



INKU-DTG-500-MG

Ref. 130000128531
Version 6.2 (replaces: Version 6.1)

Revision Date 04.03.2019
Issue Date 05.04.2019

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 : INKU-DTG-500-MG

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 : ROLAND DG EUROPE HOLDINGS B.V.
PROF. J.H. BAVINCKLAAN 2
1183AT AMSTELVEEN
NETHERLANDS

Telephone : +31 20 723 36 70

Telefax :

E-mail address : deu-demand-planning@rolanddg.com

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not a classified substance or mixture according to Regulation (EC) No. 1272/2008.

2.2. Label elements

Special labelling of certain substances and mixtures : EUH210 Safety data sheet available on request.

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: 7.2328 %

The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity: 7.2328 %

The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 12.7715 %

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 5.2246 %

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Not a classified substance or mixture according to Regulation (EC) No. 1272/2008.

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)
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Ethane-1,2-diol (CAS-No.107-21-1) (EC-No.203-473-3)

01-2119456816-28	Acute Tox. 4; H302 STOT RE 2; H373	>= 1 - < 10 %
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2,2'-Oxydiethanol (CAS-No.111-46-6) (EC-No.203-872-2)

01-2119457857-21	Acute Tox. 4; H302	>= 1 - < 10 %
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2-Pyrrolidone (CAS-No.616-45-5) (EC-No.210-483-1)

01-2119475471-37	Eye Irrit. 2; H319	>= 1 - < 3 %
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2-(2-(2-Butoxyethoxy)ethoxy)ethanol (CAS-No.143-22-6) (EC-No.205-592-6)

01-2119475107-38	Eye Dam. 1; H318	>= 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.

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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, 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 (CO2)

5.2. Special hazards arising from the substance or mixture

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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

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



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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 ³ 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 ³ 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 ³ 20 ppm	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits
Long-term exposure limit (8-hour TWA reference period) particles	10 mg/m ³	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits
Short-term exposure limit (15-minute reference period) Vapour	104 mg/m ³ 40 ppm	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits

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

Long-term exposure limit (8-hour TWA reference period)	101 mg/m ³ 23 ppm	2005-04-06	UK. EH40 WEL - Workplace Exposure Limits
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Glycerol (CAS-No. 56-81-5)

Long-term exposure limit (8-hour TWA reference period) Mist	10 mg/m ³	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits
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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

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- 2-Pyrrolidone : 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
- 2-Pyrrolidone : Type of Application (Use): Workers
Exposure routes: Skin contact
Health Effect: Acute - systemic effects
Value: 277 mg/kg body weight (bw) /day
- 2-Pyrrolidone : Type of Application (Use): Workers
Exposure routes: Inhalation
Health Effect: Long-term - systemic effects
Value: 57.8 mg/m³
- 2-Pyrrolidone : Type of Application (Use): Consumers
Exposure routes: Ingestion
Health Effect: Long-term - systemic effects
Value: 5.2 mg/kg body weight (bw) /day
- 2-Pyrrolidone : Type of Application (Use): Consumers
Exposure routes: Ingestion
Health Effect: Acute - systemic effects
Value: 33.3 mg/kg body weight (bw) /day
- 2-Pyrrolidone : Type of Application (Use): Consumers
Exposure routes: Inhalation
Health Effect: Long-term - systemic effects
Value: 17.1 mg/m³
- 2-Pyrrolidone : Type of Application (Use): Consumers
Exposure routes: Skin contact
Health Effect: Long-term - systemic effects
Value: 6 mg/kg body weight (bw) /day
- 2-Pyrrolidone : 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
- Ethane-1,2-diol : Value: 1 mg/l
Compartment: Marine water
- Ethane-1,2-diol : Value: 10 mg/l
Compartment: Water
Remarks: Intermittent use/release

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	:	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 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.

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- 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
- Colour : red
- Odour : not significant
- Odour Threshold : no data available
- pH : 7.0 - 9.0
- Freezing point : -13 °C
- Boiling point : 100 °C
- Flash point : > 93 °C
- Self-Accelerating decomposition temperature (SADT) : no data available
- Flammability (solid, gas) : Not applicable. The product is a liquid.
- Ignition temperature : 401 °C
- 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 : 0.5 hPa

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Density	: no data available
Relative density	: 1.05
Bulk density	: no data available
Water solubility	: soluble
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
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	: No decomposition if stored and applied as directed. Under fire conditions: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

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

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- Ethane-1,2-diol
LD50 / Cat : 1,650 mg/kg
- 2,2'-Oxydiethanol
Acute toxicity estimate : 500 mg/kg
- 2-Pyrrolidone
LD50 / Rat : 8,000 mg/kg
Method: OECD Test Guideline 401
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
LD50 / Rat : 5,170 mg/kg
- 1,2-Benzisothiazol-3(2H)-one
LD50 / Rat : 670 mg/kg
Central nervous system effects

Acute inhalation toxicity

- Ethane-1,2-diol
Acute toxicity estimate / 4 h Not tested on animals : > 5 mg/l
- 2,2'-Oxydiethanol
Acute toxicity estimate / 4 h Rat : > 5 mg/l
- 2-Pyrrolidone
LC50 / 4 h Rat
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'-Oxydiethanol
LD50 / Rabbit : 13,300 mg/kg
- 2-Pyrrolidone
LD50 / Rat : > 2,000 mg/kg
Method: OECD Test Guideline 402
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
LD50 / Rabbit : 3,540 mg/kg
- 1,2-Benzisothiazol-3(2H)-one
LD50 / Rabbit : > 2,000 mg/kg

Skin irritation

- Ethane-1,2-diol
Rabbit
Classification: Not classified as irritant

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Result: No skin irritation

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

Eye irritation

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

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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'-Oxydiethanol
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.

- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol

Guinea pig

Classification: Does not cause skin sensitisation.

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

Information given is based on data obtained from similar substances.

Guinea pig

Classification: Does not cause respiratory sensitisation.

Result: Does not cause respiratory sensitisation.

Information given is based on data obtained from similar substances.

- 1,2-Benzisothiazol-3(2H)-one

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

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Kidney damage

- 2-Pyrrolidone
Oral Rat
NOAEL: 207 mg/kg
Method: OECD Test Guideline 408
Kidney effects
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
Oral Rat
NOAEL: 320 mg/kg
LOAEL: 1,270 mg/kg
Method: OECD Test Guideline 408
No toxicologically significant effects were found., Information given is based on data obtained from similar substances.
- 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'-Oxydiethanol
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.
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects. Information given is based on data obtained from similar substances.
- 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'-Oxydiethanol
Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects. Information given is based on data obtained from similar substances.

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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'-Oxydiethanol
No toxicity to reproduction Animal testing showed no reproductive toxicity.
- 2-Pyrrolidone
No toxicity to reproduction Animal testing showed no reproductive toxicity.
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
No toxicity to reproduction Animal testing showed no reproductive toxicity. Information given is based on data obtained from similar substances.
- 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'-Oxydiethanol
Animal testing showed no developmental toxicity.
- 2-Pyrrolidone
Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
Animal testing showed no developmental toxicity.
- 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'-Oxydiethanol
LC50 / 96 h / Pimephales promelas (fathead minnow): 75,200 mg/l

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LC50 / 48 h / *Leuciscus idus* (Golden orfe): > 10,000 mg/l

- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
LC50 / 96 h / *Leuciscus idus* (Golden orfe): 2,200 mg/l
Method: DIN 38412
- 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'-Oxydiethanol
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
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
ErC50 / 72 h / *Desmodesmus subspicatus* (green algae): > 612 mg/l
- 1,2-Benzisothiazol-3(2H)-one
EC50 / 72 h / Algae: 0.15 mg/l

Toxicity to aquatic invertebrates

- 2,2'-Oxydiethanol
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.
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
EC50 / 48 h / *Daphnia magna* (Water flea): 2,210 mg/l
- 1,2-Benzisothiazol-3(2H)-one
EC50 / 48 h / Aquatic invertebrates: 0.047 mg/l

Chronic toxicity to fish

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

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NOEC / 21 d / Danio rerio (zebra fish): > 174.6 mg/l
Method: OECD Test Guideline 204
Information given is based on data obtained from similar substances.

Chronic toxicity to aquatic Invertebrates

- 2,2'-Oxydiethanol
NOEC / 21 d / Daphnia magna (Water flea): > 15,000 mg/l
Information given is based on data obtained from similar substances.
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
NOEC / 21 d / Daphnia magna (Water flea): > 174.6 mg/l
Method: OECD Test Guideline 211
Information given is based on data obtained from similar substances.

12.2. Persistence and degradability

Biodegradability

- Ethane-1,2-diol
/ 10 d
Biodegradation: 90 - 100 %
Method: OECD Test Guideline 301
Readily biodegradable.
- 2,2'-Oxydiethanol
/ 28 d
Biodegradation: 90 %
Biodegradable
- 2-Pyrrolidone
Biodegradable
Readily biodegradable.
- 2-(2-(2-Butoxyethoxy)ethoxy)ethanol
Method: OECD Test Guideline 301D
rapidly biodegradable
Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation

- Ethane-1,2-diol
Bioaccumulation is unlikely.
- 2,2'-Oxydiethanol
Bioconcentration factor (BCF): 10 - 180
Bioaccumulation is unlikely.
- 2-Pyrrolidone
Bioaccumulation is unlikely.
- 1,2-Benzisothiazol-3(2H)-one

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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.

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

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|--|--|
| 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

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.
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

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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
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

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.



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