

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 1 of 16

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

1.1. Product identifier

ARC MX2(E) Part A

UFI: HEYU-HJTR-X2KP-M3MP

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:	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 Irrit. 2; H315
Eye Irrit. 2; H319
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

2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-
[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-{{2-[4-
(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane

Signal word: Warning

Pictograms:



Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 2 of 16

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

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)			
1675-54-3	2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane			10 - < 15 %
	216-823-5	603-073-00-2	01-2119456619-26	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane			5 - < 10 %
	701-263-0		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
100-51-6	benzyl alcohol			1 - < 5 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H332 H302 H319			
13463-67-7	titanium dioxide			< 1 %
	236-675-5	022-006-00-2	01-2119489379-17	
	Carc. 2; H351			

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 3 of 16

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
1675-54-3	216-823-5	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran	10 - < 15 %
		inhalation: LC50 = ca. 24,6 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 19800 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100	
	701-263-0	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane	5 - < 10 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg	
100-51-6	202-859-9	benzyl alcohol	1 - < 5 %
		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	
13463-67-7	236-675-5	titanium dioxide	< 1 %
		oral: LD50 = > 2000 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

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

After inhalation

In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still.

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.
Do NOT induce vomiting.

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

Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

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)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 4 of 16

- Dry extinguishing powder

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

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.

Dispose of waste according to applicable legislation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove persons to safety.

Provide adequate ventilation.

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

Take up mechanically, placing in appropriate containers for disposal. 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

Personal protection equipment: see section 8

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.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 5 of 16

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. Take off contaminated clothing and wash it before reuse.

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.

Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

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/m ³	fib/cm ³	Category	Origin
1344-28-1	Aluminium oxides, respirable dust	-	4		TWA (8 h)	
13463-67-7	Titanium dioxide, respirable dust	-	4		TWA (8 h)	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 6 of 16

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
1344-28-1	Aluminium oxide			
Worker DNEL, long-term		inhalation	systemic	3 mg/m ³
Worker DNEL, long-term		inhalation	local	3 mg/m ³
Worker DNEL, long-term		dermal	systemic	0,84 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,75 mg/m ³
Consumer DNEL, long-term		inhalation	local	0,75 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,3 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	1,32 mg/kg bw/day
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran			
Worker DNEL, long-term		inhalation	local	310 mg/m ³
Consumer DNEL, long-term		inhalation	local	55 mg/m ³
Worker DNEL, long-term		inhalation	systemic	4,93 mg/m ³
Worker DNEL, long-term		dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,0893 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane			
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, long-term		inhalation	local	0,0083 mg/m ³
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
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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 7 of 16

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
13463-67-7 titanium dioxide			
Worker DNEL, long-term	inhalation	local	1,25 mg/m ³
Consumer DNEL, long-term	oral	systemic	700 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran	
Freshwater		0,006 mg/l
Freshwater (intermittent releases)		0,018 mg/l
Marine water		0,001 mg/l
Freshwater sediment		0,341 mg/kg
Marine sediment		0,034 mg/kg
Secondary poisoning		11 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,065 mg/kg
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane		
Freshwater		0,003 mg/l
Freshwater (intermittent releases)		0,025 mg/l
Marine water		0 mg/l
Freshwater sediment		0,294 mg/kg
Marine sediment		0,029 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,237 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 8 of 16

8.2. Exposure controls

Appropriate engineering controls

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

Provide adequate ventilation. If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

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: $\geq 0,4$ mm, Breakthrough time: >480 min

Wearing time with occasional contact (splashes): Thickness of the glove material: $\geq 0,1$ 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).

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:	Paste
Colour:	white
Odour:	characteristic

Test method

Changes in the physical state

Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	No data available
Flash point:	> 200 °C

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 9 of 16

Flammability

Solid/liquid: No data available
Gas: No data available

Explosive properties

No information available.

Lower explosion limits: not applicable
Upper explosion limits: not applicable
Auto-ignition temperature: No data available

Self-ignition temperature

Solid: No data available
Gas: No data available

Decomposition temperature: No data available

pH-Value: No data available

Viscosity / dynamic: 50.000 mPa·s

Water solubility: Immiscible

Solubility in other solvents

No information available.

Partition coefficient n-octanol/water: No data available

Vapour pressure: No data available

Density: 2,4 g/cm³

Relative vapour density: >1 (air = 1)

9.2. Other information

Information with regard to physical hazard classes

Oxidizing properties
No information available.

Other safety characteristics

Evaporation rate: <1 (Ether = 1)

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

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 10 of 16

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 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) 98136,6 mg/kg; ATE (inhalation vapour) 683,23 mg/l; ATE (inhalation dust/mist) 93,168 mg/l

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
1675-54-3	2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylen)]bisoxiran					
	oral	LD50 mg/kg	19800	Rabbit	Publication (1958)	Rabbits were orally gavaged with test ma
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2007)	OECD Guideline 402
	inhalation (4 h) vapour	LC50 mg/l	ca. 24,6	Rat	AMA Arch. Ind. Hyg. Occ. Med. 10: 61-68	Rats were exposed to 8000 ppm of the tes
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane					
	oral	LD50 mg/kg	> 5000	Rat	Study report (1988)	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rat	Study report (1988)	OECD Guideline 402
100-51-6	benzyl alcohol					
	oral	LD50 mg/kg	1580	Mouse	Cosmet. Toxicol. 11, 1011-1013 (1973) (1	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rabbit	Raw Material Data Handbook, Vol.1:(Orga	EPA OTS 798.1100
	inhalation vapour	ATE	11 mg/l			
	inhalation (4 h) dust/mist	LC50 mg/l	>4,178	Rat	ECHA	OECD 403
13463-67-7	titanium dioxide					
	oral	LD50 mg/kg	> 2000	Rat	Study report (1996)	OECD Guideline 401

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 11 of 16

May cause an allergic skin reaction. (2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran;
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-
[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-
(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane)

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 12 of 16

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran					
	Acute fish toxicity	LC50 3,6 mg/l	96 h	Oncorhynchus mykiss	Study report (1982)	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l > 100	72 h	Raphidocelis subcapitata	Study report (2007)	OECD Guideline 201
	Acute crustacea toxicity	EC50 2,8 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC 0,3 mg/l	21 d	Daphnia magna	REACH Registration Dossier	OECD Guideline 211
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane					
	Acute fish toxicity	LC50 mg/l > 1000	96 h	Oncorhynchus mykiss	Study report (1998)	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l > 1,8	72 h	Raphidocelis subcapitata	Study report (1993)	OECD Guideline 201
	Acute crustacea toxicity	EL50 mg/l > 1000	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
100-51-6	benzyl alcohol					
	Acute fish toxicity	LC50 mg/l > 100	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 mg/l 48,897	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 mg/l) 1385	3 h	activated sludge, domestic	Study report (1989)	OECD Guideline 209
13463-67-7	titanium dioxide					
	Acute fish toxicity	LC50 mg/l > 100	96 h	Carassius auratus	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l > 50	72 h	Raphidocelis subcapitata	REACH Registration Dossier	OECD Guideline 201

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 13 of 16

	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Artemia salina	REACH Registration Dossier	OECD Guideline 202
	Fish toxicity	NOEC mg/l	>= 80	6 d	Danio rerio	REACH Registration Dossier	OECD TG 210
	Algae toxicity	NOEC mg/l	>= 1	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 mg/l)	> 1000	3 h	activated sludge, domestic	REACH Registration Dossier	OECD Guideline 209

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran			
	OECD 302B	12%	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).			

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran	>= 2,64
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane	2,7
100-51-6	benzyl alcohol	1

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 14 of 16

BCF

CAS No	Chemical name	BCF	Species	Source
1675-54-3	2,2'- [[1-(Methylethyliden)bis(4,1-phenyleneoxy methylene)]bisoxirane	31		Study report (2010)
	Reaction mass of 2,2'- [methylenebis(2,1-phenyleneoxymethyl ene)]bis(oxirane) and 2,2'- [methylenebis(4,1-phenyleneoxymethyl ene)]bis(oxirane) and 2-{{2-[4- (oxiran-2-ylmethoxy)benzyl]phenoxy} methyl}oxirane	150		Other company data (
100-51-6	benzyl alcohol	1,371	QSAR model	http://epa.gov/oppt/
13463-67-7	titanium dioxide	> 0,47 - < 3,19	Artemia salina	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:

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 or ID 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 or ID number:

No dangerous good in sense of this transport regulation.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 15 of 16

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.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID 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. 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

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:

2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-
[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-
(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane
benzyl alcohol
titanium dioxide

SECTION 16: Other information

Changes

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

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 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)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC MX2(E) Part A

Revision date: 19.08.2022

Page 16 of 16

CAS: Chemical Abstracts Service (division of the American Chemical Society)
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures,
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 EC50: Effectice concentration, 50 percent
 DNEL: Derived No Effect Level
 PNEC: Predicted No Effect Concentration
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative

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

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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