CULR PIGMENTS

GlassCast® THE CLEAR CHOICE IN RESIN

COMBINED SAFETY DATA SHEET

Contents

SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – AshGrey

Chemical characterisation: C.I. Pigment Red 101, Yellow 42, Black 26 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 4544499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 4544499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
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Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 3,0 - ≤ 6,8 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

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After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
Iron(III)-Oxide
EC-Number: 215-168-2
CAS-Number: 1309-37-1

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL, inhalable dust

manganese ferrite black spinel
EC-Number: 269-056-3
CAS-Number: 68186-94-7

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL

C.I. Pigment Yellow 42
EC-Number: 257-098-5
CAS-Number: 51274-00-1

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL

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1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

Amorphous silicon dioxide
EC-Number: 231-545-4
CAS-Number: 7631-86-9

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

Propylene Glycol
EC-Number: 200-338-0
CAS-Number: 57-55-6

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	168 mg/m³	DNEL
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL
Inhalation	Consumers	Long-term systemic effects	50 mg/m³	DNEL
Inhalation	Consumers	Long-term local effects	10 mg/m³	DNEL
Skin contact	Consumers	Long-term systemic effects	213 mg/m³	
Ingestion	Consumers	Long-term systemic effects	85 mg/m³	

PNEC-values:
Propylene Glycol
EC-Number: 200-338-0
CAS-Number: 57-55-6

Environmental compartment	Value
Fresh water	260 mg/l
Marine water	26 mg/l
Water (intermittent release)	183 mg/l
Sewage treatment plant	20000 mg/l
Fresh water sediment	572 mg/kg dry weight (d.w.)
Marine sediment	57,2 mg/kg dry weight (d.w.)
Soil	50 mg/kg dry weight (d.w.)

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1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	grey
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined

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Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density:	2,00 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid
None known.

10.5. Incompatible Materials
No data available.

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result:Irritating to skin. GLP:yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result:Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result:Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type:	Guinea pig maximization test Exposure routes: Dermal
Species:	Guinea pig Method: Other ResulT: May cause sensitisation by skin contact. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Guinea pig
Method: Other
Result: The product is a skin sensitiser, sub-category 1A.
Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled, Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro: Remarks: no data available

Germ cell mutagenicity-Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro: Test Type: Mouse lymphoma assay
Test system: mouse lymphoma cells
Concentration: 0,1 - 12,8 µg/ml

Metabolic activation: with and without metabolic activation: Method: OECD Test Guideline 476
Result: negative
GLP: yes
Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 0,064 - 200 µg/plate

Metabolic activation: with and without metabolic activation: Method: OECD Test Guideline 471
Result: negative
GLP: yes
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Concentration: 1 - 40 µg/ml

Metabolic activation: with and without metabolic activation: Method: OECD Test Guideline 473
Result: positive
GLP: yes

Genotoxicity in vivo: Test Type: Other
Species: Rat (male)
Strain: wistar
Cell type: Liver cells
Application Route: Ingestion
Exposure time: single dose
Dose: 560 - 1400 mg/kg
Method: OECD Test Guideline 486
Result: negative
GLP: yes

Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: CD1
Cell type: Bone marrow
Application Route: Ingestion

	Exposure time: single dose Dose: 125-250-500-1000-2000-5000mg/kg Method: OECD Test Guideline 474 Result: negative GLP: yes
Germ cell mutagenicity- Assessment:	Did not show mutagenic effects in animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro:	Test Type: In vitro study
Metabolic activation: with and without metabolic activation:	Result: Conflicting results have been seen in different studies.
Genotoxicity in vivo:	Test Type: Micronucleus test Species: Rat Cell type: Bone marrow Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 28 mg/kg Result: negative
	Test Type: Micronucleus test Species: Mouse Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 20 - 30 mg/kg Result: negative
Germ cell mutagenicity- Assessment:	In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity - Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity - Assessment:	Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity - Assessment:	No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity - Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility:	Species: Rat, male Application Route: oral (fed) Dose: 18,5 - 97,8 mg/kg General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight General Toxicity F1: NOAEL: 48 mg/kg body weight Method: Other GLP: yes

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	Species: Rat, female Application Route: oral (feed) Dose: 27,0 - 114,8 mg/kg General Toxicity - Parent: NOAEL: 27 mg/kg body weight General Toxicity F1: NOAEL: 56,6 mg/kg body weight Method: Other GLP: yes
Effects on foetal development:	Species: Rat, female Application Route: oral (gavage) Dose: 10 - 40 - 100 mg/kg General Toxicity Maternal: NOAEL: 10 mg/kg body weight Teratogenicity: NOAEL: 40 mg/kg body weight Method: Directive 67/548/EEC, Annex V, B.31. GLP: yes
Reproductive toxicity – Assessment:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:	Species: Rat, male and female Application Route: Drinking water Dose: 25 - 75 - 225 ppm General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight Method: Other GLP: yes
	Species: Rat, male and female Application Route: Drinking water Dose: 30 - 100 - 300 ppm General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes
Effects on foetal development:	Species: Rat, male and female Application Route: oral (gavage) Dose: ≤ 15 mg/kg
Developmental Toxicity:	NOAEL: 15 mg/kg body weight Method: Other
	Species: Rat, male and female Application Route: oral (gavage) General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight Method: Other
Reproductive toxicity – Assessment:	Weight of evidence does not support classification for reproductive toxicity Embryotoxicity classification not possible from current data.

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STOT - single exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:

Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:

no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

No aspiration toxicity classification

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: no data available
Toxicity to algae:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to microorganisms:	Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water

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NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

Toxicity to algae:

EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity):

1

sewage): 23 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity):

NOEC: 0,21 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Analytical monitoring: yes
Method: OECD Test Guideline 215
GLP: yes

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1,2 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes NOEC: 1,9 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
Toxicity to soil dwelling organisms:	Test Type: artificial soil LC50: > 410,6 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration. Test Type: artificial soil NOEC: 234,5 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Plant toxicity:	EC50: 340 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration. NOEC: 90 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration. EC50: 300 mg/kg Exposure time: 19 d End point: Growth

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	Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
	NOEC: 51 mg/kg Exposure time: 19 d End point: Growth Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Sediment toxicity:	Remarks: not available
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish:	EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10

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Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d pH: 4 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: > 200 d pH: 7 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: 145 d pH: 9 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
Photodegradation:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 400 nm Degradation (direct photolysis): < 1,5 % GLP: yes
	Test Type: air Method: calculated GLP: no Remarks: Decomposes rapidly in contact with light.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Result: Not rapidly biodegradable Method: OECD Test Guideline 301B
Photodegradation:	Test Type: water Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation:	Species: Lepomis macrochirus (Bluegill sunfish) Exposure time: 56 d Concentration: 0,1 mg/l Bioconcentration factor (BCF): 6,62 Method: OECD Test Guideline 305 GLP: no Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation:	Bioconcentration factor (BCF): 3,6 Method: calculated Remarks: Does not accumulate in organisms.
Partition coefficient n-octanol/water:	log Pow: -0,71 - 0,75 Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments:	Adsorption/Soil Medium: water – soil Koc: 235 – 566 Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment:	The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways:	no data available
Additional ecological information:	no data available

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available

Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:

This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR:	not restricted
ADN:	not restricted
RID:	not restricted
IATA:	not restricted
IMDG:	not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

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SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization

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IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of CULR products for its particular application. Nothing included in this information waives any of Easy Composite‘s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.
Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing CULR products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products.
For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Cosmic Purple

Chemical characterisation: C.I. Pigment Violet 23 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 4544499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 4544499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 9,2 - ≤ 12,8 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

C11-Oxoalcohol-heptaglykolethersulfate, sodium salt
Concentration: ≥ 1,0 - ≤ 3,0 %
CAS-Number: 219756-63-5
EC-Number: 639-480-7

GHS classification EC:

Skin irritation	Category 2	H315
Serious eye damage	Category 1	H318

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

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SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

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6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
C.I. Pigment Violet 23
EC number: 606-790-9
CAS number: 215247-95-3

Route ofexposure	End use	Potential health effects	Value	Remarks
Dermal	Workers	Long-term systemic effects	42 mg/kg bw/day	DNEL
Inhalation	Workers	Long-term systemic effects	49 mg/m^3	DNEL
Inhalation	Workers	Long-term local effects	3 mg/m^3	DNEL
Dermal	General population	Long-term systemic effects	25 mg/kg bw/day	DNEL
Oral	General population	Long-term systemic effects	25 mg/kg bw/day	DNEL

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

PNEC-values:
Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

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Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	violet
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density:	1,22 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.
Stable.

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10.4. Conditions to avoid
None known.

10.5. Incompatible Materials
No data available.

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result: Irritating to skin. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result: Causes burns.

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Serious eye damage/eye irritation

Informations related to the product:

Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result: Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type:	Guinea pig maximization test Exposure routes: Dermal
Species:	Guinea pig Method: Other ResulT: May cause sensitisation by skin contact. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Guinea pig Method: Other Result: The product is a skin sensitiser, sub-category 1A. Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled, Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro:	Remarks: no data available
Germ cell mutagenicity- Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Concentration: 0,1 - 12,8 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Ames test

Test system: Salmonella typhimurium
Concentration: 0,064 - 200 µg/plate

Metabolic activation:
with and without metabolic activation:
Method: OECD Test Guideline 471
Result: negative
GLP: yes
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Concentration: 1 - 40 µg/ml

Metabolic activation:
with and without metabolic activation:
Method: OECD Test Guideline 473
Result: positive
GLP: yes

Genotoxicity in vivo:
Test Type: Other
Species: Rat (male)
Strain: wistar
Cell type: Liver cells
Application Route: Ingestion
Exposure time: single dose
Dose: 560 - 1400 mg/kg
Method: OECD Test Guideline 486
Result: negative
GLP: yes

Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: CD1
Cell type: Bone marrow
Application Route: Ingestion
Exposure time: single dose
Dose: 125-250-500-1000-2000-5000mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity-
Assessment: Did not show mutagenic effects in animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro: Test Type: In vitro study

Metabolic activation:
with and without metabolic activation:
Result: Conflicting results have been seen in different studies.

Genotoxicity in vivo:
Test Type: Micronucleus test
Species: Rat
Cell type: Bone marrow
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 28 mg/kg
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Exposure time: ≤ 5 d

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Dose: 1-5 x ≤ 20 - 30 mg/kg
Result: negative

Germ cell mutagenicity-
Assessment: In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility: Species: Rat, male
Application Route: oral (fed)
Dose: 18,5 - 97,8 mg/kg
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, female
Application Route: oral (feed)
Dose: 27,0 - 114,8 mg/kg
General Toxicity - Parent: NOAEL: 27 mg/kg body weight
General Toxicity F1: NOAEL: 56,6 mg/kg body weight
Method: Other
GLP: yes

Effects on foetal development: Species: Rat, female
Application Route: oral (gavage)
Dose: 10 - 40 - 100 mg/kg
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Teratogenicity: NOAEL: 40 mg/kg body weight
Method: Directive 67/548/EEC, Annex V, B.31.
GLP: yes

Reproductive toxicity – Assessment: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.
Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility: Species: Rat, male and female
Application Route: Drinking water
Dose: 25 - 75 - 225 ppm

General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight
General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, male and female
Application Route: Drinking water
Dose: 30 - 100 - 300 ppm
General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight
General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight
General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development: Species: Rat, male and female
Application Route: oral (gavage)
Dose: ≤ 15 mg/kg

Developmental Toxicity: NOAEL: 15 mg/kg body weight
Method: Other
Species: Rat, male and female
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight
Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity
Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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Repeated dose toxicity

Informations related to the product:

Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:

no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish: Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates: Remarks: no data available
Toxicity to algae: Remarks: no data available
Toxicity to fish (Chronic toxicity): Remarks: no data available
Toxicity to microorganisms: Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity): 1
Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l
Exposure time: 96 h

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	Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
	NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
Toxicity to algae:	EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
	NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
M-Factor (Acute aquatic toxicity):	1
Toxicity to microorganisms:	EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l

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End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity):

NOEC: 0,21 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Analytical monitoring: yes
Method: OECD Test Guideline 215
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 1,2 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

NOEC: 1,9 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to soil dwelling organisms:

Test Type: artificial soil
LC50: > 410,6 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes

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Remarks: The details of the toxic effect relate to the nominal concentration.

Test Type: artificial soil
NOEC: 234,5 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Plant toxicity:

EC50: 340 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 51 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Sediment toxicity: Remarks: not available

Ecotoxicology Assessment

Acute aquatic toxicity: Very toxic to aquatic life.

Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

<u>Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):</u>

Toxicity to fish: EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

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Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes

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Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d pH: 4 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: > 200 d pH: 7 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: 145 d pH: 9 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
Photodegradation:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 400 nm Degradation (direct photolysis): < 1,5 % GLP: yes
	Test Type: air Method: calculated GLP: no Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Result: Not rapidly biodegradable Method: OECD Test Guideline 301B
Photodegradation:	Test Type: water Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation:	Species: Lepomis macrochirus (Bluegill sunfish) Exposure time: 56 d Concentration: 0,1 mg/l Bioconcentration factor (BCF): 6,62 Method: OECD Test Guideline 305 GLP: no Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation:	Bioconcentration factor (BCF): 3,6 Method: calculated Remarks: Does not accumulate in organisms.

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Partition coefficient
n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among
environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways: no data available
Additional ecological information: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available
Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:

This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR: not restricted
ADN: not restricted
RID: not restricted
IATA: not restricted
IMDG: not restricted

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14.6. Special precautions for users
See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:
Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment
No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:
Change in the composition

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Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances

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TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of CULR products for its particular application. Nothing included in this information waives any of Easy Composite‘s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Fuchsia Pink

Chemical characterisation: C.I. Pigment Red 122 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 4544499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 4544499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one
and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 8,3 - ≤ 14,4 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

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After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
C.I. Pigment Red 122
EC-Number: 213-561-3
CAS-Number: 980-26-7

Route of exposure	End use	Potential health effects	Value	Remarks
Dermal	Workers	Long-term systemic effects	42 mg/kg bw/day	DNEL
Inhalation	Workers	Long-term systemic effects	147 mg/m³	DNEL
Inhalation	Workers	Long-term local effects	3 mg/m³	DNEL
Dermal	General population	Long-term systemic effects	25 mg/kg bw/day	DNEL
Oral	General population	Long-term systemic effects	25 mg/kg bw/day	DNEL

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL

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Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

PNEC-values:

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

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Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	pink
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density: 1,18 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid

None known.

10.5. Incompatible Materials

No data available.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

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SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result: Irritating to skin. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result: Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result: Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type:	Guinea pig maximization test Exposure routes: Dermal
Species:	Guinea pig Method: Other ResulT: May cause sensitisation by skin contact. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Guinea pig Method: Other Result: The product is a skin sensitiser, sub-category 1A. Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled, Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro:	Remarks: no data available
Germ cell mutagenicity- Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Concentration: 0,1 - 12,8 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Ames test Test system: Salmonella typhimurium Concentration: 0,064 - 200 µg/plate
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 471 Result: negative GLP: yes

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	Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Concentration: 1 - 40 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 473 Result: positive GLP: yes
Genotoxicity in vivo:	Test Type: Other Species: Rat (male) Strain: wistar Cell type: Liver cells Application Route: Ingestion Exposure time: single dose Dose: 560 - 1400 mg/kg Method: OECD Test Guideline 486 Result: negative GLP: yes
	Test Type: Micronucleus test Species: Mouse (male and female) Strain: CD1 Cell type: Bone marrow Application Route: Ingestion Exposure time: single dose Dose: 125-250-500-1000-2000-5000mg/kg Method: OECD Test Guideline 474 Result: negative GLP: yes
Germ cell mutagenicity- Assessment:	Did not show mutagenic effects in animal experiments.

<u>Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):</u>

Genotoxicity in vitro:	Test Type: In vitro study
Metabolic activation: with and without metabolic activation:	Result: Conflicting results have been seen in different studies.
Genotoxicity in vivo:	Test Type: Micronucleus test Species: Rat Cell type: Bone marrow Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 28 mg/kg Result: negative
	Test Type: Micronucleus test Species: Mouse Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 20 - 30 mg/kg Result: negative
Germ cell mutagenicity- Assessment:	In vivo tests did not show mutagenic effects

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Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility:
Species: Rat, male
Application Route: oral (fed)
Dose: 18,5 - 97,8 mg/kg
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, female
Application Route: oral (feed)
Dose: 27,0 - 114,8 mg/kg
General Toxicity - Parent: NOAEL: 27 mg/kg body weight
General Toxicity F1: NOAEL: 56,6 mg/kg body weight
Method: Other
GLP: yes

Effects on foetal development:
Species: Rat, female
Application Route: oral (gavage)
Dose: 10 - 40 - 100 mg/kg
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Teratogenicity: NOAEL: 40 mg/kg body weight
Method: Directive 67/548/EEC, Annex V, B.31.
GLP: yes

Reproductive toxicity – Assessment:
No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.
Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:
Species: Rat, male and female
Application Route: Drinking water
Dose: 25 - 75 - 225 ppm
General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight
General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight

Method: Other
GLP: yes

Species: Rat, male and female
Application Route: Drinking water
Dose: 30 - 100 - 300 ppm
General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight
General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight
General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development: Species: Rat, male and female
Application Route: oral (gavage)
Dose: ≤ 15 mg/kg

Developmental Toxicity: NOAEL: 15 mg/kg body weight
Method: Other
Species: Rat, male and female
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight
Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity
Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:

Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Dog, male and female
NOAEL: 5 mg/kg

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LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:
no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish: Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates: Remarks: no data available
Toxicity to algae: Remarks: no data available
Toxicity to fish (Chronic toxicity): Remarks: no data available
Toxicity to microorganisms: Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity): 1
Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l
Exposure time: 96 h

	Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
	NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
Toxicity to algae:	EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
	NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
M-Factor (Acute aquatic toxicity):	1
Toxicity to microorganisms:	EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l End point: Bacteria toxicity (respiration inhibition) Exposure time: 3 h Test Type: aquatic Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes

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Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity):

NOEC: 0,21 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Analytical monitoring: yes
Method: OECD Test Guideline 215
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 1,2 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

NOEC: 1,9 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to soil dwelling organisms:

Test Type: artificial soil
LC50: > 410,6 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Test Type: artificial soil
NOEC: 234,5 mg/kg
Exposure time: 14 d

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End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Plant toxicity:

EC50: 340 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 51 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Sediment toxicity: Remarks: not available

Ecotoxicology Assessment

Acute aquatic toxicity: Very toxic to aquatic life.

Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

<u>Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):</u>

Toxicity to fish: EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0,1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d

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pH: 4
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: > 200 d
pH: 7
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: 145 d
pH: 9
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Photodegradation: Test Type: water
Light source: Xenon lamp
Light spectrum: 290 - 400 nm
Degradation (direct photolysis): < 1,5 %
GLP: yes

Test Type: air
Method: calculated
GLP: no
Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Method: OECD Test Guideline 301B

Photodegradation: Test Type: water
Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Concentration: 0,1 mg/l
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
GLP: no
Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation: Bioconcentration factor (BCF): 3,6
Method: calculated
Remarks: Does not accumulate in organisms.

Partition coefficient n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

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12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways: no data available
Additional ecological information: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available
Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:

This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR: not restricted
ADN: not restricted
RID: not restricted
IATA: not restricted
IMDG: not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

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SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:
Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment
No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:
Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight

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CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

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Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of CULR products for its particular application. Nothing included in this information waives any of Easy Composite‘s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Indigo Blue

Chemical characterisation: C.I. Pigment Blue 15 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 4544499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 4544499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 13,1 - ≤ 18,0 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

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After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

PNEC-values:
Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

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1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	blue
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined

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Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density:	1,22 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid
None known.

10.5. Incompatible Materials
No data available.

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	EPISKIN Human Skin Model Test Method: OECD Test Guideline 439 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.
Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result:Irritating to skin. GLP:yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result:Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	Bovine cornea Method: OECD Test Guideline 437 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.
Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result:Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

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Respiratory or skin sensitisation

Informations related to the product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type: Guinea pig maximization test
Exposure routes: Dermal

Species: Guinea pig
Method: Other
ResulT: May cause sensitisation by skin contact.
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Guinea pig
Method: Other
Result: The product is a skin sensitiser,
sub-category 1A.
Assessment: Toxic if swallowed,
Fatal in contact with skin,
Fatal ifinhaled,
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro: Remarks: no data available

Germ cell mutagenicity-
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro: Test Type: Mouse lymphoma assay
Test system: mouse lymphoma cells
Concentration: 0,1 - 12,8 µg/ml

Metabolic activation:
with and without metabolic activation: Method: OECD Test Guideline 476
Result: negative
GLP: yes
Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 0,064 - 200 µg/plate

Metabolic activation:
with and without metabolic activation: Method: OECD Test Guideline 471
Result: negative
GLP: yes
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Concentration: 1 - 40 µg/ml

Metabolic activation:
with and without metabolic activation: Method: OECD Test Guideline 473
Result: positive
GLP: yes

Genotoxicity in vivo: Test Type: Other
Species: Rat (male)
Strain: wistar
Cell type: Liver cells

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Application Route: Ingestion
Exposure time: single dose
Dose: 560 - 1400 mg/kg
Method: OECD Test Guideline 486
Result: negative
GLP: yes

Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: CD1
Cell type: Bone marrow
Application Route: Ingestion
Exposure time: single dose
Dose: 125-250-500-1000-2000-5000mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity-
Assessment: Did not show mutagenic effects in animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro: Test Type: In vitro study
Metabolic activation:
with and without metabolic activation: Result: Conflicting results have been seen in different studies.

Genotoxicity in vivo: Test Type: Micronucleus test
Species: Rat
Cell type: Bone marrow
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 28 mg/kg
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 20 - 30 mg/kg
Result: negative

Germ cell mutagenicity-
Assessment: In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility:	Species: Rat, male Application Route: oral (fed) Dose: 18,5 - 97,8 mg/kg General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight General Toxicity F1: NOAEL: 48 mg/kg body weight Method: Other GLP: yes
	Species: Rat, female Application Route: oral (feed) Dose: 27,0 - 114,8 mg/kg General Toxicity - Parent: NOAEL: 27 mg/kg body weight General Toxicity F1: NOAEL: 56,6 mg/kg body weight Method: Other GLP: yes
Effects on foetal development:	Species: Rat, female Application Route: oral (gavage) Dose: 10 - 40 - 100 mg/kg General Toxicity Maternal: NOAEL: 10 mg/kg body weight Teratogenicity: NOAEL: 40 mg/kg body weight Method: Directive 67/548/EEC, Annex V, B.31. GLP: yes
Reproductive toxicity – Assessment:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:	Species: Rat, male and female Application Route: Drinking water Dose: 25 - 75 - 225 ppm General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight Method: Other GLP: yes
	Species: Rat, male and female Application Route: Drinking water Dose: 30 - 100 - 300 ppm General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes
Effects on foetal development:	Species: Rat, male and female Application Route: oral (gavage) Dose: ≤ 15 mg/kg
Developmental Toxicity:	NOAEL: 15 mg/kg body weight Method: Other

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Species: Rat, male and female
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight
Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity
Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:

Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes

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Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:
no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: no data available
Toxicity to algae:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to microorganisms:	Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes

Method: OECD Test Guideline 202
GLP: yes

EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

Toxicity to algae:

EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity): 1

Toxicity to microorganisms:

EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil

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	Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity):	NOEC: 0,21 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Analytical monitoring: yes Method: OECD Test Guideline 215 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1,2 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
	NOEC: 1,9 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
Toxicity to soil dwelling organisms:	Test Type: artificial soil LC50: > 410,6 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
	Test Type: artificial soil NOEC: 234,5 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Plant toxicity:	EC50: 340 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.

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NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 51 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Sediment toxicity: Remarks: not available

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish: EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0,1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 201

NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): 100

Toxicity to microorganisms: EC50 (activated sludge): 7,92 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

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Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d pH: 4 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: > 200 d pH: 7 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: 145 d pH: 9 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes

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Photodegradation:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 400 nm Degradation (direct photolysis): < 1,5 % GLP: yes
	Test Type: air Method: calculated GLP: no Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Result: Not rapidly biodegradable Method: OECD Test Guideline 301B
Photodegradation:	Test Type: water Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation:	Species: Lepomis macrochirus (Bluegill sunfish) Exposure time: 56 d Concentration: 0,1 mg/l Bioconcentration factor (BCF): 6,62 Method: OECD Test Guideline 305 GLP: no Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation:	Bioconcentration factor (BCF): 3,6 Method: calculated Remarks: Does not accumulate in organisms.
Partition coefficient n-octanol/water:	log Pow: -0,71 - 0,75 Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments:	Adsorption/Soil Medium: water – soil Koc: 235 – 566 Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment:	The substance is not identified as a PBT or as a vPvB substance.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways: no data available

Additional ecological information: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available

Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:

This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR:	not restricted
ADN:	not restricted
RID:	not restricted
IATA:	not restricted
IMDG:	not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

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15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer

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IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of CULR products for its particular application. Nothing included in this information waives any of Easy Composite‘s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.
Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing CULR products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products.
For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Jet Black

Chemical Caracterisation: C.I. Pigment Black 7 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 6,2 - ≤ 10,7 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

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After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
C.I. Pigment Black 7
EC-Number: 215-609-9
CAS-Number: 1333-86-4

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	2 mg/m³	DNEL
Inhalation	Workers	Long-term local effects	2 mg/m³	DNEL

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

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Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

PNEC-values:
Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	black
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density: 1,20 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid

None known.

10.5. Incompatible Materials

No data available.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

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SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Acute toxicity estimate:> 2.000 mg/kg Method: Calculation method

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result: Irritating to skin. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result: Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result: Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type:	Guinea pig maximization test Exposure routes: Dermal
Species:	Guinea pig Method: Other ResulT: May cause sensitisation by skin contact. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Guinea pig Method: Other Result: The product is a skin sensitiser, sub-category 1A. Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled, Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro:	Remarks: no data available
Germ cell mutagenicity- Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Concentration: 0,1 - 12,8 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Ames test Test system: Salmonella typhimurium Concentration: 0,064 - 200 µg/plate
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 471 Result: negative GLP: yes

	Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Concentration: 1 - 40 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 473 Result: positive GLP: yes
Genotoxicity in vivo:	Test Type: Other Species: Rat (male) Strain: wistar Cell type: Liver cells Application Route: Ingestion Exposure time: single dose Dose: 560 - 1400 mg/kg Method: OECD Test Guideline 486 Result: negative GLP: yes
	Test Type: Micronucleus test Species: Mouse (male and female) Strain: CD1 Cell type: Bone marrow Application Route: Ingestion Exposure time: single dose Dose: 125-250-500-1000-2000-5000mg/kg Method: OECD Test Guideline 474 Result: negative GLP: yes
Germ cell mutagenicity- Assessment:	Did not show mutagenic effects in animal experiments.

<u>Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):</u>

Genotoxicity in vitro:	Test Type: In vitro study
Metabolic activation: with and without metabolic activation:	Result: Conflicting results have been seen in different studies.
Genotoxicity in vivo:	Test Type: Micronucleus test Species: Rat Cell type: Bone marrow Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 28 mg/kg Result: negative
	Test Type: Micronucleus test Species: Mouse Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 20 - 30 mg/kg Result: negative
Germ cell mutagenicity- Assessment:	In vivo tests did not show mutagenic effects

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Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility:
Species: Rat, male
Application Route: oral (fed)
Dose: 18,5 - 97,8 mg/kg
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, female
Application Route: oral (feed)
Dose: 27,0 - 114,8 mg/kg
General Toxicity - Parent: NOAEL: 27 mg/kg body weight
General Toxicity F1: NOAEL: 56,6 mg/kg body weight
Method: Other
GLP: yes

Effects on foetal development:
Species: Rat, female
Application Route: oral (gavage)
Dose: 10 - 40 - 100 mg/kg
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Teratogenicity: NOAEL: 40 mg/kg body weight
Method: Directive 67/548/EEC, Annex V, B.31.
GLP: yes

Reproductive toxicity – Assessment:
No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.
Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:
Species: Rat, male and female
Application Route: Drinking water
Dose: 25 - 75 - 225 ppm
General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight
General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight

Method: Other
GLP: yes

Species: Rat, male and female
Application Route: Drinking water
Dose: 30 - 100 - 300 ppm
General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight
General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight
General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development: Species: Rat, male and female
Application Route: oral (gavage)
Dose: ≤ 15 mg/kg

Developmental Toxicity: NOAEL: 15 mg/kg body weight
Method: Other
Species: Rat, male and female
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight
Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity
Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:

Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Dog, male and female
NOAEL: 5 mg/kg

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LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:
no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish: Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates: Remarks: no data available
Toxicity to algae: Remarks: no data available
Toxicity to fish (Chronic toxicity): Remarks: no data available
Toxicity to microorganisms: Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity): 1
Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l
Exposure time: 96 h

Test Type: static test
Analytical monitoring: yes
Method: No information available.
GLP: yes

Toxicity to daphnia and other aquatic invertebrates:

EC50 (Daphnia magna (Water flea)): 2,94 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

EC0 (Daphnia magna (Water flea)): 0,643 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

Toxicity to algae:

EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity): 1

Toxicity to microorganisms:

EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes

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Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity):

NOEC: 0,21 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Analytical monitoring: yes
Method: OECD Test Guideline 215
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 1,2 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

NOEC: 1,9 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to soil dwelling organisms:

Test Type: artificial soil
LC50: > 410,6 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Test Type: artificial soil
NOEC: 234,5 mg/kg
Exposure time: 14 d

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End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Plant toxicity:

EC50: 340 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 51 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Sediment toxicity: Remarks: not available

Ecotoxicology Assessment

Acute aquatic toxicity: Very toxic to aquatic life.

Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

<u>Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):</u>

Toxicity to fish: EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0,1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d

pH: 4
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: > 200 d
pH: 7
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: 145 d
pH: 9
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Photodegradation: Test Type: water
Light source: Xenon lamp
Light spectrum: 290 - 400 nm
Degradation (direct photolysis): < 1,5 %
GLP: yes

Test Type: air
Method: calculated
GLP: no
Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Method: OECD Test Guideline 301B

Photodegradation: Test Type: water
Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Concentration: 0,1 mg/l
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
GLP: no
Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation: Bioconcentration factor (BCF): 3,6
Method: calculated
Remarks: Does not accumulate in organisms.

Partition coefficient n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

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12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways: no data available
Additional ecological information: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available
Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:

This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR: not restricted
ADN: not restricted
RID: not restricted
IATA: not restricted
IMDG: not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

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SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:
Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment
No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:
Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight

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CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

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Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Easy Composites Ltd products for its particular application. Nothing included in this information waives any of Easy Composites Ltd ‘s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Leaf Green

Chemical characterisation: C.I. Pigment Green 7, Yellow 73, Yellow 74, Yellow 42, Red 101, Yellow 3 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 9,2 - ≤ 12,1 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

Rosin amine
Concentration: ≥ 0,1 - ≤ 0,25 %
CAS-Number: 61790-47-4
EC-Number: 263-139-8
Registrationnumber: 01-2120780340-61-XXXX

GHS classification EC:

Acute toxicity	Category 4	H302
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Aquatic chronic	Category 1	H410

M-Factor (Acute aquatic toxicity)	10
M-Factor (Chronic aquatic toxicity)	1

1-Propanaminium, 3-Amino-N-(carboxymethyl)-N,N-dimethyl-, N-C8-18-Acylderivate, Hydroxide, inner salts
Concentration: ≥ 1,0 - ≤ 2,5 %
CAS-Number: 97862-59-4
EC-Number: 308-107-7
Registrationnumber: 01-2119488533-30-0011

GHS classification EC:

Serious eye damage	Category 1	H318
Chronic aquatic toxicity	Category 3	H412

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

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Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)
Sulphur oxides (SO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

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DNEL / DMEL-values:

C.I. Pigment Yellow 74
EC-Number: 228-768-4
CAS-Number: 6358-31-2

Route of exposure	End use	Potential health effects	Value	Remarks
Dermal	Workers	Long-term systemic effects	42 mg/kg bw/day	
Inhalation	Workers	Long-term systemic effects	49 mg/m³	
Inhalation	Workers	Long-term local effects	3 mg/m³	
Dermal	General Population	Long-term systemic effects	25 mg/kg bw/day	
Oral	General Population	Long-term systemic effects	25 mg/kg bw/day	

C.I. Pigment Green 7
EC-Number: 215-524-7
CAS-Number: 1328-53-6

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL
Inhalation	Consumers	Long-term local effects	10 mg/m³	DNEL

C.I. Pigment Yellow 42
EC-Number: 257-098-5
CAS-Number: 51274-00-1

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL

Iron(III)-Oxide
EC-Number: 215-168-2
CAS-Number: 1309-37-1

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL, inhalable dust

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

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Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

1-Propanaminium, 3-Amino-N-(carboxymethyl)-N,N-dimethyl-, N-C8-18-Acylderivate, Hydroxide, inner salts
EC-Number: 30-107-7
CAS-Number: 97862-59-4

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	44 mg/m³	DNEL
Skin contact	Workers	Long-term systemic effects	12,5 mg/kg bw/day	DNEL
Skin contact	General population	Long-term systemic effects	7,5 mg/kg bw/day	DNEL
Ingestion	General population	Long-term systemic effects	7,5 mg/kg bw/day	DNEL

Glycerine
EC-Number: 200-289-5
CAS-Number: 56-81-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	56 mg/m³	DNEL
Inhalation	General population	Long-term local effects	33 mg/m³	DNEL
Ingestion	General population	Long-term systemic effects	229 mg/kg bw/day	DNEL

PNEC-values:

1-Propanaminium, 3-Amino-N-(carboxymethyl)-N,N-dimethyl-, N-C8-18-Acylderivate, Hydroxide, inner salts
EC-Number: 30-107-7
CAS-Number: 97862-59-4

Environmental compartment	Value
Fresh water	0,013 mg/l
Salt water	0,001 mg/l
Water (intermittent release)	3000 mg/l
Fresh water sediment	1 mg/kg dry weight (d.w.)
Marine sediment	0,1 mg/kg dry weight (d.w.)
Soil	0,8 mg/kg dry weight (d.w.)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l

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Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Nummer: 611-341-5
CAS-Nummer: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

Glycerine
EC-Number: 200-289-5
CAS-Number: 56-81-5

Environmental compartment	Value
Fresh water	0,885 mg/l
Marine water	0,088 mg/l
Sewage treatment plant	1000 mg/l
Fresh water sediment	3,33 mg/kg dry weight (d.w.)
Marine sediment	0,33 mg/kg dry weight (d.w.)
Soil	0,141 mg/kg dry weight (d.w.)

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	green
Odour:	not significant
Odour threshold:	not required

pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density: 1,27 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid

None known.

10.5. Incompatible Materials

No data available.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method

Informations related to the component Rosin amine:

Acute oral toxicity:	LD50 (Rat, male and female): 300 - 2.000 mg/kg Method: OECD Test Guideline 423

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	Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Not applicable

Information related to the component 1-Propanaminium, 3-amino-N-(carboxymethyl)-N, N-dimethyl-, N-C8-18 acyl derivs., hydroxides, inner salts:

Acute oral toxicity:	LD50 (Rat):> 5.000 mg/kg

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	EPISKIN Human Skin Model Test Method: OECD Test Guideline 439 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.
Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Rosin amine:

Species:	In Vitro Membrane Barrier Test Method for Skin Corrosion – CORROSITEX Method: OECD Test Guideline 431 Result: Irritating to skin.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h

Result: Irritating to skin.
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rabbit
Result: Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species: Bovine cornea
Method: OECD Test Guideline 437
Result: No eye irritation
Remarks: The toxicological data has been taken from products of similar composition.

Species: rabbit eye
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Rosin amine:

Method: OECD Test Guideline 437
Result: Risk of serious damage to eyes.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: rabbit eye
Exposure time: 2,9 h - 11 d
Result: Risk of serious damage to eyes.
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: rabbit eye
Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks: no data available

Informations related to the component Rosin amine:

Test Type: Mouse local lymphnode assay
Exposure routes: Skin contact
Species: Mouse
Result: The product is a skin sensitiser, sub-category 1A.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type: Guinea pig maximization test
Exposure routes: Dermal

Species: Guinea pig
Method: Other
Result: May cause sensitisation by skin contact.
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Guinea pig
Method: Other
Result: The product is a skin sensitiser, sub-category 1A.

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Assessment: Toxic if swallowed,
Fatal in contact with skin,
Fatal ifinhaled,
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro: Remarks: no data available

Germ cell mutagenicity-
Assessment: No information available.

Informations related to the component Rosin amine:

Genotoxicity in vitro: Test Type: Ames test
Result: negative

Germ cell mutagenicity-
Assessment: In vitro tests did not show mutagenic effects

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro: Test Type: Mouse lymphoma assay
Test system: mouse lymphoma cells
Concentration: 0,1 - 12,8 µg/ml

Metabolic activation:
with and without metabolic activation: Method: OECD Test Guideline 476
Result: negative
GLP: yes
Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 0,064 - 200 µg/plate

Metabolic activation:
with and without metabolic activation: Method: OECD Test Guideline 471
Result: negative
GLP: yes
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Concentration: 1 - 40 µg/ml

Metabolic activation:
with and without metabolic activation: Method: OECD Test Guideline 473
Result: positive
GLP: yes

Genotoxicity in vivo: Test Type: Other
Species: Rat (male)
Strain: wistar
Cell type: Liver cells
Application Route: Ingestion
Exposure time: single dose
Dose: 560 - 1400 mg/kg
Method: OECD Test Guideline 486
Result: negative
GLP: yes

Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: CD1
Cell type: Bone marrow
Application Route: Ingestion

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Exposure time: single dose
Dose: 125-250-500-1000-2000-5000mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity-
Assessment: Did not show mutagenic effects in animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro: Test Type: In vitro study
Metabolic activation:
with and without metabolic activation: Result: Conflicting results have been seen in different studies.

Genotoxicity in vivo: Test Type: Micronucleus test
Species: Rat
Cell type: Bone marrow
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 28 mg/kg
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 20 - 30 mg/kg
Result: negative

Germ cell mutagenicity-
Assessment: In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component Rosin amine:

Carcinogenicity –
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

Informations related to the component Rosin amine:

Reproductive toxicity –
Assessment: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility:	Species: Rat, male Application Route: oral (fed) Dose: 18,5 - 97,8 mg/kg General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight General Toxicity F1: NOAEL: 48 mg/kg body weight Method: Other GLP: yes
	Species: Rat, female Application Route: oral (feed) Dose: 27,0 - 114,8 mg/kg General Toxicity - Parent: NOAEL: 27 mg/kg body weight General Toxicity F1: NOAEL: 56,6 mg/kg body weight Method: Other GLP: yes
Effects on foetal development:	Species: Rat, female Application Route: oral (gavage) Dose: 10 - 40 - 100 mg/kg General Toxicity Maternal: NOAEL: 10 mg/kg body weight Teratogenicity: NOAEL: 40 mg/kg body weight Method: Directive 67/548/EEC, Annex V, B.31. GLP: yes
Reproductive toxicity – Assessment:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:	Species: Rat, male and female Application Route: Drinking water Dose: 25 - 75 - 225 ppm General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight Method: Other GLP: yes
	Species: Rat, male and female Application Route: Drinking water Dose: 30 - 100 - 300 ppm General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes
Effects on foetal development:	Species: Rat, male and female Application Route: oral (gavage) Dose: ≤ 15 mg/kg
Developmental Toxicity:	NOAEL: 15 mg/kg body weight Method: Other

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Species: Rat, male and female
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight
Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity
Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component Rosin amine:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component Rosin amine:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:
Remarks: This information is not available.

Informations related to the component Rosin amine:
Species: Rat, male and female
NOAEL: 107,7 mg/kg bw/day
Application Route: oral (feed)
Method: OECD Test Guideline 422

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily

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Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:
no data available

Informations related to the component Rosin amine:
No aspiration toxicity classification

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish: Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates: Remarks: no data available
Toxicity to algae: Remarks: no data available
Toxicity to fish (Chronic toxicity): Remarks: no data available
Toxicity to microorganisms: Remarks: no data available

Informations related to the component Rosin amine:

Toxicity to fish: LC50 (Brachydanio rerio (zebrafish)): 0,66 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: WAF (Water accommodated fraction)

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0,23 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: WAF (Water accommodated fraction)

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): 0,071 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: WAF (Water accommodated fraction)

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,011 mg/l
Exposure time: 72 h

	Method: OECD Test Guideline 201 Remarks: WAF (Water accommodated fraction)
M-Factor (Acute aquatic toxicity):	10
Toxicity to microorganisms:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: no data available
M-Factor (Chronic aquatic toxicity):	1

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
	NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l Exposure time: 96 h Test Type: static test

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	Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
Toxicity to algae:	EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
	NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
M-Factor (Acute aquatic toxicity):	1
Toxicity to microorganisms:	EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l End point: Bacteria toxicity (respiration inhibition) Exposure time: 3 h Test Type: aquatic Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
	EC50: > 811,5 mg/kg dry weight (d.w.) Exposure time: 28 d Test Type: Soil Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
	NOEC: 263,7 mg/kg dry weight (d.w.) Exposure time: 28 d Test Type: Soil Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity):	NOEC: 0,21 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Analytical monitoring: yes Method: OECD Test Guideline 215 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1,2 mg/l End point: Reproduction rate

Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

NOEC: 1,9 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to soil dwelling organisms:

Test Type: artificial soil
LC50: > 410,6 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Test Type: artificial soil
NOEC: 234,5 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Plant toxicity:

EC50: 340 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes

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	Remarks: The details of the toxic effect relate to the nominal concentration.
	NOEC: 51 mg/kg Exposure time: 19 d End point: Growth Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Sediment toxicity:	Remarks: not available
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish:	EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d

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Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207

NOEC: 8,83 mg/kg dry weight (d.w.)
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
OECD Test Guideline 207

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:
Biodegradability: no data available

Informations related to the component Rosin amine:
Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 9 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Concentration: 1 mg/l
Result: Partially biodegradable.
Exposure time: 63 d
Method: OECD Test Guideline 301C
GLP: yes

Physico-chemical removability: Remarks: Biodegradable

Stability in water: Test Type: abiotic
Degradation half life: 219 d
pH: 4
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: > 200 d
pH: 7
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: 145 d
pH: 9
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Photodegradation: Test Type: water
Light source: Xenon lamp
Light spectrum: 290 - 400 nm
Degradation (direct photolysis): < 1,5 %
GLP: yes
Test Type: air
Method: calculated

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GLP: no
Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Method: OECD Test Guideline 301B

Photodegradation: Test Type: water
Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component Rosin amine:

Bioaccumulation: Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Concentration: 0,1 mg/l
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
GLP: no
Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation: Bioconcentration factor (BCF): 3,6
Method: calculated
Remarks: Does not accumulate in organisms.

Partition coefficient n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component Rosin amine:

Distribution among environmental compartments: adsorption
Medium: water – soil
Remarks: The product is insoluble and floats on water.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component Rosin amine:

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6. Other adverse effects

Informations related to the product:
Environmental fate and pathways: no data available
Additional ecological information: no data available

Informations related to the component Rosin amine:
Environmental fate and pathways: no data available
Additional ecological information: The product should not be allowed to enter drains, water courses or the soil.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Environmental fate andpathways: not available
Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:
Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:
This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR:	not restricted
ADN:	not restricted
RID:	not restricted
IATA:	not restricted
IMDG:	not restricted

14.6. Special precautions for users
See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable
REACH - List of substances subject to authorisation (Annex XIV): Not applicable

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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

Other regulations:

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number

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ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Milk Choc Brown

Chemical characterisation: C.I. Pigment Red 101, Yellow 42, Black 26 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 5,4 - ≤ 12,1 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

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After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
Iron(III)-Oxide
EC-Number: 215-168-2
CAS-Number: 1309-37-1

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL, inhalable dust

manganese ferrite black spinel
EC-Number: 269-056-3
CAS-Number: 68186-94-7

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL

C.I. Pigment Yellow 42
EC-Number: 257-098-5
CAS-Number: 51274-00-1

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL

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1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

Amorphous silicon dioxide
EC-Number: 231-545-4
CAS-Number: 7631-86-9

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

Propylene Glycol
EC-Number: 200-338-0
CAS-Number: 57-55-6

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	168 mg/m³	DNEL
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL
Inhalation	Consumers	Long-term systemic effects	50 mg/m³	DNEL
Inhalation	Consumers	Long-term local effects	10 mg/m³	DNEL
Skin contact	Consumers	Long-term systemic effects	213 mg/m³	
Ingestion	Consumers	Long-term systemic effects	85 mg/m³	

PNEC-values:
Propylene Glycol
EC-Number: 200-338-0
CAS-Number: 57-55-6

Environmental compartment	Value
Fresh water	260 mg/l
Marine water	26 mg/l
Water (intermittent release)	183 mg/l
Sewage treatment plant	20000 mg/l
Fresh water sediment	572 mg/kg dry weight (d.w.)
Marine sediment	57,2 mg/kg dry weight (d.w.)
Soil	50 mg/kg dry weight (d.w.)

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1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	brown
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined

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Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density: 1,69 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid

None known.

10.5. Incompatible Materials

No data available.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result:Irritating to skin. GLP:yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result:Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result:Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type:	Guinea pig maximization test Exposure routes: Dermal
Species:	Guinea pig Method: Other ResulT: May cause sensitisation by skin contact. GLP: yes

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Guinea pig Method: Other Result: The product is a skin sensitiser, sub-category 1A. Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled, Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro:	Remarks: no data available
Germ cell mutagenicity-Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Concentration: 0,1 - 12,8 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Ames test Test system: Salmonella typhimurium Concentration: 0,064 - 200 µg/plate
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 471 Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Concentration: 1 - 40 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 473 Result: positive GLP: yes
Genotoxicity in vivo:	Test Type: Other Species: Rat (male) Strain: wistar Cell type: Liver cells Application Route: Ingestion Exposure time: single dose Dose: 560 - 1400 mg/kg Method: OECD Test Guideline 486 Result: negative GLP: yes
	Test Type: Micronucleus test Species: Mouse (male and female) Strain: CD1 Cell type: Bone marrow Application Route: Ingestion

Exposure time: single dose
Dose: 125-250-500-1000-2000-5000mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity-
Assessment: Did not show mutagenic effects in animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro: Test Type: In vitro study
Metabolic activation:
with and without metabolic activation: Result: Conflicting results have been seen in different studies.

Genotoxicity in vivo: Test Type: Micronucleus test
Species: Rat
Cell type: Bone marrow
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 28 mg/kg
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 20 - 30 mg/kg
Result: negative

Germ cell mutagenicity-
Assessment: In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility: Species: Rat, male
Application Route: oral (fed)
Dose: 18,5 - 97,8 mg/kg
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Method: Other
GLP: yes

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	Species: Rat, female Application Route: oral (feed) Dose: 27,0 - 114,8 mg/kg General Toxicity - Parent: NOAEL: 27 mg/kg body weight General Toxicity F1: NOAEL: 56,6 mg/kg body weight Method: Other GLP: yes
Effects on foetal development:	Species: Rat, female Application Route: oral (gavage) Dose: 10 - 40 - 100 mg/kg General Toxicity Maternal: NOAEL: 10 mg/kg body weight Teratogenicity: NOAEL: 40 mg/kg body weight Method: Directive 67/548/EEC, Annex V, B.31. GLP: yes
Reproductive toxicity – Assessment:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:	Species: Rat, male and female Application Route: Drinking water Dose: 25 - 75 - 225 ppm General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight Method: Other GLP: yes
	Species: Rat, male and female Application Route: Drinking water Dose: 30 - 100 - 300 ppm General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes
Effects on foetal development:	Species: Rat, male and female Application Route: oral (gavage) Dose: ≤ 15 mg/kg
Developmental Toxicity:	NOAEL: 15 mg/kg body weight Method: Other
	Species: Rat, male and female Application Route: oral (gavage) General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity
Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:
Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:
no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: no data available
Toxicity to algae:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to microorganisms:	Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h

Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

Toxicity to algae:

EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity):

1

sewage): 23 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity):

NOEC: 0,21 mg/l
Exposure time: 28 d

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	Species: Oncorhynchus mykiss (rainbow trout) Analytical monitoring: yes Method: OECD Test Guideline 215 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1,2 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
	NOEC: 1,9 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
Toxicity to soil dwelling organisms:	Test Type: artificial soil LC50: > 410,6 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
	Test Type: artificial soil NOEC: 234,5 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Plant toxicity:	EC50: 340 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
	NOEC: 90 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes

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	Remarks: The details of the toxic effect relate to the nominal concentration.
	EC50: 300 mg/kg Exposure time: 19 d End point: Growth Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
	NOEC: 51 mg/kg Exposure time: 19 d End point: Growth Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Sediment toxicity:	Remarks: not available
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish:	EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d pH: 4 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: > 200 d pH: 7 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: 145 d pH: 9 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
Photodegradation:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 400 nm Degradation (direct photolysis): < 1,5 % GLP: yes

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Test Type: air
Method: calculated
GLP: no
Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Method: OECD Test Guideline 301B

Photodegradation: Test Type: water
Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Concentration: 0,1 mg/l
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
GLP: no
Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation: Bioconcentration factor (BCF): 3,6
Method: calculated
Remarks: Does not accumulate in organisms.

Partition coefficient n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways: no data available

Additional ecological information: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available

Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:

This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR:	not restricted
ADN:	not restricted
RID:	not restricted
IATA:	not restricted
IMDG:	not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

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SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization

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IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Polished Copper

1.2. Relevant identified uses of the substances or mixture and uses advised against

Relevante identified uses of the substance or mixture

Industry sector:	Industrial Performance Chemicals Paints, lacquers and varnishes industry Polymers industry Printing Inks Industry
Type of use:	Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification (Regulation (EC) No.1272/2008):

Not a dangerous substance according to GHS.

2.2. Label elements

Labelling(Regulation (EC) No.1272/2008):

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Additional Labelling:

EUH210	Safety data sheet available on request.
EUH208	Contains 1,2-benzisothiazol-3(2H)-one, reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. INDEX-No. Registration No.	Classification Regulation (EC) No. 1272/2008)	Concentration (% w/w)

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salt of polyamineamide (72243/00/2008.0023, Germany)	Not Assigned	Skin Irrit. 2; H315	≥ 1 - < 10
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	≥ 0.0025 < 0.025
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 2; H310 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	≥ 0.0002 < 0.0015

For explanation of abbreviations see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General advice:
No hazards which requires special first aid measures.

After inhaled:
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact:
If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact:
Flush eye(s) with water as a precaution.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed:
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

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

None known.

4.3. Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Unsuitable extinguishing media: High volume water jet

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5.2. Special hazards arising from the substance or mixture

5.3. Advice for firefighters

Special protective equipment for firefighters:
Wear self-contained breathing apparatus for firefighting if necessary.

Further information:
Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment.

6.2. Environment precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
Avoid contact with skin and eyes. For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

Hygiene measures:
When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Storage stability:
Storage stability of at least 24 months.

Further information on storage stability:
No decomposition if stored and applied as directed.

7.3. Specific end use(s)

This information is not available.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Titanium Dioxide	13463-67-7	TWA (Inhalable dust)	10 mg/m^3	GB EH40

Further information		For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis of respirable, thoracic and inhalable aerosols. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m^3 8-hour TWA of inhalable dust or 4 mg/m^3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.		
		TWA (Inhalable)	10 mg/m^3	GB EH40
Further information		The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
		TWA (Respirable dust)	4 mg/m^3	GB EH40
Further information		For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular		

		particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
		TWA (Respirable fraction)	4 mg/m³	GB EH40
Further information		The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m³ 8-hour TWA of inhalable dust or 4 mg/m³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.		
mica	12001-26-2	TWA (Inhalable)	10 mg/m³	GB EH40
		TWA (Respirable fraction)	0,8 mg/m³	GB EH40

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	STP	0.00103 mg/l

8.2. Exposure controls

Personal protective equipment

Eye protection: Safety glasses

Hand protection:

Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: liquid
Colour: silver
Odour: characteristic

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pH:	6 – 8 Concentration 100%
Freezing point:	no data available
Boiling point/boiling range:	100 °C
Flash point:	>100 °C
Bulk density:	no data available
Flammibility(solid, gas)	no data available
Upper explosion limit:	no data available
Lower explosion limit:	no data available
Vapour pressure:	no data available
Density:	no data available
Solubility in water:	insoluble
Solubility in other solvents:	no data available
Partition coefficient n-octanol/water:	no data available
Auto ignition temperature:	no data available
Thermal decomposition:	no data available
Viscosity, dynamic:	no data available
Viscosity, kinematic:	no data available
Flow time:	no data available

9.2. Other information
No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No decomposition if stored and applied as directed.

10.2. Chemical Stability
No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions
Hazardous reactions: No decomposition if stored and applied as directed.

10.4. Conditions to avoid
Conditions to avoid: No data available

10.5. Incompatible Materials

10.6. Hazardous decomposition products
Contact with water or humid air: This information is not available.

Thermal decomposition: This information is not available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acuta toxicity
Not classified based on available information.

Components:

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity :	Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity :	LC50 (Rat): 0.4 mg/l Exposure time: 4 h Assessment: The component/mixture is highly toxic after short term inhalation.

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reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity :	Assessment: The component/mixture is toxic after single ingestion.
Acute inhalation toxicity :	Assessment: The component/mixture is highly toxic after short term inhalation.
Acute dermal toxicity :	Assessment: The component/mixture is highly toxic after single contact with skin.

Skin corrosion/irritation

Not classified based on available information.

Product:

Remarks: May cause skin irritation and/or dermatitis.

Components:

1,2-benzisothiazol-3(2H)-one:

Result: Skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

1,2-benzisothiazol-3(2H)-one:

Result: Corrosive

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Result: Corrosive

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

1,2-benzisothiazol-3(2H)-one:

Result: May cause sensitisation by skin contact.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

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STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Components:

1,2-benzisothiazol-3(2H)-one:

M-Factor (Short-term (acute) aquatic hazard) : 1

Ecotoxicology Assessment

Short-term (acute) aquatic hazard :	Very toxic to aquatic life.
Long-term (chronic) aquatic hazard :	Toxic to aquatic life with long lasting effects.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

M-Factor (Short-term (acute) aquatic hazard) : 100

M-Factor (Long-term (chronic) aquatic hazard) : 100

Ecotoxicology Assessment

Short-term (acute) aquatic hazard :	Very toxic to aquatic life.
Long-term (chronic) aquatic hazard :	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment

Product:

Assessment:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Other adverse effects

Product:
Additional ecotoxicological information:
No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

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European Waste Catalogue:	08 01 11 - waste paint and varnish containing organic solvents or other dangerous substances.

13.1. Waste treatment methods

Product:
Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
In accordance with local and national regulations..

Contaminated packaging:
Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
In accordance with local and national regulations..

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

14.2 UN proper shipping name

14.3 Transport hazard class(es)

14.4 Packing group

14.5 Environmental hazards

14.6. Special precautions for users
Remarks: Not classified as dangerous in the meaning of transport regulations

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Not applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 2019/1021 on persistent organic pollutants (recast):	Not applicable
REACH - Restrictions on the manufacture placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII):	Conditions of restriction for the following entries should be considered: salt of polyamineamide (72243/00/2008.0023, Germany) (Number on list 3) polypropylene glycol (Number on list 3) ammonia (Number on list 3) reaction mass of 5-chloro-2-methyl2H-isothiazol-3-one and 2-methyl2H-isothiazol-3-one (3:1) (Number on list 3)

15.2. Chemical safety assessment

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SECTION 16: OTHER INFORMATION

Full text of H-Statements

H301 :	Toxic if swallowed.
H302 :	Harmful if swallowed.
H310 :	Fatal in contact with skin.
H314 :	Causes severe skin burns and eye damage.
H315 :	Causes skin irritation.
H317 :	May cause an allergic skin reaction.
H318 :	Causes serious eye damage.
H330 :	Fatal if inhaled.
H400 :	Very toxic to aquatic life.
H410 :	Very toxic to aquatic life with long lasting effects.
H411 :	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations:

Acute Tox. :	Acute toxicity
Aquatic Acute :	Short-term (acute) aquatic hazard
Aquatic Chronic :	Long-term (chronic) aquatic hazard
Eye Dam. :	Serious eye damage
Skin Corr. :	Skin corrosion
Skin Irrit. :	Skin irritation
Skin Sens. :	Skin sensitisation
GB EH40:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	Long-term exposure limit (8-hour TWA reference period)

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)

ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").

This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Easy Composites Ltd‘s products for its particular application. Nothing included in this information waives any of Easy Composites Ltd General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.

Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Easy Composites Ltd products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products.

For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Polished Gold

1.2. Relevant identified uses of the substances or mixture and uses advised against

Relevante identified uses of the substance or mixture

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification (REGULATION (EC) No 1272/2008):

Acute toxicity, Catergory 4	H302 Harmful if swallowed
Eye irritation, Category 2	H319 Causes serious eye irritation
Acute aquatic toxicity, Category 1	H400 Very toxic to aquatic life
Chronic aquatic toxicity, Category 1	H410 Very toxic to aquatic life with long lasting effects

2.2. Label elements

Labeling (REGULATION (EC) No 1272/2008):

Hazard pictograms :

Signal word: Warning

Hazard statements:

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements:

Prevention:

P264	Wash skin thoroughly after handling.
P273	Avoide release tot he environment.
P280	Wear eye protection/ face protection.

Response:

P337 + P313	If eye irritation persists: Get medical advice / attention.
P391	Collect spillage.

Disposal:

P501	Dispose of contents / container to an approved waste disposal plant.

Hazard components which must be listed on the label:
Copper

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. INDEX No. Registration No.	Classification (Regulation (EC) Nr. 1272/2008)	Concentration %
copper	7440-50-8 231-159-6 01-2119480154-42	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	≥ 25 - ≤ 50
Zinc powder – zinc dust (stabilized)	7440-66-6 231-175-3 030-001-00-1 01-2119467174-37	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	≥ 2,5 - ≤ 10
salt of polyamineamide	Not Assigned	Skin Irrit. 2; H315	≥ 1 - ≤ 10

The full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General advice:
Move the victim to fresh air.
Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled:
If unconscious place in recovery position and seek medical advice.
If symptoms persisit, call a physician.

In case of skin contact:
Wash of immediately with soap and a plenty of water.
If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

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In case of eye contact:
Immediately flush eyes with water as a plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed:
Keep resperatory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist call a physician.

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

Risks:
Harmful if swallowed.
Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable extinguishing media:
Dry sand
special powder against metal fire
ABC-Powder

Extinction agents, not suitable out of safety reasons:
Water
High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting:
Do not allow run-off from the fire fighting to enter drains or water courses.

5.3. Advice for firefighters

Special protective equipment for firefighting:
Wear self contained breathing apparatus for the fire fighting if necessary.

Further information:
Collect contaminated fire extinguishing water separately.
This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Standart procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personal to save areas.
Ensure adequate ventilation.
Use personal protective equipment.

6.2. Environment precautions

Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and material for containment and cleaning up

Use mechanical handling equipment.
Pick up and transfer to properly labelled containers.

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Do not flush with water.
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

6.4. Cross Reference to other sections

Additional information:
For personal protection see Section 8.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
Do not breath vapours/dust.
Avoid contact with skin and eyes.
For personal protection see Section 8.
Smoking, eating, drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.
Keep away from heat an sources of ignition.
No smoking.

Hygiene measures:
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and the end of workday.
General industrial hygiene practice.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Keep away from sources of ignition - No smoking.
Do not store near combustible materials.
Keep containers tightly closed in a cool, well-ventilated place.
To maintain product quality, do not store in heat or direct sunlight.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions:
Protect from humidity and water.

Storage stability:
Storage stability of at least 18 month.

Advice on common storage:
Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.
Do not store together with oxidizing and self-igniting products.

Dampness:
Keep in a dry, cool and well-ventilated place.

Further information on storage stability:
No decomposition if stored and applied as directed.

7.3. Specific end use(s)

This information is not available.

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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Occupational Exposure Limits

Components	CAS.No.:	Value type (Form of exposure)	Control-parameters	Basis (Version Date)
copper	7440-50-8	TWA (Fumes) Einatembare Fraktion	0,2 mg/m³ (Copper)	GB EH40 (2011-12-01)
		TWA (Dusts and mists)	1 mg/m³ (Copper)	GB EH40 (2011-12-01)
		STEL (Dusts and mists)	2 mg/m³ (Copper)	GB EH40 (2011-12-01)
zinc powder - zinc dust (stabilized)	7440-66-6	TWA (Inhalable) Einatembare Fraktion	10 mg/m³	GB EH40 (2011-12-01)
Further information	The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m³ 8-hour TWA of inhalable dust or 4 mg/m³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.			
		TWA (Respirable)	4 mg/m³	GB EH40 (2011-12-01)
Further information	The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m³ 8-hour TWA of inhalable dust or 4 mg/m³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.			
silicon dioxide	7631-86-9	TWA (Inhalable)	6 mg/m³	GB EH40 (2007-08-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m³ 8-hour TWA of inhalable dust or 4 mg/m³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body			

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	response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.			
		TWA (Respirable)	2,4 mg/m^3	GB EH40 (2007-08-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m^3 8-hour TWA of inhalable dust or 4 mg/m^3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.			
		TWA (inhalable dust)	6,0 mg/m^3 (Silica)	GB EH40 (2011-12-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m^3 8-hour TWA of inhalable dust or 4 mg/m^3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region			

	of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.			
		TWA (Respirable dust)	2,4 mg/m³	GB EH40 (2011-12-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m³ 8-hour TWA of inhalable dust or 4 mg/m³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.			

DNEL / DMEL Values:

Substance name	End Use	Exposure routes	Potential health effects	Value
copper	Workers	Skin contact	short term – systemic effects	273 mg/kg
	Workers	Inhalation	short term – systemic effects	20 mg/m³
	Workers	Skin contact	long term – systemic effects	137 mg/kg
	Consumers	Skin contact	short term – systemic effects	273 mg/kg
	Consumers	Inhalation	short term – systemic effects	20 mg/m³
zinc powder - zinc dust (stabilized)	Workers	Inhalation	long term – systemic effects	5 mg/m³
	Workers	Skin contact	long term – systemic effects	83 mg/kg
	Consumers	Ingestion	long term – systemic effects	0,83 mg/kg

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	Consumers	Skin contact	long term – systemic effects	83 mg/kg
	Consumers	Inhalation	long term – systemic effects	2,5 mg/m³

PNEC-Values:

Substance name	Environmental Compartment	Value
copper	Soil	65,5 mg/kg
	Fresh water	0,0078 mg/l
	Fresh water sediment	87 mg/kg
	Marine water	0,0052 mg/l
	Marine sediment	676 mg/kg
	STP	0,230 mg/l
zinc powder - zinc dust (stabilized)	Fresh water	0,0206 mg/l
	Fresh water sediment	117,8 mg/kg
	Marine water	0,0061 mg/l
	Soil	35,6 mg/kg
	Marine sediment	56,5 mg/kg

8.2. Personal protective equipment

Eye protection:
Safety glasses
Wear face-shield and protective suit for abnormal processing problems.

Hand protection

Material: Solvent-resistant gloves (butyl-rubber)

Remarks: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
The exact break through time can be obtained from the protective glove producer and this has to be observed.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Recommended preventive skin protection.
Skin should be washed after contact.
The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection:
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection:
Use suitable breathing protection if workplace concentration requires.
Respirator with a vapour filter (EN 141)

8.3 Environmental exposure controls

Water:
The product should not be allowed to enter drains, water courses or the soil.

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Section 9: Physical and chemical properties

9.1. Appearance

Physical state:	liquid
Colour:	Gold
Odour:	characteristic
Odour Threshold:	No data available
pH:	No data available
Freezing point:	No data available
Boiling point/boiling range:	> 100 °C
Flash point:	> 100 °C
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Self-ignition:	No data available
Auto-ignition temperature:	No data available
Smoldering temperature:	No data available
Decomposition temperature:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available
Upper explosion limit / Upper flammability limit:	No data available
Lower explosion limit / Lower flammability limit:	No data available
Relative vapour density:	No data available
Relative density:	No data available
Density:	No data available
Bulk density:	No data available
Solubility(ies)	
Water solubility:	insoluble
Solubility in other solvents:	No data available
Partition coefficient:	
n-octanol/water:	No data available
Decomposition temperature:	No data available
Viscosity, dynamic:	No data available
Viscosity, kinematic:	No data available
Flow time:	No data available

9.2. Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical Stability

No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions

Hazardous reactions:

No decomposition if stored and applied as directed.
Stable under recommended storage conditions.

10.4. Conditions to avoid

No data available.
Do not allow evapouration to dryness.

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10.5. Incompatible Materials
No data available.

10.6. Hazardous decomposition products
Carbon monoxide, carbon dioxide, and unburned hydrocarbons (smoke).

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Acute Toxicity

Informations related to the product:

Acute oral toxicity:	Acute toxicity estimate: 1,158 mg/kg Method: Calculation method
Skin irritation:	May cause skin irritation and/or dermatitis.
Serious eye damage/ eye irritation:	Causes serious eye irritation.
Respiratory or skin sensitization:	no data available
Carcinogenicity:	no data available
Toxicity to reproduction/fertility	no data available
Reprod.Tox./Development/ Teratog.	no data available
STOT – single exposure	no data available
STOT – repeated exposure	no data available
Aspiration toxicity	no data available

Informations related to the component copper:

Acute oral toxicity:	Assessment: The component/mixture is moderately toxic after single ingestion.
Skin irritation:	May cause skin irritation in susceptible persons.
Serious eye damage/ eye irritation:	Eye irritation

Informations related to the component zinc powder - zinc dust (stabilized):

Acute oral toxicity:	(Rat): > 2,000 mg/kg
Acute inhalation toxicity:	LC50 (Rat): 5.41 mg/l Exposure time: 4 h Test atmosphere: dust/mist

11.2. Additional toxicologic information

Informations related to the product:
No data available

Informations related to the component copper:
No data available

Informations related to the component zinc powder - zinc dust (stabilized):
No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the component copper:

M-Factor:	10
Ecotoxicology Assessment:	Acute aquatic toxicity: Very toxic to aquatic life. Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects.

Informations related to the component zinc powder - zinc dust (stabilized):

Ecotoxicology Assessment:	Acute aquatic toxicity: Very toxic to aquatic life. Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects.

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12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential
No data available

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Other corruptive effects

Product:

Additional ecotoxicological remarks: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

Informations related to the component copper:

Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

Informations related to the component zinc powder - zinc dust (stabilized):

Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: DISPOSAL CONSIDERATIONS

European Waste Catalogue: 08 01 11 - waste paint and varnish containing organic solvents or other dangerous substances.

13.1. Waste treatment methods

Product:

The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
In accordance with local and national regulations.

Empty remaining contents.

Dispose of as unused products.
Do not re-use empty containers.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number:

ADR: UN 3082
IATA: UN 3082
IMDG: UN 3082

14.2. UN proper shipping name

ADR: environmentally hazardous substance, liquid N.O.S. (Copper metal powder)
IMDG: environmentally hazardous substance, liquid N.O.S. (Copper metal powder)

IATA: environmentally hazardous substance, liquid N.O.S. (Copper metal powder)

14.3 Transport hazard class

ADR: 9
IMDG: 9
IATA: 9

14.4 Packing group

ADR

Packaging group:	III
Classification Code:	M6
Hazard identification No:	90
Labels:	9

IMDG

Packaging group:	III
Labels:	9
EmS Number:	F-A, S-F

IATA

Packing instruction (cargo aircraft):	964
Packing instruction (LQ): (passenger aircraft)	Y964
Packing instruction (LQ):	Y964
Packaging group:	III
Labels:	Miscellaneous Dangerous Goods

14.5 Environmental hazards

ADR:
Environmentally hazards: yes

IMDG:
Marine pollutant: yes

IATA (Passenger):
Environmentally hazards: yes

IATA (Cargo):
Environmentally hazards: yes

14.6. Special precautions for users

For single packagings ≤ 5L / 5 kg, or combination packagings containing inner packagings ≤ 5L / 5 kg net per inner packaging, SV375 ADR, 2.10.2.7 IMDG-Code, A197 IATA-DGR may be applied.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: LEGISLATIVE PROVISIONS

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).: Not applicable

15.2. Chemical safety assessment

This information is not available.

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SECTION 16: OTHER INFORMATION

Observe national and local legal requirements

List of the text of the hazard statements mentioned section 3 (H-phrases) :

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention

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PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship

This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Easy Composites Ltd‘s products for its particular application. Nothing included in this information waives any of Easy Composites Ltd ‘s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.

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For additional information, please contact Easy Composites Ltd.

SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Polished Silver

1.2. Relevant identified uses of the substances or mixture and uses advised against

Relevante identified uses of the substance or mixture

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:
Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification (Regulation (EC) No.1272/2008):
Not a dangerous substance according to GHS.

2.2. Label elements

Labeling (Regulation (EC) No.1272/2008):
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one, reaction mass of 5-chloro-2-methyl-2Hisothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

EUH210 Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Mixtures

Hazardous components

Chemical Name	**CAS-No.** **EC-No.** **INDEX No.** **Registration No.**	**Classification Regulation (EC) No. 1272/2008)**	Concentration (% w/w)

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Aluminium powder (stabilised)	7429-90-5 231-072-3 013-002-00-1 01-2119529243-45	Flam. Sol. 1; H228	≥ 25 - < 50
Phosphoric acid, C11-14-isoalkyl esters, C13-rich	154518-38-4 (52933-07-0) 01-2119976356-25	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	≥ 3 - < 10
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	≥ 0.0025 - < 0.025
reaction mass of 5-chloro-2- methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9 613-167-00-5	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 2; H310 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	≥ 0.0002 - < 0.0015

For explanation of abbreviations see section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General advice:
No hazards which requires special first aid measures.
Move the victim to fresh air.
Do not leave the victim unattended.

If inhaled:
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact:
Wash off immediately with soap and plenty of water.

In case of eye contact:
Immediately flush eye(s) with plenty of water.
Remove contact lenses.

If swallowed:
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

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

None known.

4.3. Indication of any immediate medical attention and special treatment needed

This information is not available..

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Contents Page

Suitable extinction agents:
Dry sand
ABC powder
Foam

Unsuitable extinguishing media:
Water

5.2. Special hazards arising from the substance or mixture

5.3. Advice for firefighters

Special protective equipment for firefighting:
Wear self contained breathing apparatus for firefighting if necessary.

Further information:
Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Evacuate personnel to safe areas.

6.2. Environment precautions

6.3. Methods and material for containment and cleaning up

Methods for cleaning up
Use mechanical handling equipment.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Wipe up with absorbent material (e.g. cloth, fleece).
Do not flush with water.
Keep in suitable, closed containers for disposal.

6.4. Cross Reference to other sections

For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

Hygiene measures:
General industrial hygiene practice.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Earthing of containers and apparatuses is essential.
Take measures to prevent the build up of electrostatic charge.
Use explosion-proof equipment. Store in original container.

Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage:
Do not store near acids.

Do not store together with oxidizing and self-igniting products.
Keep away from oxidizing agents and strongly acid or alkaline materials.

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Keep away from oxidizing agents and strongly acid or alkaline materials.
Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions..

Further information on storage conditions:
No decomposition if stored and applied as directed.

7.3. Specific end use(s)
This information is not available.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Aluminium powder (stabilized)	7429-90-5	TWA (Inhalable)	10 mg/m³	GB EH40
Further information		The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used..		
		TWA (Respirable fraction)	4 mg/m³	GB EH40
Further information		The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
		TWA (inhalable dust)	10 mg/m³	GB EH40
Further information		For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be		

	subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
	TWA (Respirable dust)	4 mg/m^3	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		

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Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
aluminium powder (stabilised)	Workers	Inhalation	long term local effects	3.72 mg/m³
	Consumers	Oral	long term systemic effects	3.95 mg/kg
	Workers	Inhalation	long term systemic effects	3.72 mg/m³
Phosphoric acid, C11- 14-isoalkyl esters, C13-rich	Workers	Inhalation	long term systemic effects	34.94 mg/m³
	Workers	Skin contact	long term systemic effects	100.13 mg/kg
	Consumers	Inhalation	long term systemic effects	10.43 mg/m³
	Consumers	Skin contact	long term systemic effects	60.08 mg/kg
	Consumers	Ingestion	long term systemic effects	6.01 mg/kg
2,2',2''-nitrilotriethanol	Workers	Inhalation	long term local effects	5 mg/m³
	Workers	Skin contact	long term systemic effects	6.3 mg/kg
	Workers	Inhalation	long term systemic effects	5 mg/m³
	Consumers	Inhalation	long term local effects	1.25 mg/m³
	Consumers	Ingestion	long term systemic effects	13 mg/kg
	Consumers	Skin contact	long term systemic effects	3.1 mg/kg
	Consumers	Inhalation	long term systemic effects	1.25 mg/m³

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
aluminium powder (stabilised)	Fresh water	0.0749 mg/l
	clarification plant	20 mg/l
Phosphoric acid, C11-14-isoalkyl esters, C13-rich	Fresh water	6.31 µg/l
	Fresh water sediment	0.113 mg/kg
	Sporadic Release	63.1 µg/l
	Marine water	0.631 µg/l
	Marine sediment	0.0113 mg/kg
	STP	10 mg/l

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	Soil	0.0188 mg/kg
2,2',2''-nitrilotri-ethanol	Soil	0.151 mg/kg
	Fresh water	0.32 mg/l
	Fresh water sediment	1.7 mg/kg
	clarification plant	10 mg/l
	Marine water	0.032 mg/l
	Marine sediment	0.17 mg/kg
1,2-benziso-thiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	STP	0.00103 mg/l

8.2. Exposure controls

Personal protective equipment

Eye protection:

Goggles

Safety glasses

Hand protection:

Material: Solvent resistant gloves (butyl-rubber)

Remarks: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Recommended preventive skin protection Skin should be washed after contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Respiratory protection:

Use suitable breathing protection if workplace concentration requires.

No personal respiratory protective equipment normally required.

8.3. Environment exposure controls

Water:

The product should not be allowed to enter drains, water courses or soil.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Appearance

Appearance:	liquid
Colour:	silver
Odour:	characteristic
Odour Threshold:	no data available
pH:	6-8 Concentration: 100%
Freezing point:	no data available
Boiling point/boiling range:	> 100 °C
Flash point:	> 100 °C
Evaporation rate:	no data available

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Flammibility(solid, gas)	no data available
Self-ignition:	no data available
Auto-ignition temperature:	no data available
Smoldering temperature:	no data available
Decomposition temperature:	no data available
Explosive properties:	no data available
Oxidizing properties:	no data available
Upper explosion limit / Upper flammability limit:	no data available
Lower explosion limit / Lower flammability limit:	no data available
Vapour pressure:	no data available
Relative vapour density:	no data available
Relative density:	no data available
Density:	no data available
Bulk density:	no data available
Water solubility:	no data available
Solubility in other solvents:	no data available
Partition coefficient: noctanol/water:	no data available
Decomposition temperature:	no data available
Viscosity, dynamic:	no data available
Viscosity, kinematic:	no data available
Flow time:	no data available

9.2. Other information
No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No decomposition if stored and applied as directed.

10.2. Chemical Stability
No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions
Hazardous reactions:
Contact with acids and alkalis may release hydrogen.

Stable under recommended storage conditions.

10.4. Conditions to avoid
Do not allow evapouration to dryness.

No data available.

10.5. Incompatible Materials
Materials to avoid:
Acids
Bases
Oxidizing agents

10.6. Hazardous decomposition products
Contact with water or humid air:
This information is not available.

Thermal decomposition:
This information is not available.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Acute Toxicity

Contents Page

Not classified based on available information.

Product:

Acute inhalation toxicit:	Acute toxicity estimate: > 20 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method

Components:

aluminium powder (stabilised):

Acute inhalation toxicit:	LC50 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity:	Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicit:	LC50 (Rat): 0.4 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The component/mixture is highly toxic after short term inhalation.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	Assessment: The component/mixture is toxic after single ingestion.
Acute inhalation toxicit:	Assessment: The component/mixture is highly toxic after short term inhalation.
Acute dermal toxicity	Assessment: The component/mixture is highly toxic after single contact with skin.

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: No skin irritation

Components:

Phosphoric acid, C11-14-isoalkyl esters, C13-rich:

Result: Skin irritation

1,2-benzisothiazol-3(2H)-one:

Result: Skin irritation

Serious eye damage/eye irritation:

Not classified based on available information.

Product:

Result: No skin irritation

Components:

Phosphoric acid, C11-14-isoalkyl esters, C13-rich:

Result: Corrosive

1,2-benzisothiazol-3(2H)-one:

Result: Corrosive

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Result: Corrosive

Respiratory or skin sensitisation

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Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Components:
1,2-benzisothiazol-3(2H)-one:
Result: May cause sensitisation by skin contact.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT – single exposure
Not classified based on available information.

STOT – repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Further Information

Product:
Result: No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Product:
Ecotoxicology Assessment:

Short-term (acute) aquatic hazard:	This product has no known ecotoxicological effects.
Long-term (chronic) aquatic hazard:	This product has no known ecotoxicological effects.

Components:
Phosphoric acid, C11-14-isoalkyl esters, C13-rich:

Toxicity to fish:	LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 6.31 mg/l Exposure time: 48 h
Toxicity to algae:	EC50 (algae): 150 mg/l Exposure time: 72 h

1,2-benzisothiazol-3(2H)-one:

M-Factor (Short-term (acute): aquatic hazard)	1

Ecotoxicology Assessment:

Short-term (acute) aquatic hazard:	Very toxic to aquatic life.
Long-term (chronic) aquatic hazard:	Toxic to aquatic life with long lasting effects.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

M-Factor (Short-term (acute): aquatic hazard)	100
M-Factor (Long-term (chronic): aquatic hazard)	100

Ecotoxicology Assessment:

Short-term (acute) aquatic hazard:	Very toxic to aquatic life.
Long-term (chronic) aquatic hazard:	Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
Product:

Assessment:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Other adverse effects
Product:

Additional ecological information	No data available

SECTION 13: DISPOSAL CONSIDERATIONS

European Waste Catalogue: 08 01 11 - waste paint and varnish containing organic solvents or other dangerous substances.

13.1. Waste treatment methods

Product:
In accordance with local and national regulations.

Contaminated packaging:
Empty containers should be taken to an approved waste handling site for recycling or disposal.
In accordance with local and national regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR:	Not regulated as a dangerous good
IMDG:	Not regulated as a dangerous good
IATA:	Not permitted for transport

14.2 UN proper shipping name

ADR:	Not regulated as a dangerous good
IMDG:	Not regulated as a dangerous good
IATA:	Not permitted for transport

14.3 Transport hazard class(es)

ADR:	Not regulated as a dangerous good
IMDG:	Not regulated as a dangerous good
IATA:	Not permitted for transport

14.4 Packing group

ADR:	Not regulated as a dangerous good

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IMDG: Not regulated as a dangerous good
IATA (Cargo): Not permitted for transport
IATA (Passenger): Not permitted for transport

14.5 Environmental hazards

ADR: Not regulated as a dangerous good
IMDG: Not regulated as a dangerous good

14.6. Special precautious for user

Remarks: Due to the risk of hydrogen development we recommend to refrain from airfreighting this/these product(s).
Not classified as dangerous in the meaning of transport regulations.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast):	Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	Conditions of restriction for the following entries should be considered: aluminium powder (stabilised) (Number on list 40) Phosphoric acid, C11-14-isoalkyl esters, C13-rich (Number on list 3) 2-dimethylaminoethanol (Number on list 40, 3) 2,2'-iminodiethanol (Number on list 3) reaction mass of 5-chloro-2-methyl2H-isothiazol-3-one and 2-methyl2H-isothiazol-3-one (3:1) (Number on list 3) pyridine-2-thiol 1-oxide, sodium salt (Number on list 3)

15.2. Chemical safety assessment

SECTION 16: OTHER INFORMATION

Full text of H-Statements:

H228	Flammable solid
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

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Acute Tox. :	Acute toxicity
Aquatic Acute :	Short-term (acute) aquatic hazard
Aquatic Chronic :	Long-term (chronic) aquatic hazard
Eye Dam. :	Serious eye damage
Flam. Sol. :	Flammable solids
Skin Corr. :	Skin corrosion
Skin Irrit. :	Skin irritation
Skin Sens. :	Skin sensitisation
GB EH40:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA:	Long-term exposure limit (8-hour TWA reference period)

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship

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REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").

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For additional information, please contact GlassCast.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Super White

Chemical characterisation: C.I. Pigment Whitze 6 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one
and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 5,3 - ≤ 12,6 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
C.I. Pigment White 6
EC-Number: 236-675-5
CAS-Number: 13463-67-7

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL
Oral	Consumers	Long-term systemic effects	700 mg/kg bw/day	DNEL

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

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Amorphous silicon dioxide
EC-Number: 231-545-4
CAS-Number: 7631-86-9

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

Propylene Glycol
EC-Number: 200-338-0
CAS-Number: 57-55-6

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	168 mg/m³	DNEL
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL
Inhalation	Consumers	Long-term systemic effects	50 mg/m³	DNEL
Inhalation	Consumers	Long-term local effects	10 mg/m³	DNEL
Skin contact	Consumers	Long-term systemic effects	213 mg/m³	
Ingestion	Consumers	Long-term systemic effects	85 mg/m³	

PNEC-values:

C.I. Pigment White 6
EC-Number: 236-675-5
CAS-Number : 13463-67-7

Environmental compartment	Value
Fresh water	0,184 mg/l
Fresh water sediment	1000 mg/kg dry weight (d.w.)
Marine water	0,0184 mg/l
Marine sediment	100 mg/kg dry weight (d.w.)
Soil	100 mg/kg dry weight (d.w.)
Sewage treatment plant	100 mg/l
Water (intermittent release)	0,193 mg/l

Propylene Glycol
EC-Number: 200-338-0
CAS-Number: 57-55-6

Environmental compartment	Value
Fresh water	260 mg/l
Marine water	26 mg/l
Water (intermittent release)	183 mg/l
Sewage treatment plant	20000 mg/l
Fresh water sediment	572 mg/kg dry weight (d.w.)
Marine sediment	57,2 mg/kg dry weight (d.w.)
Soil	50 mg/kg dry weight (d.w.)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l

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Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	white
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined

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Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density:	1,80 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid
None known.

10.5. Incompatible Materials
No data available.

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

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Skin corrosion/irritation

Informations related to the product:

Species:	EPISKIN Human Skin Model Test Method: OECD Test Guideline 439 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.
Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result:Irritating to skin. GLP:yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result:Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	Bovine cornea Method: OECD Test Guideline 437 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.
Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result:Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type:	Guinea pig maximization test Exposure routes: Dermal
Species:	Guinea pig Method: Other

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ResulT: May cause sensitisation by skin contact.
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Guinea pig
Method: Other
Result: The product is a skin sensitiser, sub-category 1A.
Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled, Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro: Remarks: no data available

Germ cell mutagenicity-Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro: Test Type: Mouse lymphoma assay
Test system: mouse lymphoma cells
Concentration: 0,1 - 12,8 µg/ml

Metabolic activation: with and without metabolic activation: Method: OECD Test Guideline 476
Result: negative
GLP: yes
Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 0,064 - 200 µg/plate

Metabolic activation: with and without metabolic activation: Method: OECD Test Guideline 471
Result: negative
GLP: yes
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Concentration: 1 - 40 µg/ml

Metabolic activation: with and without metabolic activation: Method: OECD Test Guideline 473
Result: positive
GLP: yes

Genotoxicity in vivo: Test Type: Other
Species: Rat (male)
Strain: wistar
Cell type: Liver cells
Application Route: Ingestion
Exposure time: single dose
Dose: 560 - 1400 mg/kg
Method: OECD Test Guideline 486
Result: negative
GLP: yes

Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: CD1

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Cell type: Bone marrow
Application Route: Ingestion
Exposure time: single dose
Dose: 125-250-500-1000-2000-5000mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity-
Assessment: Did not show mutagenic effects in animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro: Test Type: In vitro study
Metabolic activation:
with and without metabolic activation: Result: Conflicting results have been seen in different studies.

Genotoxicity in vivo: Test Type: Micronucleus test
Species: Rat
Cell type: Bone marrow
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 28 mg/kg
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 20 - 30 mg/kg
Result: negative

Germ cell mutagenicity-
Assessment: In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility: Species: Rat, male
Application Route: oral (fed)
Dose: 18,5 - 97,8 mg/kg
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight

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Method: Other
GLP: yes

Species: Rat, female
Application Route: oral (feed)
Dose: 27,0 - 114,8 mg/kg
General Toxicity - Parent: NOAEL: 27 mg/kg body weight
General Toxicity F1: NOAEL: 56,6 mg/kg body weight
Method: Other
GLP: yes

Effects on foetal development: Species: Rat, female
Application Route: oral (gavage)
Dose: 10 - 40 - 100 mg/kg
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Teratogenicity: NOAEL: 40 mg/kg body weight
Method: Directive 67/548/EEC, Annex V, B.31.
GLP: yes

Reproductive toxicity – Assessment: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.
Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility: Species: Rat, male and female
Application Route: Drinking water
Dose: 25 - 75 - 225 ppm
General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight
General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, male and female
Application Route: Drinking water
Dose: 30 - 100 - 300 ppm
General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight
General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight
General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development: Species: Rat, male and female
Application Route: oral (gavage)
Dose: ≤ 15 mg/kg

Developmental Toxicity: NOAEL: 15 mg/kg body weight
Method: Other

Species: Rat, male and female
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight
Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity

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Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:

Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:

no data available

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: no data available
Toxicity to algae:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to microorganisms:	Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other

	GLP: yes Remarks: salt water
	NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
Toxicity to algae:	EC50 (Selenastrumc apricornutum (green algae)): 0,155 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
	NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
M-Factor (Acute aquatic toxicity):	1
Toxicity to microorganisms:	EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l End point: Bacteria toxicity (respiration inhibition) Exposure time: 3 h Test Type: aquatic Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
	EC50: > 811,5 mg/kg dry weight (d.w.) Exposure time: 28 d Test Type: Soil Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
	NOEC: 263,7 mg/kg dry weight (d.w.) Exposure time: 28 d Test Type: Soil Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity):	NOEC: 0,21 mg/l Exposure time: 28 d

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Species: Oncorhynchus mykiss (rainbow trout)
Analytical monitoring: yes
Method: OECD Test Guideline 215
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 1,2 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

NOEC: 1,9 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to soil dwelling organisms:

Test Type: artificial soil
LC50: > 410,6 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Test Type: artificial soil
NOEC: 234,5 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Plant toxicity:

EC50: 340 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes

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Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 51 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Sediment toxicity: Remarks: not available

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish: EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0,1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 201

NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): 100

Toxicity to microorganisms: EC50 (activated sludge): 7,92 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity): NOEC: 0,098 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Method: OECD Test Guideline 215

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d pH: 4 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: > 200 d pH: 7 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
	Test Type: abiotic Degradation half life: 145 d pH: 9 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
Photodegradation:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 400 nm Degradation (direct photolysis): < 1,5 % GLP: yes

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Test Type: air
Method: calculated
GLP: no
Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Method: OECD Test Guideline 301B

Photodegradation: Test Type: water
Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Concentration: 0,1 mg/l
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
GLP: no
Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation: Bioconcentration factor (BCF): 3,6
Method: calculated
Remarks: Does not accumulate in organisms.

Partition coefficient n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways: no data available

Additional ecological information: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available

Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:

This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR:	not restricted
ADN:	not restricted
RID:	not restricted
IATA:	not restricted
IMDG:	not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

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SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization

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IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Tangy Yellow

Chemical characterisation: C.I. Pigment Yellow 73, Yellow 74 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one
and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 8,5 - ≤ 14,5 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

Rosin amine
Concentration: ≥ 0,1 - ≤ 0,25 %
CAS-Number: 61790-47-4
EC-Number: 263-139-8
Registrationnumber: 01-2120780340-61-XXXX

GHS classification EC:

Acute toxicity	Category 4	H302
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Aquatic chronic	Category 1	H410

M-Factor (Acute aquatic toxicity)	10
M-Factor (Chronic aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314

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May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)
Hydrogen chloride

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Wear suitable personal protective equipment.

6.2. Environment precautions
The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections
Additional information:
Information regarding safe handling, see chapter 7.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities
Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)
No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters
Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
C.I. Pigment Yellow 74
EC-Number: 228-768-4
CAS-Number: 6358-31-2

Route of exposure	End use	Potential health effects	Value	Remarks
Dermal	Workers	Long-term systemic effects	42 mg/kg bw/day	
Inhalation	Workers	Long-term systemic effects	49 mg/m^3	

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Inhalation	Workers	Long-term local effects	3 mg/m³	
Dermal	General Population	Long-term systemic effects	25 mg/kg bw/day	
Oral	General Population	Long-term systemic effects	25 mg/kg bw/day	

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

Glycerine
EC-Number: 200-289-5
CAS-Number: 56-81-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	56 mg/m³	DNEL
Inhalation	General population	Long-term local effects	33 mg/m³	DNEL
Ingestion	General population	Long-term systemic effects	229 mg/kg bw/day	DNEL

PNEC-values:
Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

Glycerine
EC-Number: 200-289-5
CAS-Number: 56-81-5

Environmental compartment	Value
Fresh water	0,885 mg/l
Marine water	0,088 mg/l
Sewage treatment plant	1000 mg/l

Fresh water sediment	3,33 mg/kg dry weight (d.w.)
Marine sediment	0,33 mg/kg dry weight (d.w.)
Soil	0,141 mg/kg dry weight (d.w.)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	yellow
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C

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Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

9.2. Other information

Density: 1,22 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid

None known.

10.5. Incompatible Materials

No data available.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Remarks: no data available

Informations related to the component Rosin amine:

Acute oral toxicity:	LD50 (Rat, male and female): 300 - 2.000 mg/kg Method: OECD Test Guideline 423 Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg Method: OECD Test Guideline 402

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Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Not applicable

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Rosin amine:

Species:	In Vitro Membrane Barrier Test Method for Skin Corrosion – CORROSITEX Method: OECD Test Guideline 431 Result: Irritating to skin.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result:Irritating to skin. GLP:yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result:Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation

Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Rosin amine:

Method: OECD Test Guideline 437
Result: Risk of serious damage to eyes.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: rabbit eye
Exposure time: 2,9 h - 11 d
Result:Risk of serious damage to eyes.
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: rabbit eye
Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks: no data available

Informations related to the component Rosin amine:

Test Type: Mouse local lymphnode assay
Exposure routes: Skin contact
Species: Mouse
Result: The product is a skin sensitiser, sub-category 1A.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type: Guinea pig maximization test
Exposure routes: Dermal
Species: Guinea pig
Method: Other
ResulT: May cause sensitisation by skin contact.
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Guinea pig
Method: Other
Result: The product is a skin sensitiser, sub-category 1A.
Assessment: Toxic if swallowed,
Fatal in contact with skin,
Fatal ifinhaled,
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro: Remarks: no data available
Germ cell mutagenicity-Assessment: No information available.

Informations related to the component Rosin amine:

Genotoxicity in vitro: Test Type: Ames test
Result: negative
Germ cell mutagenicity-Assessment: In vitro tests did not show mutagenic effects

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Concentration: 0,1 - 12,8 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Ames test Test system: Salmonella typhimurium Concentration: 0,064 - 200 µg/plate
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 471 Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Concentration: 1 - 40 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 473 Result: positive GLP: yes
Genotoxicity in vivo:	Test Type: Other Species: Rat (male) Strain: wistar Cell type: Liver cells Application Route: Ingestion Exposure time: single dose Dose: 560 - 1400 mg/kg Method: OECD Test Guideline 486 Result: negative GLP: yes
	Test Type: Micronucleus test Species: Mouse (male and female) Strain: CD1 Cell type: Bone marrow Application Route: Ingestion Exposure time: single dose Dose: 125-250-500-1000-2000-5000mg/kg Method: OECD Test Guideline 474 Result: negative GLP: yes
Germ cell mutagenicity- Assessment:	Did not show mutagenic effects in animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro:	Test Type: In vitro study
Metabolic activation: with and without metabolic activation:	Result: Conflicting results have been seen in different studies.
Genotoxicity in vivo:	Test Type: Micronucleus test Species: Rat Cell type: Bone marrow

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Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 28 mg/kg
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 20 - 30 mg/kg
Result: negative

Germ cell mutagenicity-
Assessment: In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:
Carcinogenicity -
Assessment: No information available.

Informations related to the component Rosin amine:
Carcinogenicity –
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Carcinogenicity -
Assessment: Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:
Reproductive toxicity -
Assessment: No information available.

Informations related to the component Rosin amine:
Reproductive toxicity –
Assessment: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Effects on fertility: Species: Rat, male
Application Route: oral (fed)
Dose: 18,5 - 97,8 mg/kg
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, female
Application Route: oral (feed)
Dose: 27,0 - 114,8 mg/kg
General Toxicity - Parent: NOAEL: 27 mg/kg body weight
General Toxicity F1: NOAEL: 56,6 mg/kg body weight
Method: Other
GLP: yes

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Effects on foetal development:	Species: Rat, female Application Route: oral (gavage) Dose: 10 - 40 - 100 mg/kg General Toxicity Maternal: NOAEL: 10 mg/kg body weight Teratogenicity: NOAEL: 40 mg/kg body weight Method: Directive 67/548/EEC, Annex V, B.31. GLP: yes
Reproductive toxicity – Assessment:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:	Species: Rat, male and female Application Route: Drinking water Dose: 25 - 75 - 225 ppm General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight Method: Other GLP: yes
	Species: Rat, male and female Application Route: Drinking water Dose: 30 - 100 - 300 ppm General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes
Effects on foetal development:	Species: Rat, male and female Application Route: oral (gavage) Dose: ≤ 15 mg/kg
Developmental Toxicity:	NOAEL: 15 mg/kg body weight Method: Other
	Species: Rat, male and female Application Route: oral (gavage) General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight Method: Other
Reproductive toxicity – Assessment:	Weight of evidence does not support classification for reproductive toxicity Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:

Remarks:	no data available

Informations related to the component Rosin amine:

Assessment:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

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Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component Rosin amine:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:
Remarks: This information is not available.

Informations related to the component Rosin amine:
Species: Rat, male and female
NOAEL: 107,7 mg/kg bw/day
Application Route: oral (feed)
Method: OECD Test Guideline 422

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

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Aspiration toxicity

Informations related to the product:
no data available

Informations related to the component Rosin amine:
No aspiration toxicity classification

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: no data available
Toxicity to algae:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to microorganisms:	Remarks: no data available

Informations related to the component Rosin amine:

Toxicity to fish:	LC50 (Brachydanio rerio (zebrafish)): 0,66 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: WAF (Water accommodated fraction)
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,23 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: WAF (Water accommodated fraction)
Toxicity to algae/aquatic plants:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0,071 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: WAF (Water accommodated fraction) NOEC (Pseudokirchneriella subcapitata (green algae)): 0,011 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: WAF (Water accommodated fraction)
M-Factor (Acute aquatic toxicity):	10
Toxicity to microorganisms:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: no data available
M-Factor (Chronic aquatic toxicity):	1

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1

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Ecotoxicology Assessment

Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
	NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
Toxicity to algae:	EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
	NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l End point: Growth rate

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	Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
M-Factor (Acute aquatic toxicity):	1
Toxicity to microorganisms:	EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l End point: Bacteria toxicity (respiration inhibition) Exposure time: 3 h Test Type: aquatic Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration. EC50: > 811,5 mg/kg dry weight (d.w.) Exposure time: 28 d Test Type: Soil Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration. NOEC: 263,7 mg/kg dry weight (d.w.) Exposure time: 28 d Test Type: Soil Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity):	NOEC: 0,21 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Analytical monitoring: yes Method: OECD Test Guideline 215 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1,2 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes NOEC: 1,9 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes

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Toxicity to soil dwelling organisms:	Test Type: artificial soil LC50: > 410,6 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration. Test Type: artificial soil NOEC: 234,5 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Plant toxicity:	EC50: 340 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration. NOEC: 90 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration. EC50: 300 mg/kg Exposure time: 19 d End point: Growth Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration. NOEC: 51 mg/kg Exposure time: 19 d End point: Growth Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes

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	Remarks: The details of the toxic effect relate to the nominal concentration.
Sediment toxicity:	Remarks: not available
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish:	EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

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12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component Rosin amine:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 9 % Exposure time: 28 d Method: OECD Test Guideline 301B

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d pH: 4 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes Test Type: abiotic Degradation half life: > 200 d pH: 7 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes Test Type: abiotic Degradation half life: 145 d pH: 9 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
Photodegradation:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 400 nm Degradation (direct photolysis): < 1,5 % GLP: yes Test Type: air Method: calculated GLP: no Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Result: Not rapidly biodegradable Method: OECD Test Guideline 301B
Photodegradation:	Test Type: water Light source: Sunlight

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12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component Rosin amine:

Bioaccumulation: Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Concentration: 0,1 mg/l
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
GLP: no
Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation: Bioconcentration factor (BCF): 3,6
Method: calculated
Remarks: Does not accumulate in organisms.

Partition coefficient n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component Rosin amine:

Distribution among environmental compartments: adsorption
Medium: water – soil
Remarks: The product is insoluble and floats on water.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component Rosin amine:

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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12.6. Other adverse effects

Informations related to the product:
Environmental fate and pathways: no data available
Additional ecological information: no data available

Informations related to the component Rosin amine:
Environmental fate and pathways: no data available
Additional ecological information: The product should not be allowed to enter drains, water courses or the soil.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Environmental fate andpathways: not available
Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:
Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:
This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR: not restricted
ADN: not restricted
RID: not restricted
IATA: not restricted
IMDG: not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable
REACH - List of substances subject to authorisation (Annex XIV): Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

Other regulations:
Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

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15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer

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IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Easy Composites Ltd products for its particular application. Nothing included in this information waives any of Easy Composites Ltd General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Tomato Red

Chemical characterisation: C.I. Pigment Red 254, Yellow 74 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Category of danger	Category Hazard Symbol	H-Phrases
Skin sensitisation, Category 1	Warning	H317

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Hazard pictograms:

Signal word: Warning

Hazard statements: H317 May cause an allergic skin reaction.

Precautionary statements:

Prevention:

P261 Avoid breathing mist.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 If on skin:
Wash with plenty of water.

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P333 + P313 If skin irritation or rash occurs:
Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
2-Methylisothiazolin-3-one

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 3,5 - ≤ 11,5 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314

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May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

2-Methyl-4-isothiazolin-3-one
Concentration: ≥ 0,0015 - ≤ 0,025 %
CAS-Number: 2682-20-4
EC-Number: 220-239-6

GHS classification EC:

Toxic if swallowed	Category 3	H301
Fatal if inhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

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5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

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DNEL / DMEL-values:

C.I. Pigment Red 254
EC-Number: 402-400-4, 401-540-3
CAS-Number: 84632-65-5

Route of exposure	End use	Potential health effects	Value	Remarks
Dermal	Workers	Long-term systemic effects	27,8 mg/kg bw/day	DNEL
Inhalation	Workers	Long-term systemic effects	98 mg/m3	DNEL
Inhalation	Workers	Long-term local effects	3 mg/m3	DNEL
Dermal	Consumers	Long-term systemic effects	11,9 mg/kg bw/day	DNEL
Oral	Consumers	Long-term systemic effects	5,9 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	20,7 mg/m³	DNEL

C.I. Pigment Yellow 74
EC-Number: 228-768-4
CAS-Number: 6358-31-2

Route of exposure	End use	Potential health effects	Value	Remarks
Dermal	Workers	Long-term systemic effects	42 mg/kg bw/day	
Inhalation	Workers	Long-term systemic effects	49 mg/m³	
Inhalation	Workers	Long-term local effects	3 mg/m³	
Dermal	General Population	Long-term systemic effects	25 mg/kg bw/day	
Oral	General Population	Long-term systemic effects	25 mg/kg bw/day	

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL
Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

2-Methyl-4-isothiazolin-3-one
CAS-Number: 2682-20-4
EC-Number: 220-239-6

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	0,021 mg/m³	DNEL
Inhalation	Workers	Acute local effects	0,043 mg/m³	DNEL

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Inhalation	Consumers	Long-term local effects	0,021 mg/m³	DNEL
Oral	Consumers	Long-term systemic effects	0,027 mg/kg bw/day	DNEL
Oral	Consumers	Acute systemic effects	0,053 mg/kg bw/day	DNEL

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

PNEC-values:

C.I. Pigment Red 254
EC-Number: 402-400-4, 401-540-3
CAS-Number: 84632-65-5

Environmental compartment	Value
Fresh water	0,499 mg/l
Marine water	0,499 mg/l
Intermittend use/release	0,499 mg/l
Sewage treatment plant	1 mg/l
Fresh water sediment	668 mg/l
Marine sediment	668 mg/l
Soil	1 mg/l

Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

2-Methyl-4-isothiazolin-3-one
CAS-Number: 2682-20-4
EC-Number: 220-239-6

Environmental compartment	Value
Fresh water	0,0039 mg/l
Marine water	0,0039 mg/l
Sewage treatment plant	0,23 mg/l
Soil	0,047 mg/kg dry weight (d.w.)
Intermittent use/release	0,0039 mg/l

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Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Number: 611-341-5
CAS-Number: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	red
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

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9.2. Other information

Density:	1,24 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid
None known.

10.5. Incompatible Materials
No data available.

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Acute oral toxicity:	LD50 (Rat): 285,5 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity:	LC50 (Rat): 0,11 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity:	LD50 (Rat):> 2.000 mg/kg

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l

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Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result: Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Rabbit
Exposure time: 4 h
Result:Irritating to skin.
GLP:yes

Informations related to the component2-Methyl-4-isothiazolin-3-one:

Species: rabbit
Method: OECD Test Guideline 404
Result: Causes burns.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rabbit
Result: Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species: rabbit eye
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: rabbit eye
Exposure time: 2,9 h - 11 d
Result:Risk of serious damage to eyes.
GLP: yes

Informations related to the component2-Methyl-4-isothiazolin-3-one:

Remarks: Not applicable. Extremely corrosive and destructive to tissue.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: rabbit eye
Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type: Guinea pig maximization test
Exposure routes: Dermal

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Species:	Guinea pig Method: Other ResulT: May cause sensitisation by skin contact. GLP: yes

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Test Type:	Buehler Test Exposure routes: Dermal
Species:	Guinea pig Method: OECD Test Guideline 406 Result: The product is a skin sensitiser, sub-category 1A. Assessment: Toxic if swallowed, Fatal if inhaled, Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Guinea pig Method: Other Result: The product is a skin sensitiser, sub-category 1A. Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled, Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro:	Remarks: no data available
Germ cell mutagenicity- Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Concentration: 0,1 - 12,8 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Ames test Test system: Salmonella typhimurium Concentration: 0,064 - 200 µg/plate
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 471 Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Concentration: 1 - 40 µg/ml

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Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 473 Result: positive GLP: yes
Genotoxicity in vivo:	Test Type: Other Species: Rat (male) Strain: wistar Cell type: Liver cells Application Route: Ingestion Exposure time: single dose Dose: 560 - 1400 mg/kg Method: OECD Test Guideline 486 Result: negative GLP: yes
	Test Type: Micronucleus test Species: Mouse (male and female) Strain: CD1 Cell type: Bone marrow Application Route: Ingestion Exposure time: single dose Dose: 125-250-500-1000-2000-5000mg/kg Method: OECD Test Guideline 474 Result: negative GLP: yes
Germ cell mutagenicity- Assessment:	Did not show mutagenic effects in animal experiments.

<u>Informations related to the component 2-Methyl-4-isothiazolin-3-one:</u>

Genotoxicity in vitro:	Test Type: Ames test
Metabolic activation: with and without metabolic activation:	Result: negative
	Test Type: Chromosome aberration test in vitro Test system: mammalian cells
Metabolic activation: with and without metabolic activation:	Result: negative
	Test Type: Micronucleus test Test system: mammalian cells
Metabolic activation: with and without metabolic activation:	Result: negative
Germ cell mutagenicity- Assessment:	In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

<u>Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):</u>

Genotoxicity in vitro:	Test Type: In vitro study
Metabolic activation: with and without metabolic activation:	Result: Conflicting results have been seen in different studies.
Genotoxicity in vivo:	Test Type: Micronucleus test Species: Rat Cell type: Bone marrow

Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 28 mg/kg
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Exposure time: ≤ 5 d
Dose: 1-5 x ≤ 20 - 30 mg/kg
Result: negative

Germ cell mutagenicity-
Assessment: In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity -
Assessment: Not applicable

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Carcinogenicity –
Assessment: Not classifiable as a human carcinogen.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity -
Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity -
Assessment: No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility: Species: Rat, male
Application Route: oral (fed)
Dose: 18,5 - 97,8 mg/kg
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, female
Application Route: oral (feed)
Dose: 27,0 - 114,8 mg/kg
General Toxicity - Parent: NOAEL: 27 mg/kg body weight
General Toxicity F1: NOAEL: 56,6 mg/kg body weight
Method: Other
GLP: yes

Effects on foetal development: Species: Rat, female
Application Route: oral (gavage)
Dose: 10 - 40 - 100 mg/kg
General Toxicity Maternal: NOAEL: 10 mg/kg body weight

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Teratogenicity: NOAEL: 40 mg/kg body weight
Method: Directive 67/548/EEC, Annex V, B.31.
GLP: yes

Reproductive toxicity – Assessment: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.
Embryotoxicity classification not possible from current data.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Effects on fertility: Remarks: This information is not available.

Effects on foetal development: Remarks: Based on available data, the classification criteriaare not met.

Reproductive toxicity - Assessment: No evidence of adverse effects on sexual function and fertility,or on development, based on animal experiments.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:
Species: Rat, male and female
Application Route: Drinking water
Dose: 25 - 75 - 225 ppm
General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight
General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight
Method: Other
GLP: yes

Species: Rat, male and female
Application Route: Drinking water
Dose: 30 - 100 - 300 ppm
General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight
General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight
General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development:
Species: Rat, male and female
Application Route: oral (gavage)
Dose: ≤ 15 mg/kg

Developmental Toxicity:
NOAEL: 15 mg/kg body weight
Method: Other
Species: Rat, male and female
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight
Method: Other

Reproductive toxicity – Assessment: Weight of evidence does not support classification for reproductive toxicity
Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:
Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:
Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component 2-Methyl-4-isothiazolin-3-one:
Species: Rat
NOAEL: 25 mg/kg
Application Route: Oral
Exposure time: 90 d
Remarks: By analogy with a product of similar composition

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d

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Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:
no data available

Informations related to the component 2-Methyl-4-isothiazolin-3-one:
No aspiration toxicity classification

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: no data available
Toxicity to algae:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to microorganisms:	Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes

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EC0 (Daphnia magna (Water flea)): 0,643 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: salt water

Toxicity to algae:

EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity): 1

Toxicity to microorganisms:

EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d

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	Test Type: Soil Analytical monitoring: yes Method: OECD 216 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity):	NOEC: 0,21 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Analytical monitoring: yes Method: OECD Test Guideline 215 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1,2 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
	NOEC: 1,9 mg/l End point: Reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
Toxicity to soil dwelling organisms:	Test Type: artificial soil LC50: > 410,6 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
	Test Type: artificial soil NOEC: 234,5 mg/kg Exposure time: 14 d End point: mortality Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Plant toxicity:	EC50: 340 mg/kg Exposure time: 20 d End point: Growth Species: Phaseolus vulgaris Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.

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NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 51 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Sediment toxicity: Remarks: not available

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 4,77 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0,934 mg/l
End point: mortality
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae: NOEC (Pseudokirchneriella subcapitata (green algae)): 0,0104 mg/l
End point: Biomass
Exposure time: 96 h
Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (algae)): 0,063 mg/l
End point: Biomass
Exposure time: 96 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): 10

Toxicity to microorganisms: EC50 (Bacteria): 31,7 mg/l
Exposure time: 3 h

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Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: no data available
Ecotoxicology Assessment:	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish:	EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201 NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 NOEC: 8,83 mg/kg dry weight (d.w.) Exposure time: 14 d Species: Eisenia fetida (earthworms) OECD Test Guideline 207

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Ecotoxicology Assessment

Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:

Biodegradability:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Concentration: 1 mg/l Result: Partially biodegradable. Exposure time: 63 d Method: OECD Test Guideline 301C GLP: yes
Physico-chemical removability:	Remarks: Biodegradable
Stability in water:	Test Type: abiotic Degradation half life: 219 d pH: 4 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes Test Type: abiotic Degradation half life: > 200 d pH: 7 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes Test Type: abiotic Degradation half life: 145 d pH: 9 Hydrolysis: at 50 °C Method: OECD Test Guideline 111 GLP: yes
Photodegradation:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 400 nm Degradation (direct photolysis): < 1,5 % GLP: yes Test Type: air Method: calculated GLP: no Remarks: Decomposes rapidly in contact with light.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Biodegradability:	Test Type: aerobic Result: Not rapidly biodegradable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Biodegradability:	Test Type: aerobic Inoculum: activated sludge Result: Not rapidly biodegradable Method: OECD Test Guideline 301B
Photodegradation:	Test Type: water Light source: Sunlight

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12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Concentration: 0,1 mg/l
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
GLP: no
Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Bioaccumulation: Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation: Bioconcentration factor (BCF): 3,6
Method: calculated
Remarks: Does not accumulate in organisms.

Partition coefficient n-octanol/water: log Pow: -0,71 - 0,75
Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments: Adsorption/Soil
Medium: water – soil
Koc: 235 – 566
Method: Other

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Distribution among environmental compartments: Remarks: no data available

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Assessment: Remarks: no data available

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways: no data available

Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways: not available

Additional ecological information: Do not allow to enter ground water, waterways or waste water.

Informations related to the component 2-Methyl-4-isothiazolin-3-one:

Environmental fate and pathways: no data available

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and/or the competent Authorities.

Uncleaned packaging:

Packaging that cannot be cleaned should be disposed of as product waste.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR:	not restricted
ADN:	not restricted
RID:	not restricted
IATA:	not restricted
IMDG:	not restricted

14.6. Special precautions for users

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

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15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer

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IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Easy Composites Ltd makes no warranties, express or implied, as to the information accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Easy Composites Ltd products for its particular application. Nothing included in this information waives any of Easy Composites Ltd General Terms and Conditions of Sale, which control unless it agrees otherwise in writing.
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For additional information, please contact Easy Composites Ltd.

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SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Tradename: CULR™ Art Pigment for Epoxy – Topaz Green

Chemical characterisation: C.I. Pigment Green 7 and Calciumcarbonat in aqueous dispersion, contenting Polyglykol and 1,2-Propandiol.

1.2. Relevant identified uses of the substance or mixture and uses advised again

Relevant identified uses of the substance or mixture:

Industry sector: Industrial Performance Chemicals
Paints, lacquers and varnishes industry
Polymers industry
Printing Inks Industry

Type of use: Colourant preparation

1.3. Details of the supplier of the safety data sheet

Identification of the company:

Easy Composites Ltd
Unit 39 Park Hall Business Village
Stoke on Trent, ST3 5XA. United Kingdom.
Phone: +44 (0)1782 454499

Information to substance / mixture:

Division: Technical
E-mail: technical@glasscastresin.com

1.4. Emergency telephone number

Emergency CONTACT (Office Hours) Phone: +44 (0)1782 454499

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance / mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Categoryof danger	Category HazardSymbol	H-Phrases
---	---	---

Not a hazardous substance or mixture.

2.2. Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended):

Not a hazardous substance or mixture.

Additional Labelling:

EUH 208 contains mixture of: 1,2-Benzisothiazol-3(2H)-one,
mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one
and 2-methyl-2H-isothiazol-3-one(3:1).
May produce an allergic reaction.

EUH210: Safety data sheet available on request.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.
No hazards to be specially mentioned.

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SECTION 3: COMPOSITION / INFORMATION TO INGREDIENTS

3.1. Mixtures

Hazardous ingredients:

Alcohols, C16-18 and C18-unsaturated, ethoxylated (8 EO)
Concentration: ≥ 6,2 - ≤ 10,7 %
CAS-Number: 68920-66-1
EC-Number: 500-236-9

GHS classification EC:

Skin irritation	Category 2	H315
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 3	H412

M-Factor (Acute aquatic toxicity)	1

1-Propanaminium, 3-Amino-N-(carboxymethyl)-N,N-dimethyl-, N-C8-18-Acylderivate, Hydroxide, inner salts
Concentration: ≥ 1,0 - ≤ 2,5 %
CAS-Number: 97862-59-4
EC-Number: 308-107-7
Registrationnumber: 01-2119488533-30-0011

GHS classification EC:

Serious eye damage	Category 1	H318
Chronic aquatic toxicity	Category 3	H412

1,2-Benzisothiazolin-3-on
Concentration: ≥ 0,0025 - ≤ 0,025 %
CAS-Number: 2634-33-5
EC-Number: 220-120-9
INDEX-No.: 613-088-00-6
Registrationnumber: 01-2120761540-60

GHS classification EC:

Acute toxicity	Category 4	H302
Fatal ifinhaled	Category 2	H330
Skin irritation	Category 2	H315
May cause an alergic skin reaction	Category 1	H317
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1)
Concentration: ≥ 0,0002 - ≤ 0,0015 %
CAS-Number: 55965-84-9
EC-Number: 611-341-5
INDEX-No.: 613-167-005
Registrationnumber: 01-2120764691-48

GHS classification EC:

Acute toxicity	Category 3	H301
Acute toxocity	Category 2	H310
Fatal ifinhaled	Category 2	H330
Causes severe skin burns and eye d.	Category 1B	H314
May cause an alergic skin reaction	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category1	H410

The text of H-phrases is shown in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Discription of first aid measures

General information:
Get medical advice/ attention if you feel unwell.

After inhalation:
Move the victim to fresh air.
If you feel unwell, seek medical advice (show the label where possible).

After contact with skin:
In case of contact with skin, clean with plenty of soap and water.

After contact with eyes:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion:
If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms:
None known.

Hazards:
None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Dry powder
Carbon dioxide (CO_2)
Alcohol resistant foam

Extinguishing media that must not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed:
Carbon oxides (CO_x)
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighting:
Use self-contained breathing apparatus.

Further information:
Wear suitable protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable personal protective equipment.

6.2. Environment precautions

The product should not be allowed to enter drains, water courses or the soil.

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6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Additional information:
Information regarding safe handling, see chapter 7.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling:
When used and handled appropriately no special measures are needed.

Hygiene measures:
Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.
Keep away from flames and sparks.

Storage stability:
Minimum 36 months.

7.3. Specific end use(s)

No further recommendations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values:
Exposure limit values are not available.

DNEL / DMEL-values:
C.I. Pigment Green 7
EC-Number: 215-524-7
CAS-Number: 1328-53-6

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	10 mg/m³	DNEL
Inhalation	Consumers	Long-term local effects	10 mg/m³	DNEL

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	6,81 mg/m³	DNEL
Dermal	Workers	Long-term systemic effects	0,966 mg/kg bw/day	DNEL

Inhalation	Consumers	Long-term systemic effects	1,2 mg/m³	DNEL
Dermal	Consumers	Long-term systemic effects	0,345 mg/kg bw/day	DNEL

Silica, amorphous ,fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Route of exposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term local effects	4 mg/m³	DNEL

1-Propanaminium, 3-Amino-N-(carboxymethyl)-N,N-dimethyl-, N-C8-18-Acylderivate, Hydroxide, inner salts
EC-Number: 30-107-7
CAS-Number: 97862-59-4

Route ofexposure	End use	Potential health effects	Value	Remarks
Inhalation	Workers	Long-term systemic effects	44 mg/m³	DNEL
Skin contact	Workers	Long-term systemic effects	12,5 mg/kg bw/day	DNEL
Skin contact	General population	Long-term systemic effects	7,5 mg/kg bw/day	DNEL
Ingestion	General population	Long-term systemic effects	7,5 mg/kg bw/day	DNEL

PNEC-values:
Silica, amorphous, fumed, crystalline free
EC-Number: 601-216-3
CAS-Number: 112945-52-5

Environmental compartment	Value
Secondary poisoning	60.000 mg/kg (food)

1-Propanaminium, 3-Amino-N-(carboxymethyl)-N,N-dimethyl-, N-C8-18-Acylderivate, Hydroxide, inner salts
EC-Number: 30-107-7
CAS-Number: 97862-59-4

Environmental compartment	Value
Fresh water	0,013 mg/l
Salt water	0,001 mg/l
Water (intermittent release)	3000 mg/l
Fresh water sediment	1 mg/kg dry weight (d.w.)
Marine sediment	0,1 mg/kg dry weight (d.w.)
Soil	0,8 mg/kg dry weight (d.w.)

1,2-Benzisothiazol-3(2H)-one
EC-Number: 220-120-9
CAS-Number: 2634-33-5

Environmental compartment	Value
Fresh water	0,00403 mg/l
Marine water	0,000403 mg/l
Intermittend use/release	0,0011 mg/l
Sewage treatment plant	1,03 mg/l
Fresh water sediment	0,0499 mg/kg dry weight (d.w.)
Marine sediment	0,00499 mg/kg dry weight (d.w.)
Soil	3 mg/kg dry weight (d.w.)

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Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
EC-Nummer: 611-341-5
CAS-Nummer: 55965-84-9

Environmental compartment	Value
Fresh water	0,049 µg/l
Marine water	0,0098 µg/l
Sewage treatment plant	0,045 µg/l
Soil	0,009 µg/l

8.2. Exposure controls

Appropriate engineering controls:
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

General protective measures:
Wear suitable protective equipment.

Respiratory protection:
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection:
Nitrile rubber
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection:
Safety glasses

Body protection:
Wear suitable protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Form:	liquid
Colour:	green
Odour:	not significant
Odour threshold:	not required
pH value:	not measured
Melting point:	not applicable
Boiling point:	approx. 100 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not determined
Lower explosion limit:	not determined
Upper explosive limit:	not determined
Combustion number:	not applicable
Minimum ignition energy:	not determined
Vapour pressure:	not determined
Vapour density relative to air:	not determined
Relative Density:	no data available
Solubility in water:	miscible
Octanol/ water partition coefficient (log Pow):	not determined
Ignition temperature:	not determined
Thermal decomposition:	> 100 °C
Viscosity (dynamic):	not tested
Oxidizing properties:	no data available

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9.2. Other information

Density:	1,23 g/cm³ (20 °C)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical Stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.
Stable.

10.4. Conditions to avoid
None known.

10.5. Incompatible Materials
No data available.

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGIC INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Informations related to the product:

Acute oral toxicity:	Remarks: no data available
Acute inhalation toxicity:	Remarks: no data available
Acute dermal toxicity:	Remarks: no data available

Information related to the component 1-Propanaminium, 3-amino-N-(carboxymethyl)-N, N-dimethyl-, N-C8-18 acyl derivs., hydroxides, inner salts:

Acute oral toxicity:	LD50 (Rat):> 5.000 mg/kg

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male and female): 670 - 784 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OPPTS 870.1300 GLP: yes
Acute dermal toxicity:	LD50 (Rat, male and female): > 2.000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0,171 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rabbit): 92,4 mg/kg

Skin corrosion/irritation

Informations related to the product:

Species:	Rabbit Method: OECD Test Guideline 404 Result: No skin irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

Result:	Irritating to skin.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	Rabbit Exposure time: 4 h Result: Irritating to skin. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Rabbit Result: Causes burns.

Serious eye damage/eye irritation

Informations related to the product:

Species:	rabbit eye Method: OECD Test Guideline 405 Result: No eye irritation Remarks: The toxicological data has been taken from products of similar composition.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species:	rabbit eye Exposure time: 2,9 h - 11 d Result: Risk of serious damage to eyes. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	rabbit eye Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Informations related to the product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Test Type:	Guinea pig maximization test Exposure routes: Dermal
Species:	Guinea pig Method: Other ResulT: May cause sensitisation by skin contact. GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species:	Guinea pig Method: Other Result: The product is a skin sensitiser, sub-category 1A. Assessment: Toxic if swallowed, Fatal in contact with skin, Fatal ifinhaled,

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Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Germ cell mutagenicity

Informations related to the product:

Genotoxicity in vitro:	Remarks: no data available
Germ cell mutagenicity-Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Genotoxicity in vitro:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Concentration: 0,1 - 12,8 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Ames test Test system: Salmonella typhimurium Concentration: 0,064 - 200 µg/plate
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 471 Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Concentration: 1 - 40 µg/ml
Metabolic activation: with and without metabolic activation:	Method: OECD Test Guideline 473 Result: positive GLP: yes
Genotoxicity in vivo:	Test Type: Other Species: Rat (male) Strain: wistar Cell type: Liver cells Application Route: Ingestion Exposure time: single dose Dose: 560 - 1400 mg/kg Method: OECD Test Guideline 486 Result: negative GLP: yes
	Test Type: Micronucleus test Species: Mouse (male and female) Strain: CD1 Cell type: Bone marrow Application Route: Ingestion Exposure time: single dose Dose: 125-250-500-1000-2000-5000mg/kg Method: OECD Test Guideline 474 Result: negative GLP: yes
Germ cell mutagenicity-Assessment:	Did not show mutagenic effects in animal experiments.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Genotoxicity in vitro:	Test Type: In vitro study
Metabolic activation: with and without metabolic activation:	Result: Conflicting results have been seen in different studies.
Genotoxicity in vivo:	Test Type: Micronucleus test Species: Rat Cell type: Bone marrow Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 28 mg/kg Result: negative
	Test Type: Micronucleus test Species: Mouse Application Route: Oral Exposure time: ≤ 5 d Dose: 1-5 x ≤ 20 - 30 mg/kg Result: negative
Germ cell mutagenicity- Assessment:	In vivo tests did not show mutagenic effects

Carcinogenicity

Informations related to the product:

Carcinogenicity - Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Carcinogenicity - Assessment:	Not applicable

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Carcinogenicity - Assessment:	No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Informations related to the product:

Reproductive toxicity - Assessment:	No information available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Effects on fertility:	Species: Rat, male Application Route: oral (fed) Dose: 18,5 - 97,8 mg/kg General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight General Toxicity F1: NOAEL: 48 mg/kg body weight Method: Other GLP: yes
	Species: Rat, female Application Route: oral (feed) Dose: 27,0 - 114,8 mg/kg General Toxicity - Parent: NOAEL: 27 mg/kg body weight General Toxicity F1: NOAEL: 56,6 mg/kg body weight Method: Other GLP: yes

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Effects on foetal development:	Species: Rat, female Application Route: oral (gavage) Dose: 10 - 40 - 100 mg/kg General Toxicity Maternal: NOAEL: 10 mg/kg body weight Teratogenicity: NOAEL: 40 mg/kg body weight Method: Directive 67/548/EEC, Annex V, B.31. GLP: yes
Reproductive toxicity – Assessment:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Embryotoxicity classification not possible from current data.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Effects on fertility:	Species: Rat, male and female Application Route: Drinking water Dose: 25 - 75 - 225 ppm General Toxicity - Parent: NOAEL: 16,3 - 24,7 mg/kg body weight General Toxicity F1: NOAEL: 16,3 - 24,7 mg/kg body weight Method: Other GLP: yes
	Species: Rat, male and female Application Route: Drinking water Dose: 30 - 100 - 300 ppm General Toxicity - Parent: NOAEL: 2,8 - 4,4 mg/kg body weight General Toxicity F1: NOAEL: 22,7 - 28 mg/kg body weight General Toxicity F2: NOAEL: 35,7 - 39,1 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes
Effects on foetal development:	Species: Rat, male and female Application Route: oral (gavage) Dose: ≤ 15 mg/kg
Developmental Toxicity:	NOAEL: 15 mg/kg body weight Method: Other
	Species: Rat, male and female Application Route: oral (gavage) General Toxicity Maternal: NOAEL: ≤ 3,95 mg/kg body weight Method: Other
Reproductive toxicity – Assessment:	Weight of evidence does not support classification for reproductive toxicity Embryotoxicity classification not possible from current data.

STOT - single exposure

Informations related to the component product:

Remarks:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Informations related to the component product:

Remarks: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Informations related to the product:

Remarks: This information is not available.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Species: Dog, male and female
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: daily
Dose: 5 - 20 - 50 mg/kg
Group: yes
Method: 88/302/EC
GLP: yes

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Species: Rat, male and female
NOAEL: 16,3 - 24,7 mg/kg
ApplicationRoute: Drinking water
Exposure time: 90 d
Number of exposures: daily
Dose: 25 - 75 - 225 ppm
Group: yes
Method: Other
GLP: yes

Aspiration toxicity

Informations related to the product:

no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

No aspiration toxicity classification

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Informations related to the product:

Toxicity to fish:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: no data available
Toxicity to algae:	Remarks: no data available
Toxicity to fish (Chronic toxicity):	Remarks: no data available
Toxicity to microorganisms:	Remarks: no data available

Informations related to the component Alcohols, C16-18 and C18-unsaturated, ethoxylated:

M-Factor (Acute aquatic toxicity):	1
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,18 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
	LC50 (Cyprinodon variegatus (sheepshead minnow)): approx.16,7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: No information available. GLP: yes
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 2,94 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC0 (Daphnia magna (Water flea)): 0,643 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
	EC50 (Mysidopsis bahia (opossum shrimp)): 0,9893 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes Remarks: salt water
	NOEC (Mysidopsis bahia (opossum shrimp)): 0,25 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other

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GLP: yes
Remarks: salt water

Toxicity to algae:
EC50 (Selenastrum capricornutum (green algae)): 0,155 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0,055 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity):
1

Toxicity to microorganisms:
EC50 (activated sludge of a predominantly domestic sewage): 23 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: > 811,5 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 263,7 mg/kg dry weight (d.w.)
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD 216
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity):
NOEC: 0,21 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Analytical monitoring: yes
Method: OECD Test Guideline 215
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
NOEC: 1,2 mg/l
End point: Reproduction rate

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Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

NOEC: 1,9 mg/l
End point: Reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to soil dwelling organisms:

Test Type: artificial soil
LC50: > 410,6 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Test Type: artificial soil
NOEC: 234,5 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Plant toxicity:

EC50: 340 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 90 mg/kg
Exposure time: 20 d
End point: Growth
Species: Phaseolus vulgaris
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP:yes
Remarks: The details of the toxic effect relate to the nominal concentration.

EC50: 300 mg/kg
Exposure time: 19 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: yes

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	Remarks: The details of the toxic effect relate to the nominal concentration.
	NOEC: 51 mg/kg Exposure time: 19 d End point: Growth Species: Triticum aestivm (wheat) Analytical monitoring: yes Method: OECD Guide-line 208 GLP:yes Remarks: The details of the toxic effect relate to the nominal concentration.
Sediment toxicity:	Remarks: not available
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
Chronic aquatic toxicity:	Toxic to aquatic life with long lasting effects.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Toxicity to fish:	EC50 (Oncorhynchus mykiss (rainbow trout)): 0,22 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae:	EC50 (Skeletonema costatum (marine diatom)): 0,0052 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
	NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms:	EC50 (activated sludge): 7,92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):	NOEC: 0,098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 215
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0,004 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity):	10
Toxicity to soil dwelling organisms:	LC50: 86,6 mg/kg dry weight (d.w.) Exposure time: 14 d

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Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207

NOEC: 8,83 mg/kg dry weight (d.w.)
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
OECD Test Guideline 207

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Informations related to the product:
Biodegradability: no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:
Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Concentration: 1 mg/l
Result: Partially biodegradable.
Exposure time: 63 d
Method: OECD Test Guideline 301C
GLP: yes

Physico-chemical removability: Remarks: Biodegradable

Stability in water: Test Type: abiotic
Degradation half life: 219 d
pH: 4
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: > 200 d
pH: 7
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Test Type: abiotic
Degradation half life: 145 d
pH: 9
Hydrolysis: at 50 °C
Method: OECD Test Guideline 111
GLP: yes

Photodegradation: Test Type: water
Light source: Xenon lamp
Light spectrum: 290 - 400 nm
Degradation (direct photolysis): < 1,5 %
GLP: yes

Test Type: air
Method: calculated
GLP: no
Remarks: Decomposes rapidly in contact with light.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Biodegradability: Test Type: aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Method: OECD Test Guideline 301B

Photodegradation:	Test Type: water Light source: Sunlight

12.3. Bioaccumulative potential

Informations related to the product:

Bioaccumulation:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Bioaccumulation:	Species: Lepomis macrochirus (Bluegill sunfish) Exposure time: 56 d Concentration: 0,1 mg/l Bioconcentration factor (BCF): 6,62 Method: OECD Test Guideline 305 GLP: no Remarks: Due to the distribution coefficient n-octanol/water,accumulation in organisms is not expected.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Bioaccumulation:	Bioconcentration factor (BCF): 3,6 Method: calculated Remarks: Does not accumulate in organisms.
Partition coefficient n-octanol/water:	log Pow: -0,71 - 0,75 Method: OECD Test Guideline 107

12.4. Mobility in soil

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Distribution among environmental compartments:	Adsorption/Soil Medium: water – soil Koc: 235 – 566 Method: Other

12.5. Results of PBT and vPvB assessment

Informations related to the product:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1 % or higher.

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Assessment:	The substance is not identified as a PBT or as a vPvB substance.

Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):

Assessment:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6. Other adverse effects

Informations related to the product:

Environmental fate and pathways:	no data available
Additional ecological information:	no data available

Informations related to the component 1,2-Benzisothiazol-3(2H)-one:

Environmental fate andpathways:	not available
Additional ecological information:	Do not allow to enter ground water, waterways or waste water.

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Informations related to the component mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one(3:1):
Additional ecological information: The product should not be allowed to enter drains, watercourses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:
Dispose of in accordance with the European Directives on waste and hazardous waste.

Uncleaned packaging:
This material and its container must be disposed of in a safe way.

SECTION 14: TRANSPORT INFORMATION

14.1. to 14.5.

ADR:	not restricted
ADN:	not restricted
RID:	not restricted
IATA:	not restricted
IMDG:	not restricted

14.6. Special precautions for users
See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No transport as bulk according IBC-Code.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):	Not applicable
REACH - List of substances subject to authorisation (Annex XIV):	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants:	Not applicable

Other regulations:
Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2. Chemical safety assessment
No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: OTHER INFORMATION

Observe the legal requirements nationally and locally.

List of the text of the hazard statements mentioned section 3 (H-phrases):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

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H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Short-term (acute) aquatic hazard
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Eye Dam.:	Serious eye damage
Skin Corr.:	Skin corrosion
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
STOT RE:	Specific target organ toxicity - repeated exposure

Change compared to the previous version:

Change in the composition

Legend

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ASTM	American Society for the Testing of Materials
bw	Body weight
CLP	Classification Labelling Packaging Regulation Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DIN	Standard of the German Institute for Standardisation
DMEL	Derived Minimal Effect Level (genotoxic substances)
DNEL	Derived No Effect Level
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC-Number	European Community number
ECx	Concentration associated with x% response
ELx	Loading rate associated with x% response
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
ErCx	Concentration associated with x% growth rate response
GHS	Globally Harmonized System
GLP	Good Laboratory Practice
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organisation for Standardization
KECI	Korea Existing Chemicals Inventory
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)

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MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NO(A)EC	No Observed (Adverse) Effect Concentration
NO(A)EL	No Observed (Adverse) Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Co-operation and Development
OPPTS	Office of Chemical Safety and Pollution Prevention
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
(Q)SAR	(Quantitative) Structure Activity Relationship
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SADT	Self-Accelerating Decomposition Temperature
SDS	Safety Data Sheet
TCSI	Taiwan Chemical Substance Inventory
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Decimal notation: "thousands" places are identified with a dot (for example, "2.000 mg/kg" means "two thousand mg/kg"). Decimal places are identified with a comma (for example, "1,35 g/cm^3" means "one point three five g/cm^3").
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