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

1.1 Product identifier

Product name ZINATRA

Other means of identification

Product code 50001471

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

Use of the Sub- : A fertilizer with micronutrients for use in agriculture and horti-

stance/Mixture culture

Recommended restrictions : Use as recommended by the label.

on use

1.3 Details of the supplier of the safety data sheet

1.3 Details of the supplier of the safety data sheet

Supplier Address FMC Agro Limited

Rectors Lane, Pentre

Flintshire CH5 2DH United Kingdom

Telephone: + 44 1244 537370 E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call: England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency: England and Wales: 111 Scotland: 84 54 24 2424

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

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Short-term (acute) aquatic hazard, Cate-

gory 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Cat-

egory 1

H410: Very toxic to aquatic life with long lasting

effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms

Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. 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

Components

Chemical name	CAS-No. EC-No.	Classification	Concentration (% w/w)
	Index-No.		(70 W/W)
	Registration number		
Zinc oxide	1314-13-2	Aquatic Acute 1;	>= 30 - < 50
		H400	
		Aquatic Chronic 1;	

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		H410 ————————————————————————————————————	
ethanediol	107-21-1 203-473-3 603-027-00-1	Acute Tox. 4; H302 STOT RE 2; H373 (Kidney)	>= 1 - < 10
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 10 specific concentration limit Skin Sens. 1; H317 >= 0.05 %	>= 0.0025 - < 0.025

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

Protection of first-aiders : First Aid responders should pay attention to self-protection

and use the recommended protective clothing

Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

If inhaled : Move to fresh air.

If unconscious, place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

In case of skin contact : Take off all contaminated clothing immediately.

Wash contaminated clothing before re-use.

Wash off immediately with plenty of water for at least 15

minutes.

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Call a physician if irritation develops or persists.

In case of eye contact : Immediately flush eye(s) with plenty of water.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Do not induce vomiting without medical advice.

Clean mouth with water and drink afterwards plenty of water.

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

Risks : 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 : Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing

media

Do not spread spilled material with high-pressure water

streams.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod: :

ucts

Fire may produce irritating, corrosive and/or toxic gases.

Ammonia Carbon oxides

5.3 Advice for firefighters

Special protective equipment:

for firefighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

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.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Ensure adequate ventilation.

If it can be safely done, stop the leak.

Do not touch or walk through the spilled material. Never return spills in original containers for re-use.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

For disposal considerations see section 13.

6.2 Environmental precautions

Environmental 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

Methods for cleaning up : 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 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication 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.

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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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must

comply with the technological safety standards.

Further information on stor-

age stability

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Fertilizers

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
ethanediol	107-21-1	TWA (Vapour)	20 ppm 52 mg/m3	GB EH40
	Further inform	nation: Can be absor	bed through the skin. The as	signed sub-
	stances are th	ose for which there	are concerns that dermal abs	sorption will
	lead to systen	nic toxicity.		
		TWA (particles)	10 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL (Vapour)	40 ppm 104 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	40 ppm 104 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	20 ppm 52 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			

Derived No Effect Level (DNEL):

	` '			
Substance name	End Use	Exposure routes	Potential health effects	Value
1,2-benzisothiazol- 3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m3
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg

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Consumers	Inhalation	Long-term systemic effects	1.2 mg/m3
Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate,

butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Skin and body protection : Impervious clothing

Choose body protection according to the amount and concen-

tration of the dangerous substance at the work place.

Respiratory protection : No personal respiratory protective equipment normally re-

quired.

Protective measures : Plan first aid action before beginning work with this product.

Always have on hand a first-aid kit, together with proper in-

structions.

Wear suitable protective equipment.

Ensure that eye flushing systems and safety showers are

located close to the working place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : opaque

Odour : Barely perceptible

Odour Threshold : No data available

pH : 8.5 - 10.5

Concentration: 100 %

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Melting point/freezing point : No data available

Initial boiling point and boiling

range

: No data available

Flash point : 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 : 1.71 - 1.75

Density : No data available

Bulk density : No data available

Solubility(ies)

Water solubility : soluble

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

9.2 Other information

Particle size : No data available

Particle Size Distribution : No data available

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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 : Avoid extreme temperatures

Protect from frost, heat and sunlight.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

10.6 Hazardous decomposition products

See subsection 5.2.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

Acute oral toxicity : Assessment: The substance or mixture has no acute oral tox-

icity

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal

toxicity

Components:

Zinc oxide:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 423

LD50 (Mouse, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 401

Target Organs: Liver, Heart, spleen, Stomach, Pancreas

Symptoms: Damage Remarks: mortality

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Acute inhalation toxicity : LC0 (Rat, male and female): > 1.79 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: EPA OPP 81 - 3 Remarks: no mortality

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 402

ethanediol:

Acute inhalation toxicity : LC0 (Rat, male and female): > 2.5 mg/l

Exposure time: 6 h

Test atmosphere: dust/mist Remarks: no mortality

Acute dermal toxicity : LD50 (Mouse, male and female): > 3,500 mg/kg

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : LD50 (Rat, male and female): 490 mg/kg

Method: OECD Test Guideline 401

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

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Result : Mild skin irritant

Remarks : May cause skin irritation and/or dermatitis.

Components:

Zinc oxide:

Species : reconstructed human epidermis (RhE)

Method : OECD Test Guideline 431

Result : No skin irritation

ethanediol:

Species : Rabbit

Result : No skin irritation

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit Exposure time : 72 h

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Method : OECD Test Guideline 404

Result : No skin irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Result : Mild eye irritant

Remarks : Vapours may cause irritation to the eyes, respiratory system

and the skin.

Components:

Zinc oxide:

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

ethanediol:

Species : Rabbit

Result : No eye irritation

1,2-benzisothiazol-3(2H)-one:

Species : Bovine cornea

Method : OECD Test Guideline 437

Result : No eye irritation

Species : Rabbit

Method : EPA OPP 81-4

Result : Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Product:

Remarks : No data available

Components:

Zinc oxide:

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

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Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Substance is not considered to be potential skin sensitiser.

ethanediol:

Test Type : Maximisation Test

Species : Guinea pig

Result : Does not cause skin sensitisation.

1,2-benzisothiazol-3(2H)-one:

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : May cause sensitisation by skin contact.

Species : Guinea pig Method : FIFRA 81.06

Result : May cause sensitisation by skin contact.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Components:

Zinc oxide:

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: Mutagenicity (Salmonella typhimurium - reverse mu-

tation assay) Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: equivocal

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster fibroblasts Method: OECD Test Guideline 473

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes

Result: positive

Test Type: Micronucleus test

Test system: Human epithelioid cells Method: OECD Test Guideline 487

Result: negative

Test Type: Micronucleus test

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Test system: Human lymphocytes

Result: positive

Genotoxicity in vivo : Test Type: In vivo micronucleus test

Species: Mouse (male)

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

ethanediol:

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: OPPTS 870.5100

Result: negative

Genotoxicity in vivo : Test Type: dominant lethal test

Species: Rat

Application Route: Oral Result: negative

1,2-benzisothiazol-3(2H)-one:

Genotoxicity in vitro : Test Type: gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: positive

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay

Species: Rat (male) Cell type: Liver cells

Application Route: Ingestion

Exposure time: 4 h

Method: OECD Test Guideline 486

Result: negative

Test Type: Micronucleus test

Species: Mouse Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

Germ cell mutagenicity- As-

sessment

Weight of evidence does not support classification as a germ

cell mutagen.

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Carcinogenicity

Based on available data, the classification criteria are not met.

Components:

Zinc oxide:

Species : Mouse, male and female

Application Route : Oral Exposure time : 1 year

Dose : 4400, 22000 mg/l
NOAEL : > 22,000 mg/l
Result : negative

Remarks : Based on data from similar materials

Carcinogenicity - Assess-

ment

: Animal testing did not show any carcinogenic effects.

ethanediol:

Species : Mouse
Application Route : Oral
Exposure time : 24 month(s)
Result : negative

Reproductive toxicity

Based on available data, the classification criteria are not met.

Components:

Zinc oxide:

Effects on fertility : Test Type: Two-generation study

Species: Rat, male and female

Application Route: Oral

Dose: 7.5, 15, 30mg/kg bw/day

Frequency of Treatment: 7 days/week

General Toxicity - Parent: LOAEL: 7.5 mg/kg body weight

General Toxicity F1: LOAEL: 30 mg/kg body weight

Method: OECD Test Guideline 416

Result: negative

Remarks: Based on data from similar materials

Test Type: one-generation reproductive toxicity

Species: Rat, male Application Route: Oral Dose: 4,000 milligram per liter Frequency of Treatment: 32 daily

General Toxicity - Parent: LOAEL: 4,000 mg/l General Toxicity F1: LOAEL: 4,000 mg/l

Symptoms: Reduced fertility

Target Organs: male reproductive organs

Result: positive

Remarks: Based on data from similar materials

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Effects on foetal develop-

ment

Species: Rat

Application Route: inhalation (dust/mist/fume)
Dose: .0003, 0.002, 0.008 milligram per liter

Duration of Single Treatment: 14 d

General Toxicity Maternal: LOAEC: 0.008 mg/L Developmental Toxicity: NOAEC: 0.008 mg/L

Embryo-foetal toxicity: NOAEC Mating/Fertility: 0.008 mg/L

Method: OECD Test Guideline 414

Result: negative

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on sexual function and

fertility, and/or on development, based on animal experiments.

1,2-benzisothiazol-3(2H)-one:

Effects on fertility : Species: Rat, male

Application Route: Ingestion

General Toxicity - Parent: NOAEL: 18.5 mg/kg body weight

General Toxicity F1: NOAEL: 48 mg/kg body weight

Fertility: NOAEL: 112 mg/kg bw/day

Symptoms: No effects on reproduction parameters

Method: OPPTS 870.3800

Result: negative

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

STOT - single exposure

Based on available data, the classification criteria are not met.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Components:

Zinc oxide:

Exposure routes : Oral

Target Organs : Central nervous system, Reproductive organs

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

ethanediol:

Exposure routes : Oral Target Organs : Kidney

Assessment : The substance or mixture is classified as specific target organ

toxicant, repeated exposure, category 2.

1,2-benzisothiazol-3(2H)-one:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

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Repeated dose toxicity

Components:

Zinc oxide:

Species : Rat, male and female

NOAEL : 31.52 mg/kg LOAEL : 127.52 mg/kg

Application Route : Oral Exposure time : 13 weeks

Dose : 0, 31.52, 127.52 mg/kg Method : OECD Test Guideline 408

Target Organs : Pancreas Symptoms : Necrosis

Remarks : Based on data from similar materials

Species : Mouse, male and female

NOEL : 3000 ppm Application Route : Oral Exposure time : 13 weeks

Dose : 0, 300, 3000, 30000 ppm Method : OECD Test Guideline 408

Remarks : Based on data from similar materials

Species : Rat, male LOAEL : 0.0045 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 3 months

Dose : 0.0003, 0.0015, 0.004mg/l Method : OECD Test Guideline 413

Target Organs : Lungs Remarks : mortality

Species : Rat, male and female LOAEL : 75 mg/kg bw/day

Application Route : Dermal Exposure time : 28d

Dose : 0, 75, 180, 360 mg/kg bw/day Method : OECD Test Guideline 410

ethanediol:

Species : Rat
NOAEL : 150 mg/kg
Application Route : Oral
Exposure time : 12 Months

Species : Dog

NOAEL : > 2,200 - < 4,400 mg/kg

Application Route : Dermal Exposure time : 4 Weeks

Method : OECD Test Guideline 410

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1,2-benzisothiazol-3(2H)-one:

Species : Rat, male and female

NOAEL : 15 mg/kg Application Route : Ingestion Exposure time : 28 d

Method : OECD Test Guideline 407

Symptoms : Irritation

Species : Rat, male and female

NOAEL : 69 mg/kg Application Route : Ingestion Exposure time : 90 d

Symptoms : Irritation, Reduced body weight

Aspiration toxicity

Based on available data, the classification criteria are not met.

Experience with human exposure

Components:

Zinc oxide:

Inhalation : Symptoms: Fatigue, Sweating, bitter taste, chills, dry mouth,

flu-like symptoms

Ingestion : Symptoms: Gastrointestinal discomfort

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Zinc oxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.55 mg/l

Exposure time: 96 h Test Type: static test

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia magna (Water flea)): 0.76 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

LC50: 0.37 mg/l Exposure time: 96 h Test Type: static test

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EC50 : 0.14 mg/l Exposure time: 24 h Test Type: static test

EC50 : 0.072 mg/l Exposure time: 96 h Test Type: static test

Toxicity to algae/aquatic plants

IC50 (Pseudokirchneriella subcapitata (algae)): 0.044 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 0.024 mg/l

Exposure time: 3 d

Method: OECD Test Guideline 201

IC50 (Skeletonema costatum (marine diatom)): 1.23 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201

IC50: 3.28 mg/l Exposure time: 96 h

Method: OECD Test Guideline 201

NOEC (Dunaliella tertiolecta (marine algae)): 0.01 mg/l

Exposure time: 4 d Test Type: static test

EC50 (Dunaliella tertiolecta (marine algae)): 0.65 mg/l

Exposure time: 4 d Test Type: static test

(Chlorella vulgaris (Fresh water algae)): 1.16 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

EC50 (Anabaena flos-aquae (cyanobacterium)): 0.3 mg/l

Exposure time: 96 h Test Type: static test

EC50 : 0.69 mg/l Exposure time: 3 d Test Type: static test

EC50 (Phaeodactylum tricornutum): 1.12 mg/l

Exposure time: 24 h Test Type: static test

M-Factor (Acute aquatic tox-

icity)

: 1

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l

Exposure time: 3 h

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Method: OECD Test Guideline 209

EC50 (Tetrahymena pyriformis): 7.1 mg/l

Exposure time: 24 h

Test Type: Growth inhibition

Toxicity to fish (Chronic tox-

icity)

NOEC: 0.440 mg/l Exposure time: 72 d

Species: Oncorhynchus mykiss (rainbow trout)

Test Type: flow-through test

Remarks: Based on data from similar materials

NOEC: 0.026 mg/l Exposure time: 30 d

Species: Jordanella floridae (flagfish) Method: OECD Test Guideline 210

Remarks: Based on data from similar materials

NOEC: 0.530 mg/l Exposure time: 1,095 d

Species: Salvelinus fontinalis (Brook trout)

Test Type: flow-through test

Remarks: Based on data from similar materials

NOEC: 0.056 mg/l Exposure time: 116 d

Species: Salmo trutta (brown trout) Method: OECD Test Guideline 210

Remarks: Based on data from similar materials

NOEC: 0.025 mg/l Exposure time: 27 d Species: Fish

Test Type: semi-static test

Remarks: Based on data from similar materials

NOEC: 0.078 mg/l Exposure time: 248 d

Species: Pimephales promelas (fathead minnow)

Test Type: flow-through test

Remarks: Based on data from similar materials

NOEC: 0.050 mg/l Exposure time: 155 d

Species: Fish

Test Type: flow-through test

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

LOEC: 0.125 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

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M-Factor (Chronic aquatic

toxicity)

: 1

Toxicity to soil dwelling or-

ganisms

NOEC: 750 mg/kg Exposure time: 21 d

Species: Eisenia fetida (earthworms)

ethanediol:

Toxicity to fish LC50 (Pimephales promelas (fathead minnow)): > 72,860 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

IC50 (Pseudokirchneriella subcapitata (green algae)): 10,940

mg/l

Exposure time: 96 h

Toxicity to microorganisms (activated sludge): > 1,995 mg/l

> Exposure time: 30 min Method: ISO 8192

Toxicity to fish (Chronic tox-

icity)

1,500 mg/l

Exposure time: 28 d

Species: Menidia peninsulae (tidewater silverside)

Toxicity to daphnia and other

aquatic invertebrates (Chron-

ic toxicity)

33,911 mg/l

Exposure time: 21 d

Species: Daphnia magna (Water flea)

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish LC50 (Cyprinodon variegatus (sheepshead minnow)): 16.7

mg/l

Exposure time: 96 h Test Type: static test

LC50 (Oncorhynchus mykiss (rainbow trout)): 2.15 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 2.9 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 0.070

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04

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mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox- :

icity)

10

Toxicity to microorganisms : EC50 (activated sludge): 24 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition Method: OECD Test Guideline 209

EC50 (activated sludge): 12.8 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition Method: OECD Test Guideline 209

12.2 Persistence and degradability

Components:

ethanediol:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 90 - 100 %

Exposure time: 10 d

Method: OECD Test Guideline 301A

1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: rapidly biodegradable

Method: OECD Test Guideline 301C

12.3 Bioaccumulative potential

Components:

Zinc oxide:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Exposure time: 14 d

Bioconcentration factor (BCF): 2,060

ethanediol:

Partition coefficient: n-

octanol/water

log Pow: -1.36

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)

Exposure time: 56 d

Bioconcentration factor (BCF): 6.62 Method: OECD Test Guideline 305

Remarks: Substance is not persistent, bioaccumulative, and

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toxic (PBT).

Partition coefficient: n-

octanol/water

: log Pow: 0.7 (20 °C)

pH: 7

log Pow: 0.99 (20 °C)

pH: 5

12.4 Mobility in soil

Components:

1,2-benzisothiazol-3(2H)-one:

Distribution among environmental compartments

Koc: 9.33 ml/g, log Koc: 0.97 Method: OECD Test Guideline 121 Remarks: Highly mobile in soils

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:

Endocrine disrupting poten-

tial

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

Additional ecological infor-

mation

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

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 chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number

ADN : UN 3082
ADR : UN 3082
RID : UN 3082
IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

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

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

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

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

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

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

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

IATA : Environmentally hazardous substance, liquid, n.o.s.

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

14.3 Transport hazard class(es)

Class Subsidiary risks

 ADN
 : 9

 ADR
 : 9

 RID
 : 9

 IMDG
 : 9

 IATA
 : 9

14.4 Packing group

ADN

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

ADR

Packing group : III

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Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG

Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)

Packing instruction (cargo : 964

aircraft)

Packing instruction (LQ) : Y964
Packing group : III

Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passen- : 964

ger aircraft)

Packing instruction (LQ) : Y964
Packing group : III

Labels : Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the fol-

lowing entries should be considered:

Number on list 3

ethanediol (Number on list 3)

UK REACH Candidate list of substances of very high

concern (SVHC) for Authorisation

Not applicable

Not applicable

The Persistent Organic Pollutants Regulations (retained

Regulation (EU) 2019/1021 as amended for Great Brit-

ain)

Regulation (EC) No 1005/2009 on substances that de-

plete the ozone layer

: Not applicable

UK REACH List of substances subject to authorisation

(Annex XIV)

Not applicable

Control of Major Accident Hazards Regulations E1

2015 (COMAH)

ENVIRONMENTAL HAZARDS

E1

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

The components of this product are reported in the following inventories:

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

Sodium Polyacrylate Homopolymer

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ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

TECI: Not in compliance with the inventory

15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

SECTION 16: Other information

Full text of H-Statements

H302 : Harmful if swallowed. H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.

H373 : May cause damage to organs through prolonged or repeated

exposure if swallowed.

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 Irrit. : Skin irritation Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure

2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first

list of indicative occupational exposure limit values

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

2000/39/EC / TWA : Limit Value - eight hours 2000/39/EC / STEL : Short term exposure limit

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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

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of the German Institute for Standardisation; 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; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture: Classification procedure:

Aquatic Acute 1 H400 Calculation method
Aquatic Chronic 1 H410 Calculation method

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