



## ARTISTRI® BRITE P5100 CYAN PIGMENT INK

Ref. 130000128491  
Version 7.0 (replaces: Version 6.2)

Revision Date 10.04.2020  
Issue Date 05.05.2020

This Safety Data Sheet adheres to the standards and regulatory requirements of Great Britain and may not meet the regulatory requirements in other countries.

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

#### 1.1. Product identifier

Product name : ARTISTRI® BRITE P5100 CYAN PIGMENT INK

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

Use of the Substance/Mixture : Printing ink

#### 1.3. Details of the supplier of the safety data sheet

Company : Du Pont de Nemours (Deutschland) GmbH  
Hugenottenallee 175  
D-63263 Neu-Isenburg  
Germany

Telephone : +49 (0) 6102 18-0

Telefax : +49 (0) 6102 18-1224

E-mail address : sds-support@che.dupont.com

#### 1.4. Emergency telephone number

+(44)-870-8200418 (CHEMTREC)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Specific target organ toxicity - repeated  
exposure, Category 2

H373: May cause damage to organs through prolonged or  
repeated exposure.

#### 2.2. Label elements



Warning



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H373	May cause damage to organs through prolonged or repeated exposure.
Special labelling of certain substances and mixtures	EUH208 Contains: 1,2-Benzisothiazol-3(2H)-one. May produce an allergic reaction.
	The following percentage of the mixture consists of ingredient(s) with unknown acute oral toxicity: 8.6437 % The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity: 8.6437 % The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 12.1457 %
	The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 6.3007 %
P260 P314 P501	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Get medical advice/ attention if you feel unwell. Dispose of contents/ container to an approved waste disposal plant.

**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.

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Not applicable

**3.2. Mixtures**

Registration number	Classification according to Regulation (EU) 1272/2008 (CLP)	Concentration (% w/w)
<b>Ethane-1,2-diol (CAS-No.107-21-1) (EC-No.203-473-3)</b>		
01-2119456816-28	Acute Tox. 4; H302 STOT RE 2; H373	>= 10 - < 20 %
<b>2,2' -oxybisethanol (CAS-No.111-46-6) (EC-No.203-872-2)</b>		
01-2119457857-21	Acute Tox. 4; H302	>= 1 - < 10 %
<b>2-Pyrrolidone (CAS-No.616-45-5) (EC-No.210-483-1)</b>		
01-2119475471-37	Eye Irrit. 2; H319 Repr. 1B; H360D	>= 1 - < 3 %



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**1,2-Benzisothiazol-3(2H)-one (CAS-No.2634-33-5) (EC-No.220-120-9)  
(M-Factor : 10[Acute])**

	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 3; H412	>= 0.01 - < 0.05 %
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The above products are compliant to REACH registration obligations; Registration number(s) may not be provided because substance(s) are exempted, not yet registered under REACH or are registered under another regulatory process (biocide uses, plant protection products), etc.

For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

- General advice : Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
- Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If breathing is irregular or stopped, administer artificial respiration. Get medical attention.
- Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before re-use.
- Eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical advice/attention.
- Ingestion : If swallowed, call a poison control centre or doctor immediately. Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center.

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

- Symptoms : Inhalation may provoke the following symptoms:, Irritation, Cough
- : Effects of breathing high concentrations of vapour may include:, Drowsiness, Dizziness
- : Skin contact may provoke the following symptoms:, Irritation with discomfort or pain, redness or rash, itching or swelling., Allergic reactions
- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
- : Eye contact may provoke the following symptoms:, Irritation, Pain, tearing,



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swelling, redness, or temporary visual impairment.

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

Treatment : No specific intervention is indicated. Treat symptomatically.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

: Water spray, Dry chemical, Carbon dioxide (CO<sub>2</sub>)

### **5.2. Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions. (see also section 10) Avoid breathing decomposition products.

### **5.3. Advice for firefighters**

Special protective equipment for firefighters : Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Evacuate personnel to safe areas. Stop spill/release if it can be done with minimal risk. Do not allow run-off from fire fighting to enter drains or water courses.

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Wear suitable protective equipment.

### **6.2. Environmental precautions**

Environmental precautions : Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Clean contaminated floors and objects thoroughly while observing environmental regulations.

### **6.3. Methods and materials for containment and cleaning up**

Methods for cleaning up : Contain spill. Soak up with inert absorbent material. Collect and contain contaminated absorbent and dike material for disposal. Keep in suitable, closed containers for disposal. Ventilate the area. Clean contaminated floors and objects thoroughly while observing environmental regulations.

Other information : Dispose of in accordance with local regulations.

### **6.4. Reference to other sections**



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For personal protection see section 8.  
For disposal instructions see section 13.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Advice on safe handling : Avoid inhalation, ingestion and contact with skin and eyes. Do not use in areas without adequate ventilation. For personal protection see section 8.

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

**7.2. Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Keep containers tightly closed in a cool, well-ventilated place. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Do not reuse empty container.

Other data : Stable under normal conditions.

**7.3. Specific end use(s)**

Apart from any uses mentioned in Section 1.2, no other specific end uses are stipulated.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

If sub-section is empty then no values are applicable. For further information on any control parameters provided, please refer to the relevant regulation.

**Components with workplace control parameters**

Type Form of exposure	Control parameters (Expressed as)	Update	Regulatory basis
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**Ethane-1,2-diol (CAS-No. 107-21-1)**

Short term exposure limit	104 mg/m <sup>3</sup> 40 ppm	2000-06-16	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
Limit Value - eight hours	52 mg/m <sup>3</sup> 20 ppm	2000-06-16	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
Long-term exposure limit (8-hour TWA reference period) Vapour	52 mg/m <sup>3</sup> 20 ppm	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits
Long-term exposure limit (8-hour TWA reference period) particles	10 mg/m <sup>3</sup>	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits
Short-term exposure limit (15-minute reference period) Vapour	104 mg/m <sup>3</sup> 40 ppm	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits



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**2,2' -oxybisethanol (CAS-No. 111-46-6)**

Long-term exposure limit (8-hour TWA reference period)	101 mg/m3 23 ppm	2005-04-06	UK. EH40 WEL - Workplace Exposure Limits
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**29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper (CAS-No. 147-14-8)**

Long-term exposure limit (8-hour TWA reference period) Dusts and mists	1 mg/m3 (Copper)	2013-03-01	UK. EH40 WEL - Workplace Exposure Limits
Short-term exposure limit (15-minute reference period) Dusts and mists	2 mg/m3 (Copper)	2013-03-01	UK. EH40 WEL - Workplace Exposure Limits

**Derived No Effect Level (DNEL)**

- **Ethane-1,2-diol**

Type of Application (Use): Workers  
Exposure routes: Inhalation  
Health Effect: Systemic effects, Long-term exposure  
Value: 35 mg/m3

Type of Application (Use): Workers  
Exposure routes: Skin contact  
Health Effect: Systemic effects, Long-term exposure  
Value: 106 mg/kg body weight (bw) /day

- **2-Pyrrolidone**

Type of Application (Use): Workers  
Exposure routes: Skin contact  
Health Effect: Long-term - systemic effects  
Value: 10 mg/kg body weight (bw) /day

Type of Application (Use): Workers  
Exposure routes: Skin contact  
Health Effect: Acute - systemic effects  
Value: 277 mg/kg body weight (bw) /day

Type of Application (Use): Workers  
Exposure routes: Inhalation  
Health Effect: Long-term - systemic effects  
Value: 57.8 mg/m3

Type of Application (Use): Consumers  
Exposure routes: Ingestion  
Health Effect: Long-term - systemic effects  
Value: 5.2 mg/kg body weight (bw) /day

Type of Application (Use): Consumers  
Exposure routes: Ingestion  
Health Effect: Acute - systemic effects  
Value: 33.3 mg/kg body weight (bw) /day



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Type of Application (Use): Consumers  
Exposure routes: Inhalation  
Health Effect: Long-term - systemic effects  
Value: 17.1 mg/m<sup>3</sup>

Type of Application (Use): Consumers  
Exposure routes: Skin contact  
Health Effect: Long-term - systemic effects  
Value: 6 mg/kg body weight (bw) /day

Type of Application (Use): Consumers  
Exposure routes: Skin contact  
Health Effect: Acute - systemic effects  
Value: 167 mg/kg body weight (bw) /day

**Predicted No Effect Concentration (PNEC)**

● **Ethane-1,2-diol**

Value: 10 mg/l  
Compartment: Fresh water

Value: 1 mg/l  
Compartment: Marine water

Value: 10 mg/l  
Compartment: Water  
Remarks: Intermittent use/release

Value: 20.9 mg/kg dry weight (d.w.)  
Compartment: Fresh water sediment

Value: 1 mg/kg dry weight (d.w.)  
Compartment: Marine sediment

Value: 1.53 mg/kg dry weight (d.w.)  
Compartment: Soil

Value: 199.5 mg/l  
Compartment: Sewage treatment plants

● **2-Pyrrolidone**

Value: 0.5 mg/l  
Compartment: Fresh water

Value: 0.05 mg/l  
Compartment: Marine water

Value: 0.5 mg/l  
Compartment: Intermittent use/release

Value: 10 mg/l



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Compartment: Sewage treatment plants

Value: 0.42 mg/kg dry weight (d.w.)  
Compartment: Fresh water sediment

Value: 0.061 mg/kg dry weight (d.w.)  
Compartment: Soil

### 8.2. Exposure controls

- Engineering measures : Ensure adequate ventilation. Maintain air concentrations below occupational exposure standards. General mechanical ventilation is normally adequate but use local exhaust where necessary to maintain exposures below acceptable limits.
- Eye protection : Wear safety glasses or coverall chemical splash goggles.
- Hand protection : Material: Protective gloves complying with EN 374.  
Gloves must be inspected prior to use. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. 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. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Lightweight protective clothing and safety shoes are recommended.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Use with adequate ventilation. Keep container closed. Keep away from food and drink. Wash hands before eating, drinking, or smoking. Remove contaminated clothing and protective equipment before entering eating areas. Wash contaminated clothing before re-use.
- Respiratory protection : No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Form : liquid





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Colour	: blue
Odour	: not significant
Odour Threshold	: no data available
pH	: 7 - 9
Melting point/freezing point	: no data available
Boiling point	: 100 °C
Flash point	: > 93.9 °C
Self-Accelerating decomposition temperature (SADT)	: no data available
Flammability (solid, gas)	: Not applicable. The product is a liquid.
Ignition temperature	: no data available
Thermal decomposition	: no data available
Oxidizing properties	: The product contains no substances with oxidizing properties.
Explosive properties	: The product contains no substances with explosive properties.
Lower explosion limit/ Lower flammability limit	: Not relevant for classification and labelling of solids/liquids.
Upper explosion limit/ upper flammability limit	: Not relevant for classification and labelling of solids/liquids.
Vapour pressure	: Not available for this mixture.
Density	: no data available
Relative density	: no data available
Bulk density	: no data available
Water solubility	: no data available
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: The substance or mixture is not classified as pyrophoric.
Solubility in other solvents	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available



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Relative vapour density : Not available for this mixture.

Evaporation rate : Slower than Ether

### 9.2. Other information

No other data to be specially mentioned.

## SECTION 10: Stability and reactivity

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

**10.2. Chemical stability** : The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions** : None reasonably foreseeable. Stable at normal temperatures and storage conditions.

**10.4. Conditions to avoid** : Avoid extreme heat. Do not freeze.

**10.5. Incompatible materials** : Acids, bases and strong oxidizing agents

**10.6. Hazardous decomposition products** : Under fire conditions:  
formaldehyde-like

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute oral toxicity

Acute toxicity estimate : > 2,000 mg/kg  
Method: Calculation method

- Ethane-1,2-diol  
LD50 / Cat : 1,650 mg/kg
- 2,2' -oxybisethanol  
Acute toxicity estimate : 500 mg/kg
- 2-Pyrrolidone  
LD50 / Rat : > 5,000 mg/kg  
Method: OECD Test Guideline 401
- 1,2-Benzisothiazol-3(2H)-one  
LD50 / Rat : 670 mg/kg  
Central nervous system effects

#### Acute inhalation toxicity

- Ethane-1,2-diol



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Acute toxicity estimate / 4 h Not tested on animals : > 5 mg/l

- 2,2' -oxybisethanol  
Acute toxicity estimate / 4 h Rat : > 5 mg/l
- 2-Pyrrolidone  
LC50 / 4 h Rat  
Method: OECD Test Guideline 403  
An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Acute dermal toxicity

- Ethane-1,2-diol  
LD50 / Mouse : > 3,500 mg/kg
- 2,2' -oxybisethanol  
LD50 / Rabbit : 13,300 mg/kg
- 2-Pyrrolidone  
LD50 / Rabbit : > 2,000 mg/kg  
Method: OECD Test Guideline 402
- 1,2-Benzisothiazol-3(2H)-one  
LD50 / Rabbit : > 2,000 mg/kg

Skin irritation

- Ethane-1,2-diol  
Rabbit  
Classification: Not classified as irritant  
Result: No skin irritation
- 2,2' -oxybisethanol  
Rabbit  
Classification: No skin irritation  
Result: No skin irritation  
Minimal effects that do not meet the threshold for classification.
- 2-Pyrrolidone  
Rabbit  
Classification: No skin irritation  
Result: No skin irritation  
Method: OECD Test Guideline 404  
Minimal effects that do not meet the threshold for classification.
- 1,2-Benzisothiazol-3(2H)-one  
Rabbit  
Classification: Irritating to skin.  
Result: Skin irritation  
Information given is based on data obtained from similar substances.



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### Eye irritation

- Ethane-1,2-diol  
Rabbit  
Classification: Not classified as irritant  
Result: No eye irritation
- 2,2' -oxybisethanol  
Rabbit  
Classification: No eye irritation  
Result: No eye irritation  
Minimal effects that do not meet the threshold for classification.
- 2-Pyrrolidone  
Rabbit  
Classification: Mild eye irritation  
Result: Irritation to eyes, reversing within 7 days  
Method: OECD Test Guideline 405
- 1,2-Benzisothiazol-3(2H)-one  
Rabbit  
Classification: Risk of serious damage to eyes.  
Result: Severe eye irritation  
Information given is based on data obtained from similar substances.

### Respiratory or skin sensitisation

- Ethane-1,2-diol  
human  
Classification: Does not cause skin sensitisation.  
Result: Does not cause skin sensitisation.  
  
Classification: Does not cause respiratory sensitisation.  
Result: Does not cause respiratory sensitisation.
- 2,2' -oxybisethanol  
Guinea pig  
Classification: Does not cause skin sensitisation.  
Result: Does not cause skin sensitisation.  
  
human  
Classification: Not a sensitizer by inhalation.  
Result: Patch test on human volunteers did not demonstrate sensitisation properties.
- 2-Pyrrolidone  
Mouse  
Classification: Does not cause skin sensitisation.  
Result: Does not cause skin sensitisation.  
Method: OECD Test Guideline 429  
Information given is based on data obtained from similar substances.
- 1,2-Benzisothiazol-3(2H)-one



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Mouse Local lymph node test  
Classification: May cause sensitisation by skin contact.  
Result: Causes sensitisation.

human  
Classification: May cause sensitisation by skin contact.  
Result: Positive in human patch test.

### Repeated dose toxicity

- Ethane-1,2-diol  
Oral Rat  
Kidney damage
- 2-Pyrrolidone  
Ingestion Rat  
Exposure time: 90 d  
NOAEL: 207 mg/kg  
Method: OECD Test Guideline 408  
No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification.
- 1,2-Benzisothiazol-3(2H)-one  
Oral Rat  
No toxicologically significant effects were found.

### Mutagenicity assessment

- Ethane-1,2-diol  
Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- 2,2' -oxybisethanol  
Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
- 2-Pyrrolidone  
Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- 1,2-Benzisothiazol-3(2H)-one  
Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.

### Carcinogenicity assessment

- Ethane-1,2-diol  
Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
- 2,2' -oxybisethanol  
Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.



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### Toxicity to reproduction assessment

- Ethane-1,2-diol  
No toxicity to reproduction No effects on or via lactation Animal testing showed no reproductive toxicity.
- 2,2' -oxybisethanol  
No toxicity to reproduction Animal testing showed no reproductive toxicity.
- 2-Pyrrolidone  
Clear evidence of adverse effects on development, based on animal experiments. Animal testing did not show any effects on fertility. This substance has been assigned a Specific Concentration Limit (SCL) of  $\geq$  3% for Reproductive toxicity Category 1B (H360D).
- 1,2-Benzisothiazol-3(2H)-one  
No toxicity to reproduction Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.

### Assessment teratogenicity

- Ethane-1,2-diol  
Evidence suggests the substance is not a developmental toxin in animals.
- 2,2' -oxybisethanol  
Animal testing showed no developmental toxicity.
- 2-Pyrrolidone  
Foetal malformations Reduced growth
- 1,2-Benzisothiazol-3(2H)-one  
Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

### Further information

No data is available on the product itself. Information given is based on data on the components.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Toxicity to fish

- Ethane-1,2-diol  
LC50 / 96 h / Pimephales promelas (fathead minnow): 72,860 mg/l
- 2,2' -oxybisethanol  
LC50 / 96 h / Pimephales promelas (fathead minnow): 75,200 mg/l  
LC50 / 48 h / Leuciscus idus (Golden orfe):  $>$  10,000 mg/l
- 2-Pyrrolidone  
LC50 / 96 h / Danio rerio (zebra fish): 4,600 - 10,000 mg/l



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Method: OECD Test Guideline 203

- 1,2-Benzisothiazol-3(2H)-one  
LC50 / 96 h / Oncorhynchus mykiss (rainbow trout): 1.6 mg/l

### Toxicity to aquatic plants

- Ethane-1,2-diol  
ErC50 / 96 h / Pseudokirchneriella subcapitata (green algae): 6,500 mg/l
- 2,2' -oxybisethanol  
ErC50 / 96 h / Pseudokirchneriella subcapitata (green algae): 6,500 mg/l  
Information given is based on data obtained from similar substances.

NOEC / 72 h / Pseudokirchneriella subcapitata (green algae): > 100 mg/l  
Method: OECD Test Guideline 201  
Information given is based on data obtained from similar substances.

- 2-Pyrrolidone  
ErC50 / 72 h / Desmodesmus subspicatus (green algae): > 500 mg/l  
Method: DIN 38412

EC10 / 72 h / Desmodesmus subspicatus (green algae): 22.2 mg/l  
Method: DIN 38412

- 1,2-Benzisothiazol-3(2H)-one  
EC50 / 72 h / Algae: 0.15 mg/l

### Toxicity to aquatic invertebrates

- 2,2' -oxybisethanol  
EC50 / 24 h / Daphnia magna (Water flea): > 10,000 mg/l
- 2-Pyrrolidone  
EC50 / 48 h / Daphnia magna (Water flea): > 500 mg/l  
Method: Directive 67/548/EEC, Annex V, C.2.
- 1,2-Benzisothiazol-3(2H)-one  
EC50 / 48 h / Aquatic invertebrates: 0.047 mg/l

### Chronic toxicity to fish

- 2,2' -oxybisethanol  
NOEC / 7 d / Pimephales promelas (fathead minnow): 32,000 mg/l  
Information given is based on data obtained from similar substances.

### Chronic toxicity to aquatic Invertebrates

- 2,2' -oxybisethanol  
NOEC / 21 d / Daphnia magna (Water flea): > 15,000 mg/l  
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### **12.2. Persistence and degradability**

#### Biodegradability

- Ethane-1,2-diol  
/ 10 d  
Biodegradation: 90 - 100 %  
Method: OECD Test Guideline 301  
Readily biodegradable.
- 2,2' -oxybisethanol  
/ 28 d  
Biodegradation: 90 %  
Biodegradable
- 2-Pyrrolidone  
Method: OECD Test Guideline 302  
Biodegradable  
Readily biodegradable.

### **12.3. Bioaccumulative potential**

#### Bioaccumulation

- Ethane-1,2-diol  
Bioaccumulation is unlikely.
- 2,2' -oxybisethanol  
Bioconcentration factor (BCF): 10 - 180  
Bioaccumulation is unlikely.
- 2-Pyrrolidone  
Does not bioaccumulate.
- 1,2-Benzisothiazol-3(2H)-one  
Bioaccumulation is unlikely.

### **12.4. Mobility in soil**

no data available

### **12.5. Results of PBT and vPvB assessment**

#### 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 adverse effects**

#### **Additional ecological information**

No data is available on the product itself. Information given is based on data on the components.





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### **SECTION 13: Disposal considerations**

#### **13.1. Waste treatment methods**

- Product : Dispose of in accordance with the European Directives on waste and hazardous waste. Never place unused product down any indoor or out door drain.
- Contaminated packaging : Do not reuse empty container. Contaminated/not cleaned containers should be treated/handled like product waste. Dispose of container properly. Refer to applicable Local, State/Provincial, and Federal Regulations, as well as industry Standards.

### **SECTION 14: Transport information**

#### **ADR**

- 14.1. UN number: Not applicable  
14.2. UN proper shipping name: Not applicable  
14.3. Transport hazard class(es): Not applicable  
14.4. Packing group: Not applicable  
14.5. Environmental hazards: none
- 14.6. Special precautions for user:  
Not classified as dangerous in the meaning of transport regulations.

#### **IATA\_C**

- 14.1. UN number: Not applicable  
14.2. UN proper shipping name: Not applicable  
14.3. Transport hazard class(es): Not applicable  
14.4. Packing group: Not applicable  
14.5. Environmental hazards: none
- 14.6. Special precautions for user:  
Not classified as dangerous in the meaning of transport regulations.

#### **IMDG**

- 14.1. UN number: Not applicable  
14.2. UN proper shipping name: Not applicable  
14.3. Transport hazard class(es): Not applicable  
14.4. Packing group: Not applicable  
14.5. Environmental hazards: none
- 14.6. Special precautions for user:  
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

### **SECTION 15: Regulatory information**

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

**Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and**



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### import of dangerous chemicals

Not applicable

### Major Accident Hazard Legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

### Other regulations :

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.

### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture.

## SECTION 16: Other information

### Full text of H-Statements referred to under section 3.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360D	May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

### Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS-No.	Chemical Abstracts Service number
CLP	Classification, Labelling and Packaging
EbC50	Concentration at which 50% reduction of biomass is observed
EC50	Median effective concentration
EN	European Norm



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EPA	Environmental Protection Agency
ErC50	Concentration at which a 50% inhibition of growth rate is observed
EyC50	Concentration at which 50 % inhibition of yield is observed
IATA_C	International Air Transport Association (Cargo)
IBC	International Bulk Chemical Code
ICAO	International Civil Aviation Organization
ISO	International Standard Organization
IMDG	International Maritime Dangerous Goods
LC50	Median Lethal Concentration
LD50	Median Lethal Dose
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest observed effect level
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No observed adverse effect level
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
OPPTS	Office of Prevention, Pesticides and Toxic Substances
PBT	Persistent, Bioaccumulative and Toxic
STEL	Short term exposure limit
TWA	Time Weighted Average (TWA):
vPvB	very Persistent and very Bioaccumulative

### Sources of key data used to compile the Safety Data Sheet

Key literature references and sources for data may include: regulations, databases, literature, own research, practical experience.

The health and environmental classification of the mixture is derived using the calculation methods and the classifications of the relevant ingredients unless product level data has been provided in Section 11 or 12, indicating that the classification for those end points were derived on the basis of test data or bridging principles.

### Further information

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**Note:** The classification of substances listed in Annex VI to the CLP regulation are derived from assessment of the best knowledge and information available at the time of its publication or subsequent amendments. The information on components provided in sections 11 and 12 of this safety data sheet may in some cases not align with a legally binding classification on the basis of technical progress and availability of new information.

Significant change from previous version is denoted with a double bar.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.



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