Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC HT-T(E) Part A

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

1.1. Product identifier UFI: CUAW-UQEP-E9AS-N3G4

ARC HT-T(E) Part A

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 HT-T(E) (Part A) to provide a corrosion resistant coating for hot water/steam environment.

Uses advised against

No data 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
Skin Sens. 1; H317
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

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

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

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

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

Signal word: Warning

Pictograms:



Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
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.
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.

Special labelling of certain mixtures

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

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane			20 - < 25 %
	701-263-0		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
13463-67-7	titanium dioxide			1 - < 5 %
	236-675-5	022-006-00-2	01-2119489379-17	
	Carc. 2; H351			
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran			< 1 %
	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			
61788-44-1	Phenol, styrenated			< 0.1 %
	262-975-0		01-2119557886-19	
	Skin Irrit. 2, Skin Sens. 1A, Aquatic Chronic 2; H315 H317 H411			

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		
9003-36-5	701-263-0	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane	20 - < 25 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg		
13463-67-7	236-675-5	titanium dioxide	1 - < 5 %
	oral: LD50 = > 2000 mg/kg		
1675-54-3	216-823-5	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran	< 1 %
	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		
61788-44-1	262-975-0	Phenol, styrenated	< 0.1 %
	dermal: LD50 = > 2000 mg/kg; 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).

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. 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.

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

Processing vapours can irritate the respiratory tracts, skin and eyes.
Ingestion causes nausea, weakness and central nervous system effects.

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

Hazardous combustion products:
- Carbon monoxide,
- aldehydes,
- Gases/vapours, toxic

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.

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Dispose of waste according to applicable legislation.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid contact with skin, eyes and clothes.
Take off contaminated clothing and wash it before reuse.
Contaminated work clothing should not be allowed out of the workplace.
When using do not eat, drink or smoke.
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.

Other information

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

Wear personal protection equipment (refer to section 8).
Avoid dust formation., Do not breathe dust.
Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes and clothes. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.When using do not eat, drink or smoke.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

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.

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/m³	fib/cm³	Category	Origin
1344-28-1	Aluminium oxides, respirable dust	-	4		TWA (8 h)	
13463-67-7	Titanium dioxide, respirable dust	-	4		TWA (8 h)	

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
1344-28-1	Aluminium oxide			
Worker DNEL, long-term		inhalation	systemic	3 mg/m³
Worker DNEL, long-term		inhalation	local	3 mg/m³
Worker DNEL, long-term		dermal	systemic	0,84 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,75 mg/m³
Consumer DNEL, long-term		inhalation	local	0,75 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,3 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	1,32 mg/kg bw/day
,				
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane			
Worker DNEL, long-term		inhalation	systemic	29,39 mg/m³
Worker DNEL, long-term		dermal	systemic	104,15 mg/kg bw/day
Worker DNEL, long-term		inhalation	local	0,0083 mg/m³
Consumer DNEL, long-term		inhalation	systemic	8,7 mg/m³
Consumer DNEL, long-term		dermal	systemic	62,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	6,25 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
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran			
Worker DNEL, long-term		inhalation	local	310 mg/m³
Consumer DNEL, long-term		inhalation	local	55 mg/m³
Worker DNEL, long-term		inhalation	systemic	4,93 mg/m³
Worker DNEL, long-term		dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,0893 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day
61788-44-1	Phenol, styrenated			

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

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

PNEC values

CAS No	Substance
Environmental compartment	Value
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
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
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]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
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

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations. Provide adequate ventilation as well as local exhaustion at critical locations. Avoid dust formation. Knock down dust with water spray jet.

Individual protection measures, such as personal protective equipment

Eye/face protection

Eye glasses with side 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).

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:	green / black	
Odour:	odourless	
Melting point/freezing point:		No data available
Flammability		
Solid/liquid:		No data available
Gas:		No data available
Flash point:		> 93 °C
Decomposition temperature:		No data available

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

pH-Value:	No data available
Water solubility:	Immiscible
Solubility in other solvents	
No information available.	
Partition coefficient n-octanol/water:	No data available
Density (at 23 °C):	~ 2,45 g/cm³
Relative vapour density:	No data available

9.2. Other information

Information with regard to physical hazard classes

Self-ignition temperature	
Solid:	No data available
Gas:	No data available

Oxidizing properties

No information available.

Other safety characteristics

Viscosity / dynamic: (at 23 °C)	thixotropic

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

The product is stable under storage at normal ambient temperatures.

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 acid
- Strong alkali
- Oxidising agent, strong

10.6. Hazardous decomposition products

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

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.

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane					
	oral	LD50 mg/kg	> 5000	Rat	Study report (1988)	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rat	Study report (1988)	OECD Guideline 402
13463-67-7	titanium dioxide					
	oral	LD50 mg/kg	> 2000	Rat	Study report (1996)	OECD Guideline 401
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]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
61788-44-1	Phenol, styrenated					
	oral	LD50 mg/kg	> 2000	Rat	Study report (2014)	OECD Guideline 423
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2014)	OECD Guideline 402

Irritation and corrosivity

Causes skin irritation.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

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

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

Endocrine disrupting properties

No data available

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane						
	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
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
	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
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]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

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

	Crustacea toxicity	NOEC	0,3 mg/l	21 d	Daphnia magna	REACh Registration Dossier	OECD Guideline 211
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 mg/l	20,42	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 mg/l	0,0618	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

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)			
61788-44-1	Phenol, styrenated			
	OECD 301F	7%	28	
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane	2,7
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran	>= 2,64
61788-44-1	Phenol, styrenated	3,03

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

BCF

CAS No	Chemical name	BCF	Species	Source
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane	150		Other company data (
13463-67-7	titanium dioxide	> 0,47 - < 3,19	Artemia salina	REACh Registration D
1675-54-3	2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxy methylen)]bisoxiran	31		Study report (2010)
61788-44-1	Phenol, styrenated	168	Cyprinus carpio	http://www.safe.nite

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.

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

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.
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

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:
Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
titanium dioxide
2,2´-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran
Phenol, styrenated

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,4,5,6,7,8,9,10,11,12,16.

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

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)
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern

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

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

Relevant H and EUH statements (number and full text)

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

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office

EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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

©A. W. Chesterton Company, 2022 All Rights Reserved. ®Reg. US Patent and TM Office