.

Special labelling of certain mixtures

EUH071	Corrosive to the respiratory tract.
EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)			10 - < 15 %
	500-302-7		01-2119965162-39	
	Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 2; H314 H318 H317 H411			
100-51-6	benzyl alcohol			10 - < 15 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H332 H302 H319			
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			10 - < 15 %
	220-666-8	612-067-00-9	01-2119514687-32	
	Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1A; H302 H314 H318 H317			
61788-44-1	Phenol, styrenated			10 - < 15 %
	262-975-0		01-2119557886-19	
	Skin Irrit. 2, Skin Sens. 1A, Aquatic Chronic 2; H315 H317 H411			
13463-67-7	titanium dioxide			5 - < 10 %
	236-675-5	022-006-00-2	01-2119489379-17	
	Carc. 2; H351			
1477-55-0	m-phenylenebis(methylamine)			5 - < 10 %
	216-032-5		01-2119480150-50	
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 3; H332 H302 H314 H318 H317 H412 EUH071			
135108-88-2	Copolymer of benzenamine and formaldehyde, hydrogenated			1 - < 5 %
	603-894-6		01-2119983522-33	
	Acute Tox. 4, Skin Corr. 1, Skin Sens. 1, STOT RE 2, Aquatic Chronic 3; H302 H314 H317 H373 H412			
69-72-7	salicylic acid			1 - < 5 %
	200-712-3	607-732-00-5	01-2119486984-17	
	Repr. 2, Acute Tox. 4, Eye Dam. 1; H361d H302 H318			
1761-71-3	4,4'-methylenebis(cyclohexylamine)			< 1 %
	217-168-8		01-2119541673-38	
	Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, STOT RE 2; H302 H314 H317 H373			
162627-17-0	Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine			< 1 %
	605-296-0		01-2119970640-38	
	Skin Sens. 1; H317			

1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine			< 1 %
	217-164-6		01-2119970215-39	
	Eye Dam. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H318 H317 H335 H373			

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		
113930-69-1	500-302-7	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	10 - < 15 %
	dermal: LD50 = 2000 mg/kg; oral: LD50 = 1000 mg/kg		
100-51-6	202-859-9	benzyl alcohol	10 - < 15 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = >4,178 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1580 mg/kg		
2855-13-2	220-666-8	3-aminomethyl-3,5,5-trimethylcyclohexylamine	10 - < 15 %
	dermal: LD50 = > 2000 mg/kg; oral: ATE 1030 mg/kg Skin Sens. 1A; H317: >= 0,001 - 100		
61788-44-1	262-975-0	Phenol, styrenated	10 - < 15 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		
13463-67-7	236-675-5	titanium dioxide	5 - < 10 %
	oral: LD50 = > 2000 mg/kg		
1477-55-0	216-032-5	m-phenylenebis(methylamine)	5 - < 10 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 1,34 mg/l (dusts or mists); dermal: LD50 = > 3100 mg/kg; oral: LD50 = 930 mg/kg		
135108-88-2	603-894-6	Copolymer of benzenamine and formaldehyde, hydrogenated	1 - < 5 %
	dermal: LD50 = > 1000 mg/kg; oral: LD50 = > 50 - < 300 mg/kg		
69-72-7	200-712-3	salicylic acid	1 - < 5 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 891 mg/kg		
1761-71-3	217-168-8	4,4'-methylenebis(cyclohexylamine)	< 1 %
	dermal: LD50 = 2110 mg/kg; oral: LD50 = 480 mg/kg		
162627-17-0	605-296-0	Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine	< 1 %
	oral: LD50 = > 10000 mg/kg		
1760-24-3	217-164-6	N-(3-(trimethoxysilyl)propyl)ethylenediamine	< 1 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 2295 mg/kg		

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. Remove contaminated, saturated clothing immediately. In case of skin irritation, consult a physician.

Do not wash with: Solvents/Thinner

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.

Remove contact lenses, if present and easy to do. Continue rinsing.

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.

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

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

Unsuitable extinguishing media

- Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated:
- Carbon monoxide
- Carbon dioxide
- Nitrogen oxides (NOx)

5.3. Advice for firefighters

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

In case of fire: Wear self-contained breathing apparatus.

Special protective equipment for firefighters: 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

General advice

Provide adequate ventilation.
Remove persons to safety.
Safe handling: see section 7
Personal protection equipment: see section 8

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.

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

See section 8.
Do not breathe aerosol.
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.

Advice on general occupational hygiene

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.

Further information on handling

Wash hands before breaks and after work. Only wear fitting, comfortable and clean protective clothing. 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

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
1477-55-0	m-Xylene alpha,alpha'-diamine (m-phenylenebis(methylamine))	-	0.1		TWA (8 h)	
13463-67-7	Titanium dioxide, respirable dust	-	4		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)			
Worker DNEL, acute		inhalation	systemic	6,99 mg/m³
Consumer DNEL, acute		inhalation	systemic	1,5 mg/m³
Consumer DNEL, acute		oral	systemic	0,99 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	0,493 mg/m³
Worker DNEL, long-term		dermal	systemic	0,14 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,5 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,05 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,05 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 DNEL, long-term		oral	systemic	4 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	20 mg/kg bw/day
,				
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			
Consumer DNEL, acute		oral	systemic	0,3 mg/kg bw/day
Worker DNEL, long-term		inhalation	local	0,073 mg/m³
Worker DNEL, acute		inhalation	local	0,073 mg/m³
Consumer DNEL, long-term		oral	systemic	0,3 mg/kg bw/day
61788-44-1	Phenol, styrenated			
Worker DNEL, long-term		inhalation	systemic	7,4 mg/m³
Worker DNEL, long-term		dermal	systemic	2,1 mg/kg bw/day

Consumer DNEL, long-term	inhalation	systemic	1,31 mg/m³
Consumer DNEL, long-term	dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,75 mg/kg bw/day
13463-67-7	titanium dioxide		
Worker DNEL, long-term	inhalation	local	1,25 mg/m³
Consumer DNEL, long-term	oral	systemic	700 mg/kg bw/day
1477-55-0	m-phenylenebis(methylamine)		
Worker DNEL, long-term	dermal	systemic	0,33 mg/kg bw/day
Worker DNEL, long-term	inhalation	local	0,2 mg/m³
Worker DNEL, long-term	inhalation	systemic	1,2 mg/m³
135108-88-2	Copolymer of benzenamine and formaldehyde, hydrogenated		
Worker DNEL, long-term	inhalation	systemic	0,2 mg/m³
Worker DNEL, acute	inhalation	systemic	2 mg/m³
Worker DNEL, long-term	dermal	systemic	2 mg/kg bw/day
Worker DNEL, acute	dermal	systemic	6 mg/kg bw/day
,			
69-72-7	salicylic acid		
Worker DNEL, long-term	inhalation	systemic	5 mg/m³
Worker DNEL, long-term	inhalation	local	5 mg/m³
Worker DNEL, long-term	dermal	systemic	2,3 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	4 mg/m³
Consumer DNEL, long-term	dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	1 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	4 mg/kg bw/day
,			
1761-71-3	4,4'-methylenebis(cyclohexylamine)		
Worker DNEL, long-term	inhalation	systemic	0,13 mg/m³
Worker DNEL, long-term	dermal	systemic	0,053 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,21 mg/m³
Consumer DNEL, long-term	dermal	systemic	0,06 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,06 mg/kg bw/day
,			

1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine		
Worker DNEL, long-term	inhalation	local	0,6 mg/m³
Worker DNEL, acute	inhalation	local	5,36 mg/m³
Consumer DNEL, long-term	inhalation	local	0,1 mg/m³
Consumer DNEL, acute	inhalation	local	4 mg/m³
Worker DNEL, long-term	inhalation	systemic	130 mg/m³
Worker DNEL, acute	inhalation	systemic	260 mg/m³
Worker DNEL, long-term	dermal	systemic	5 mg/kg bw/day
Worker DNEL, acute	dermal	systemic	5 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	26 mg/m³
Consumer DNEL, acute	inhalation	systemic	26400 mg/m³
Consumer DNEL, long-term	dermal	systemic	2,5 mg/kg bw/day
Consumer DNEL, acute	dermal	systemic	17 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	4 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	
Freshwater		0,001 mg/l
Freshwater (intermittent releases)		0,015 mg/l
Marine water		0 mg/l
Freshwater sediment		4610000 mg/kg
Marine sediment		461000 mg/kg
Secondary poisoning		3,33 mg/kg
Micro-organisms in sewage treatment plants (STP)		8,889 mg/l
Soil		923000 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
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	
Freshwater		0,06 mg/l
Freshwater (intermittent releases)		0,23 mg/l
Marine water		0,006 mg/l
Freshwater sediment		5,784 mg/kg
Marine sediment		0,578 mg/kg
Micro-organisms in sewage treatment plants (STP)		3,18 mg/l
Soil		1,121 mg/kg
61788-44-1	Phenol, styrenated	
Freshwater		0,004 mg/l
Freshwater (intermittent releases)		0,046 mg/l
Marine water		0,0004 mg/l
Freshwater sediment		0,248 mg/kg
Marine sediment		0,0248 mg/kg
Micro-organisms in sewage treatment plants (STP)		36,2 mg/l

Soil	0,0473 mg/kg
1477-55-0	m-phenylenebis(methylamine)
Freshwater	0,094 mg/l
Freshwater (intermittent releases)	0,152 mg/l
Marine water	0,009 mg/l
Freshwater sediment	12,4 mg/kg
Marine sediment	1,24 mg/kg
Micro-organisms in sewage treatment plants (STP)	10 mg/l
Soil	2,44 mg/kg
135108-88-2	Copolymer of benzenamine and formaldehyde, hydrogenated
Freshwater	0,015 mg/l
Freshwater (intermittent releases)	0,15 mg/l
Marine water	0,002 mg/l
Freshwater sediment	15 mg/kg
Marine sediment	1,5 mg/kg
Micro-organisms in sewage treatment plants (STP)	1,9 mg/l
Soil	1,8 mg/kg
69-72-7	salicylic acid
Freshwater	0,2 mg/l
Freshwater (intermittent releases)	1 mg/l
Marine water	0,02 mg/l
Freshwater sediment	1,42 mg/kg
Marine sediment	0,142 mg/kg
Micro-organisms in sewage treatment plants (STP)	162 mg/l
Soil	0,166 mg/kg
1761-71-3	4,4'-methylenebis(cyclohexylamine)
Freshwater	0,08 mg/l
Freshwater (intermittent releases)	0,08 mg/l
Marine water	0,008 mg/l
Freshwater sediment	136,6 mg/kg
Marine sediment	13,7 mg/kg
Secondary poisoning	0,556 mg/kg
Micro-organisms in sewage treatment plants (STP)	3,2 mg/l
Soil	27,3 mg/kg
162627-17-0	Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine

Soil	5,8 mg/kg
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine
Freshwater	0,05 mg/l
Freshwater (intermittent releases)	0,072 mg/l
Marine water	0,005 mg/l
Freshwater sediment	0,181 mg/kg
Marine sediment	0,018 mg/kg
Micro-organisms in sewage treatment plants (STP)	20 mg/l
Soil	0,007 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection:
- Eye glasses with side protection
- goggles

Hand protection

Tested protective gloves must be worn: EN ISO 374
NBR (Nitrile rubber),
Wearing time with permanent contact: Thickness of the glove material: >= 0,4 mm, Breakthrough time: >480 min
Wearing time with occasional contact (splashes): Thickness of the glove material: >= 0,1 mm, Breakthrough time: > 30 min
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.
Breakthrough times and swelling properties of the material must be taken into consideration.

Skin protection

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Wear suitable protective clothing.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
Combination filtering device A-P2

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:	white
Odour:	like: Amines

		Test method
Melting point/freezing point:	No data available	
Boiling point or initial boiling point and boiling range:	No data available	
Flammability		
Solid/liquid:	No data available	
Lower explosion limits:	No data available	
Upper explosion limits:	No data available	
Flash point:	> 93 °C	
Auto-ignition temperature:	No data available	
Decomposition temperature:	No data available	
pH-Value:	No data available	
Water solubility:	Immiscible	
Solubility in other solvents		
No information available.		
Partition coefficient n-octanol/water:	No data available	
Vapour pressure:	No data available	
Density:	1,36 g/cm³	
Relative vapour density:	> 1	(Air=1)

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:	< 1	(Ether=1)
Viscosity / dynamic: (at 25 °C)	4000 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

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong alkali , Oxidising agent

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

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) 2837,4 mg/kg; ATE (inhalation vapour) 59,17 mg/l; ATE (inhalation dust/mist) 7,751 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)				
	oral	LD50 1000 mg/kg	Rat	Study report (2007)	OECD Guideline 423
	dermal	LD50 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402
100-51-6	benzyl alcohol				
	oral	LD50 1580 mg/kg	Mouse	Cosmet. Toxicol. 11, 1011-1013 (1973) (1	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rabbit	Raw Material Data Handbook, Vol.1:(Orga	EPA OTS 798.1100
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) dust/mist	LC50 >4,178 mg/l	Rat	ECHA	OECD 403
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine				
	oral	ATE 1030 mg/kg			
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2010)	OECD Guideline 402
61788-44-1	Phenol, styrenated				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2014)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2014)	OECD Guideline 402
13463-67-7	titanium dioxide				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1996)	OECD Guideline 401
1477-55-0	m-phenylenebis(methylamine)				
	oral	LD50 930 mg/kg	Rat	Study report (1973)	OECD Guideline 401
	dermal	LD50 > 3100 mg/kg	Rat	Study report (1975)	TK 11813 was applied to a shaved area of
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) dust/mist	LC50 1,34 mg/l	Rat		
135108-88-2	Copolymer of benzenamine and formaldehyde, hydrogenated				
	oral	LD50 > 50 - < 300 mg/kg	Rat	Study report (2005)	OECD Guideline 423

	dermal	LD50 mg/kg	> 1000	Rabbit	Study report (1988)	other: 40CFR Part 158 Series 81-2, EPA P
69-72-7	salicylic acid					
	oral	LD50 mg/kg	891	Rat	Study report (1971)	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rat	J Am Coll Toxicol, Vol. 15, Suppl. 1, p.	OECD Guideline 402
1761-71-3	4,4'-methylenebis(cyclohexylamine)					
	oral	LD50 mg/kg	480	Rat	Study report (1987)	EPA OPP 81-1
	dermal	LD50 mg/kg	2110	Rabbit	Study report (1986)	EPA OPP 81-2
162627-17-0	Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine					
	oral	LD50 mg/kg	> 10000	Rat	Study report (1985)	OECD Guideline 401
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine					
	oral	LD50 mg/kg	2295	Rat	Study report (2001)	EPA OPPTS 870.1100
	dermal	LD50 mg/kg	> 2000	Rabbit	Study report (2000)	EPA OPPTS 870.1200

Irritation and corrosivity

Causes severe skin burns and eye damage.
Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine); 3-aminomethyl-3,5,5-trimethylcyclohexylamine; Phenol, styrenated; m-phenylenebis(methylamine); Copolymer of benzenamine and formaldehyde, hydrogenated; 4,4'-methylenebis(cyclohexylamine); Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine; N-(3-(trimethoxysilyl)propyl)ethylenediamine)

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.

11.2. Information on other hazards

Endocrine disrupting properties

No data available

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)						
	Acute fish toxicity	LL50	64 mg/l	96 h	Oncorhynchus mykiss	REACh Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50	> 30 mg/l	72 h	Raphidocelis subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EL50	1,46 mg/l	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Algae toxicity	NOEC	<30 mg/l	3 d			
	Acute bacteria toxicity	(EC50	888,9 mg/l)	3 h	activated sludge of a predominantly domestic sewag	REACh Registration Dossier	OECD Guideline 209
100-51-6	benzyl alcohol						
	Acute fish toxicity	LC50	> 100 mg/l	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	48,897 mg/l	30 d	Fish species	http://epa.gov/oppt/exposure/pubs/episui	other: QSAR
	Algae toxicity	NOEC	51 mg/l	3 d			
	Crustacea toxicity	NOEC	51 mg/l	21 d	Daphnia magna	Review article or handbook (2009)	OECD Guideline 211
	Acute bacteria toxicity	(EC50	1385 mg/l)	3 h	activated sludge, domestic	Study report (1989)	OECD Guideline 209
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine						
	Acute fish toxicity	LC50	110 mg/l	96 h	Leuciscus idus	REACh Registration Dossier	EU Method C.1
	Acute algae toxicity	ErC50	37 mg/l	72 h	Desmodesmus subspicatus	REACh Registration Dossier	EU Method C.3
	Acute crustacea toxicity	EC50	23 mg/l	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC	3 mg/l	21 d	Daphnia magna	REACh Registration Dossier	other: OECD 202, part 2

61788-44-1	Phenol, styrenated						
	Acute fish toxicity	LC50	5,6 mg/l	96 h		REACh Registration Dossier	other: Refer below principle
	Acute algae toxicity	ErC50	20,42 mg/l	72 h	Chlorella vulgaris	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	4,6 mg/l	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Fish toxicity	NOEC	0,0618 mg/l	63 d	Danio rerio	REACh Registration Dossier	other: OECD 234 Fish Sexual Development
	Crustacea toxicity	NOEC	0,2 mg/l	21 d	Daphnia magna	REACh Registration Dossier	other: Refer below principle
13463-67-7	titanium dioxide						
	Acute fish toxicity	LC50	> 100 mg/l	96 h	Carassius auratus	REACh Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50	> 50 mg/l	72 h	Raphidocelis subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	> 100 mg/l	48 h	Artemia salina	REACh Registration Dossier	OECD Guideline 202
	Fish toxicity	NOEC	>= 80 mg/l	6 d	Danio rerio	REACh Registration Dossier	OECD TG 210
	Algae toxicity	NOEC	>= 1 mg/l	32 d	Synedra ulna, Scenedesmus quadricauda, Stigeocloni	Environ. Tox. Chem. 31, 2414-2422 (2012)	In this study, the authors report the re
	Crustacea toxicity	NOEC	> 1 mg/l	10 d	Chironomus riparius	REACh Registration Dossier	other: OECD Guideline 219
	Acute bacteria toxicity	(EC50	> 1000 mg/l)	3 h	activated sludge, domestic	REACh Registration Dossier	OECD Guideline 209
1477-55-0	m-phenylenebis(methylamine)						
	Acute fish toxicity	LC50	> 100 mg/l	96 h	Oncorhynchus mykiss	REACh Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50	12 mg/l	72 h	Desmodesmus subspicatus	REACh Registration Dossier	OECD Guideline 201

	Acute crustacea toxicity	EC50 mg/l	15,2	48 h	Daphnia magna (Big water flea)		
	Algae toxicity	NOEC mg/l	10,5	3 d	Selenastrum capricornutum		
	Crustacea toxicity	NOEC	4,7 mg/l	21 d	Daphnia magna	REACh Registration Dossier	OECD Guideline 211
	Acute bacteria toxicity	(EC50 mg/l)	> 1000	0,5 h	Activated sludge from laboratory wastewater plant	Study report (2004)	OECD Guideline 209
135108-88-2	Copolymer of benzenamine and formaldehyde, hydrogenated						
	Acute fish toxicity	LC50	63 mg/l	96 h	Poecilia reticulata	REACh Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	43,94	72 h	Desmodesmus subspicatus	Study report (2012)	EU Method C.3
69-72-7	salicylic acid						
	Acute fish toxicity	LC50 mg/l	1370	96 h	Pimephales promelas	Publication (1985)	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	Regulatory Toxicology and Pharmacology 2	OECD Guideline 201
	Acute crustacea toxicity	EC50	870 mg/l	48 h	Daphnia magna	Chemosphere 59 255-261 (2005)	OECD Guideline 202
	Crustacea toxicity	NOEC	10 mg/l	21 d	Daphnia magna	Muench. Beitr. Abwasser-, Fisch.-Flussb	other: Cited as OECD Guide-line 202, par
	Acute bacteria toxicity	(EC50 mg/l)	> 1000	3 h	activated sludge, domestic	Chemosphere 14 (9) : 1239-1251 (1985)	OECD Guideline 209
1761-71-3	4,4'-methylenebis(cyclohexylamine)						
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Leuciscus idus	REACh Registration Dossier	other: German industrial standard test g
	Acute algae toxicity	ErC50 mg/l	2164	72 h	Desmodesmus subspicatus	Study report (1990)	other: German Industrial Standard DIN 38
	Acute crustacea toxicity	EC50 mg/l	9,24	48 h	Daphnia magna	REACh Registration Dossier	other: Directive 79/831/EEC, Annex V, Pa
	Fish toxicity	NOEC	> 1 mg/l	14 d	freshwater fish	REACh Registration Dossier	Estimation of a chronic NOEC according t

	Crustacea toxicity	NOEC	4 mg/l	21 d	Daphnia magna	REACh Registration Dossier	OECD Guideline 211
	Acute bacteria toxicity	(EC50 mg/l)	ca. 156	0,5 h	Pseudomonas putida	REACh Registration Dossier	other: German Industrial Standard DIN 38
162627-17-0	Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine						
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Pseudokirchneriella subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EL50 mg/l	> 100	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC mg/l	>= 100	21 d	Daphnia magna	REACh Registration Dossier	OECD Guideline 211
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine						
	Acute fish toxicity	LC50	597 mg/l	96 h	Danio rerio	REACh Registration Dossier	EU Method C.1
	Acute algae toxicity	ErC50	8,8 mg/l	72 h	Raphidocelis subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	81 mg/l	48 h	Daphnia magna	REACh Registration Dossier	EU Method C.2

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)			
	OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D	0%	28	
	Not readily biodegradable (according to OECD criteria)			
100-51-6	benzyl alcohol			
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	95 - 97%	21	
	Readily biodegradable (according to OECD criteria).			
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	8 %	28	
	Not readily biodegradable (according to OECD criteria)			
61788-44-1	Phenol, styrenated			
	OECD 301F	7%	28	
	Not readily biodegradable (according to OECD criteria)			
1477-55-0	m-phenylenebis(methylamine)			
	OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C	49 %	28	
	Not readily biodegradable (according to OECD criteria)			
1761-71-3	4,4'-methylenebis(cyclohexylamine)			
	OECD 302B/ ISO 9888/ EEC 92/69/V, C.9	<10%	28	

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	3,6
100-51-6	benzyl alcohol	1
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	0,99
61788-44-1	Phenol, styrenated	3,03
1477-55-0	m-phenylenebis(methylamine)	ca. 0,18
135108-88-2	Copolymer of benzenamine and formaldehyde, hydrogenated	2,68
69-72-7	salicylic acid	2,25
1761-71-3	4,4'-methylenebis(cyclohexylamine)	2,03
162627-17-0	Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine	> 5,5
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	-0,3

BCF

CAS No	Chemical name	BCF	Species	Source
113930-69-1	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	4,77		REACh Registration D
100-51-6	benzyl alcohol	1,371	QSAR model	http://epa.gov/oppt/
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexy lamine	2,63		REACh Registration D
61788-44-1	Phenol, styrenated	11440		Estimation Programs
13463-67-7	titanium dioxide	> 0,47 - < 3,19	Artemia salina	REACh Registration D
1477-55-0	m-phenylenebis(methylamine)	3,16	no data	Validated suite of c
135108-88-2	Copolymer of benzenamine and formaldehyde, hydrogenated	> 18 - < 22	Cyprinus carpio	Study report (1997)
69-72-7	salicylic acid	<100		
1761-71-3	4,4'-methylenebis(cyclohexylamine)	< 6	Cyprinus carpio	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. 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.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

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 or ID number: UN 2735

14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine), 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es):	8
14.4. Packing group:	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)

14.1. UN number or ID number:	UN 2735
14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine), 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C7
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 2735
14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine), 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
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:	18 - alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 2735

14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine), 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
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. 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

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)
benzyl alcohol
3-aminomethyl-3,5,5-trimethylcyclohexylamine
Phenol, styrenated
titanium dioxide
m-phenylenebis(methylamine)
Copolymer of benzenamine and formaldehyde, hydrogenated
salicylic acid

4,4'-methylenebis(cyclohexylamine)
Fatty acids, C18, unsatd., dimers, reaction products with N,N-dimethyl-1,3-propanediamine and 1,3-propanediamine
N-(3-(trimethoxysilyl)propyl)ethylenediamine

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,4,5,6,7,8,9,11,12,14,15.

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 Corr. 1; 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.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.
EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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