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

1.1 Product identifier

Product name CIRCADEN® 200 SC

Other means of identification

Product code 50000117

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

Use of the Sub- : Insecticide

stance/Mixture

Recommended restrictions

on use

: Use as recommended by the label.

1.3 Details of the supplier of the safety data sheet

Supplier Address FMC Chemicals (Pty) Ltd

Company Registration No.: 1988/001451/07

West End Office Park, Building C Cnr. West Ave & Hall Street

Centurion 0014 South Africa

E-mail address: SDS-Info@fmc.com

Distributor address:

Polachem Investments (Private) Limited

12 Connaught Road

Avondale, Harare, Zimbabwe

1.4 Emergency telephone

For leak, fire, spill or accident emergencies, call: South Africa: 080-001-4676 (CHEMTREC)

Medical emergency:

DaTIS (Drug and Toxicology Information Service

+263 24 2933452 or

+263 24 2791631 - 11 extension 2172 (Business hours) E-Mail: datis@medsch.uz.ac.zw, datis.zim23@gmail.com,

datiszim@gmail.com

Griffon Poison Information Centre (24 hrs): +27-(0)-82-446-

8946

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2 H319: Causes serious eye irritation.

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

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms





Signal Word : WARNING

Hazard Statements : H319 Causes serious eye irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : Prevention:

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/

attention.

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container as hazardous waste in

accordance with local regulations.

Additional Labeling

EUH208 Contains reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1). May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instruc-

tions for use.

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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. Index-No. Registration number	Classification	Concentration (% w/w)
Cyantraniliprole	736994-63-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 —— M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 10 - < 20
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9 613-167-00-5	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 2; H310 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 0.0002 - < 0.0015

For explanation of abbreviations see section 16.

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SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : Move out of dangerous area.

Show this material safety data sheet to the doctor in attend-

ance.

Do not leave the victim unattended.

Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.

If inhaled : If unconscious, place in recovery position and seek medical

advice.

If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambu-

lance.

In case of skin contact : If on clothes, remove clothes.

If on skin, rinse well with water.

Wash off with soap and plenty of water.

Get medical attention immediately if irritation develops and

persists.

In case of eye contact : Flush eyes with water as a precaution.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Do not induce vomiting without medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

Immediate medical attention is required in case of ingestion.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

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Unsuitable extinguishing

media

Do not spread spilled material with high-pressure water

streams.

High volume water jet

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.

Bromine compounds Nitrogen oxides (NOx)

Carbon oxides

Chlorinated compounds Hydrogen chloride Hydrogen cyanide

5.3 Advice for firefighters

Special protective equipment:

for fire-fighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

Specific extinguishing meth-

ods

Remove undamaged containers from fire area if it is safe to do

SO

Use a water spray to cool fully closed containers.

Further information : Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Evacuate personnel to safe areas.

Do not touch or walk through the spilled material.

If it can be safely done, stop the leak.

Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Prevent product from entering drains.

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 : Never return spills in original containers for re-use.

Collect as much of the spill as possible with a suitable absor-

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bent material.

Pick up and transfer to properly labeled containers. 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 : For personal protection see section 8.

Avoid formation of respirable particles.

Dispose of rinse water in accordance with local and national

regulations.

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

plication area.

Advice on protection against

fire and explosion

Normal measures for preventive fire protection.

Hygiene measures : Avoid contact with skin, eyes and clothing. Do not inhale aer-

osol. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing and gloves, includ-

ing the inside, before re-use.

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. Electrical installations / working materials must comply with the technological

safety standards.

Further information on stor-

age conditions

Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. The room should only be used for storage of chemicals. Food, drink, feed and seed should not

be present. A hand wash station should be available.

Further information on stor-

age stability

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label

approved by country-specific regulatory authorities.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Routes of expo-	Potential health ef-	Value
		sure	fects	
reaction mass of 5- chloro-2-methyl-2H- isothiazol-3-one and 2-methyl-2H- isothiazol-3-one (3:1)	Workers	Inhalation	Long-term local effects	0.02 mg/m3
	Workers	Inhalation	Acute local effects	0.04 mg/m3
	Consumers	Inhalation	Long-term local ef- fects	0.02 mg/m3
	Consumers	Inhalation	Acute local effects	0.04 mg/m3
	Consumers	Oral	Long-term systemic effects	0.09 mg/kg
	Consumers	Oral	Acute systemic effects	0.11 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
reaction mass of 5-chloro-2- methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	Fresh water	0.00339 mg/l
	Intermittent use/release	0.00339 mg/l
	Sea water	0.00339 mg/l
	Sewage treatment plant	0.23 mg/l
	Fresh water sediment	0.027 mg/kg
	Sea sediment	0.027 mg/kg

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 : In the case of dust or aerosol formation use respirator with an

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approved filter.

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. When using do not eat, drink or smoke.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instruc-

tions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state liquid Color off-white Odor odorless

Odor Threshold No data available Hq

4.42 - 4.46

Concentration: 1 % Method: CIPAC MT 75.3 (1% solution in water)

Melting point/freezing point

Boiling point/boiling range

No data available

No data available Flash point > 98 °C

No data available Evaporation rate Flammability (solid, gas) Not applicable

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

No data available

flammability limit

Vapor pressure No data available Relative vapor density No data available Density 1.08 g/cm3

Method: Regulation (EC) No. 440/2008, Annex, A.3

Solubility(ies)

Water solubility No data available Solubility in other solvents No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature Decomposition temperature

No data available No data available

Viscosity

Viscosity, dynamic 1,916 mPa.s (20 °C)

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Method: CIPAC MT 192

30 rpm

1,588 mPa.s (40 °C) Method: CIPAC MT 192

30 rpm

Viscosity, kinematic : No data available

Explosive properties

Oxidizing properties : Non-oxidizing

9.2 Other information

Surface tension : 33.3 mN/m, $22.5 ^{\circ}\text{C}$ Molecular weight : Not applicable Particle size : No data available Particle Size Distribution : $D50 = 1.37 \mu\text{m}$

 $D90 = 3.48 \mu m$

Measurement method: CIPAC MT 187

Self-ignition : > 800 °C

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures.

Avoid formation of aerosol.

Protect from frost, heat and sunlight.

Heating of the mixture may evolve harmful and irritant va-

pours.

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

Stable under recommended storage conditions. No hazardous decomposition products are known.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Components:

Cyantraniliprole:

Acute oral toxicity : LD50 (Mouse, female): > 5,000 mg/kg

Method: OECD Test Guideline 425

GLP: yes

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

icity

Remarks: no mortality

LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425

GLP: yes

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

icity

Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.2 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: ves

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: no mortality

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity

LD50 Oral (Rat, female): 200 mg/kg

Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat, male and female): 0.33 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit, male): 87 mg/kg

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Skin corrosion/irritation

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

Components:

Cyantraniliprole:

Species : Rabbit

Assessment : No skin irritation

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : yes

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Method : OECD Test Guideline 404

Result : Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Assessment : Irritating to eyes.

Remarks : The GHS classification specified by the authority

Components:

Cyantraniliprole:

Species : Rabbit

Assessment : Not classified as irritant
Method : OECD Test Guideline 405

Result : slight irritation

GLP : yes

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Result : Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Components:

Cyantraniliprole:

Test Type : Local lymph node test

Routes of exposure : Dermal Species : Mouse

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Method : OECD Test Guideline 429

Result : Does not cause skin sensitization.

GLP : yes

Test Type : Maximization Test

Routes of exposure : Dermal Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitization.

GLP : yes

Test Type : Buehler Test Routes of exposure : Dermal Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitization.

GLP : yes

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Test Type : Local lymph node assay (LLNA)

Species : Mouse

Result : The product is a skin sensitizer, sub-category 1A.

Germ cell mutagenicity

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

Components:

Cyantraniliprole:

Genotoxicity in vitro : Test Type: reverse mutation assay

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: reverse mutation assay Test system: Escherichia coli

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

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Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative GLP: yes

Germ cell mutagenicity- As-

sessment

Tests on bacterial or mammalian cell cultures did not show

mutagenic effects.

Carcinogenicity

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

Components:

Cyantraniliprole:

Species : Rat, male
Application Route : Ingestion
Exposure time : 2 Years
NOAEL : 200 ppm

Method : OECD Test Guideline 453

Result : negative

Species : Rat, female
Application Route : Ingestion
Exposure time : 2 Years
NOAEL : 2,000 ppm

Method : OECD Test Guideline 453

Result : negative

Species : Mouse, male and female

Application Route : Ingestion
Exposure time : 18 month(s)
NOAEL : 7,000 ppm

Method : OECD Test Guideline 451

Result : negative

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Reproductive toxicity

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

Components:

Cyantraniliprole:

Effects on fetal development : Test Type: Pre-natal

Species: Rat

Application Route: Oral

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General Toxicity Maternal: NOAEL: 1,000 mg/kg bw/day Embryo-fetal toxicity.: NOAEL: 1,000 mg/kg bw/day

Method: OECD Test Guideline 414

Result: negative

Test Type: Pre-natal Species: Rabbit Application Route: Oral

General Toxicity Maternal: NOAEL: 25 mg/kg bw/day Embryo-fetal toxicity.: NOAEL: 100 mg/kg bw/day

Symptoms: Maternal effects.

Method: OECD Test Guideline 414

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.

Components:

Cyantraniliprole:

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

organ toxicant, single exposure.

STOT-repeated exposure

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

Components:

Cyantraniliprole:

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

organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

Cyantraniliprole:

Species : Rat

NOAEL : > 1,000 mg/kg

Application Route : Oral Exposure time : 28 Days

Method : OECD Test Guideline 407 Symptoms : increased liver weight

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

Species : Rat, male and female NOAEL : 6.9 - 168 mg/kg bw/day

Application Route : Ingestion Exposure time : 90 Days

Method : OPPTS 870.3100

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Remarks : Effects are of limited toxicological significance.

Species : Mouse, male and female NOAEL : 1091.8 mg/kg bw/day

Application Route : Ingestion Exposure time : 90 Days

Method : OPPTS 870.3100

Remarks : Effects are of limited toxicological significance.

Species : Dog, male and female NOAEL : 3.08 - 3.48 mg/kg bw/day

Application Route : Ingestion Exposure time : 90 Days

Method : OPPTS 870.3150

Remarks : Effects are of limited toxicological significance.

Species : Rat, male and female NOAEL : 8.3 - 106.6 mg/kg bw/day

Application Route : Ingestion Exposure time : 2 yr

Method : OPPTS 870.4300

Remarks : Effects are of limited toxicological significance.

Species : Mouse, male and female NOAEL : 768.8 - 903.8 mg/kg bw/day

Application Route : Ingestion Exposure time : 18 Months

Method : OPPTS 870.4200

Remarks : Effects are of limited toxicological significance.

Species : Dog, male and female NOAEL : 5.67 - 6 mg/kg bw/day

Application Route : Ingestion Exposure time : 1 yr

Method : OPPTS 870.4100

Remarks : Effects are of limited toxicological significance.

Species : Rat, male and female

NOAEL : 1000 mg/kg Application Route : Dermal Exposure time : 28 Days

Method : OECD Test Guideline 410

GLP : yes Symptoms : Irritation

Remarks : Effects are of limited toxicological significance.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Species : Dog NOAEL : 22 mg/kg Application Route : Oral

Species : Rat

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NOAEL : 16.3 - 24.7 mg/kg Application Route : Skin contact

Species : Rat

NOAEL : 2.36 mg/m³ Application Route : Inhalation

Aspiration toxicity

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

Components:

Cyantraniliprole:

The substance does not have properties associated with aspiration hazard potential.

Neurological effects

Components:

Cyantraniliprole:

No neurotoxicity observed in animal studies.

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): ca. 39 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.209 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Information given is based on tests on the mixture

itself.

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 66.3

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

ErC50 (Raphidocelis subcapitata (freshwater green alga)): 77

mg/l

Exposure time: 72 h

Remarks: Information given is based on tests on the mixture

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itself.

EyC50 (Raphidocelis subcapitata (freshwater green alga)): 39

mg/l

Exposure time: 72 h

Remarks: Information given is based on tests on the mixture

itself.

Toxicity to soil dwelling or-

ganisms

> 1,000 mg/kg

Exposure time: 14 d

Species: Eisenia fetida (earthworms)

Method: OECD Test Guideline 216

Remarks: No significant adverse effect on Nitrogen minerali-

zation.

Method: OECD Test Guideline 217

Remarks: No significant adverse effect on Carbon mineraliza-

tion.

Toxicity to terrestrial organ-

isms

LD50: 9.5 µg/bee

Exposure time: 72 h

End point: Acute contact toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 214

LD50: 2.45 µg/bee Exposure time: 72 h

End point: Acute oral toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 213

LR50: 0.143 g a.s./h Exposure time: 48 h

Species: Aphidius rhopalosiphi

NOEL: 0.11 µg/bee Exposure time: 72 h

End point: Acute oral toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 213 Remarks: Active ingredient

NOEL: < 1 μg/bee Exposure time: 72 h

End point: Acute oral toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 213

Remarks: Active ingredient

LD50: > 2020 mg/kg bw/day End point: Acute oral toxicity

Species: Colinus virginianus (Bobwhite quail)

Method: EPA OPP 71-1

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Remarks: Active ingredient

NOEL: 2020 mg/kg bw/day End point: Acute oral toxicity

Species: Colinus virginianus (Bobwhite quail)

Method: EPA OPP 71-1 Remarks: Active ingredient

Components:

Cyantraniliprole:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 12.6 mg/l

Exposure time: 96 h

Method: US EPA Test Guideline OPP 72-1

GLP: yes

LC50 (Ictalurus punctatus (channel catfish)): > 10 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.0204 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 13

mg/l

Exposure time: 72 h

ErC50 (Lemna gibba (duckweed)): 0.278 mg/l

Exposure time: 7 d

EyC50 (Lemna gibba (duckweed)): 0.060 mg/l

Exposure time: 7 d

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC: 2.9 mg/l

Exposure time: 28 d

Species: Cyprinodon variegatus (sheepshead minnow)

NOEC: 0.11 mg/l Exposure time: 21 d

Species: Oncorhynchus mykiss (rainbow trout)

NOEC: 1.01 mg/l Exposure time: 90 d

Species: Oncorhynchus mykiss (rainbow trout)

Test Type: Early Life-Stage

Method: US EPA Test Guideline OPP 72-4

GLP: yes

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0.00656 mg/l End point: Growth Exposure time: 21 d

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Species: Daphnia magna (Water flea)

Test Type: Static-Renewal

Method: US EPA Test Guideline OPPTS 850.1300

GLP: yes

LOEC: 0.00969 mg/l End point: Growth Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: Static-Renewal

Method: US EPA Test Guideline OPPTS 850.1300

GLP: yes

NOEC: 0.00447 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

NOEC: 0.72 mg/l End point: reproduction Exposure time: 35 d

Species: Americamysis bahia (mysid shrimp)

Test Type: flow-through test

Method: US EPA Test Guideline OPP 72-4

GLP: yes

M-Factor (Chronic aquatic

toxicity)

10

Toxicity to soil dwelling or-

ganisms

NOEC: 1,000 mg/kg Exposure time: 14 d

Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 222

GLP:yes

Method: OECD Test Guideline 216

Remarks: No significant adverse effect on Nitrogen minerali-

zation.

Method: OECD Test Guideline 217

Remarks: No significant adverse effect on Carbon mineraliza-

tion.

Toxicity to terrestrial organ-

isms

LD50: > 0.0934 µg/bee Exposure time: 72 h

End point: Acute contact toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 214

GLP:yes

LD50: > 0.1055 μg/bee Exposure time: 48 h

End point: Acute oral toxicity

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Species: Apis mellifera (bees) Method: OECD Test Guideline 213

GLP:yes

LD50: > 2,250 mg/kg End point: Acute oral toxicity Species: Colinius virginianus

Method: US EPA Test Guideline OPPTS 850.2100

GLP:yes

NOEC: 1,000 ppm

End point: Reproduction Test

Species: Anas platyrhynchos (Mallard duck)

Method: OECD Test Guideline 206

GLP:yes

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.19 mg/l

Exposure time: 96 h

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.16 mg/l

Exposure time: 48 h

NOEC (Daphnia magna (Water flea)): 0.1 mg/l

Exposure time: 21 d

EC50 (Daphnia magna (Water flea)): 0.18 mg/l

Exposure time: 21 d

Toxicity to algae/aquatic

plants

NOEC (Skeletonema costatum (marine diatom)): 0.00049 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 201

NOEC (Skeletonema costatum (marine diatom)): 0.019 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

EC50 (Skeletonema costatum (marine diatom)): 0.037 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox- :

icity)

100

Toxicity to microorganisms : NOEC (activated sludge): 0.91 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

GLP: yes

EC50 (activated sludge): 4.5 mg/l

Exposure time: 3 h

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Method: OECD Test Guideline 209

GLP: yes

Toxicity to fish (Chronic tox-

icity)

NOEC: 0.02 mg/l Exposure time: 35 d

Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0.1 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Chronic Toxicity Value: 0.18 mg/l

Exposure time: 21 d

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic

toxicity)

100

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data is available on the product itself.

Components:

Cyantraniliprole:

Biodegradability : Remarks: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 9.09 - 37.7 d

Remarks: Fresh water

Degradation half life (DT50): 76.6 - 119 d

Remarks: Soil

Degradation half life (DT50): 22.8 - 25.1 d

Remarks: total system

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Remarks: No data available

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Components:

Cyantraniliprole:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)

Bioconcentration factor (BCF): < 1 Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 1.97 (22 °C)

pH: 4

log Pow: 2.07 (22 °C)

pH: 7

log Pow: 1.74 (22 °C)

pH: 9

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Bioaccumulation : Exposure time: 28 d

Bioconcentration factor (BCF): < 54 Method: OECD Test Guideline 305

Partition coefficient: n-

octanol/water

: Pow: 0.75

12.4 Mobility in soil

Product:

Distribution among environ-

mental compartments

Remarks: No data is available on the product itself.

Components:

Cyantraniliprole:

Distribution among environ-

mental compartments

Koc: 241 ml/g, log Koc: 2.38

Kd: 3.73 ml/g

Remarks: 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

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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.

Components:

Cyantraniliprole:

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.

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.

Triple rinse containers.

Do not re-use empty containers.

Packaging that is not properly emptied must be disposed of as

the unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

 UNRTDG
 : UN 3082

 IMDG
 : UN 3082

 IATA
 : UN 3082

14.2 UN proper shipping name

UNRTDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Cyantraniliprole)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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N.O.S.

(Cyantraniliprole)

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

(Cyantraniliprole)

14.3 Transport hazard class(es)

Class Subsidiary risks

 UNRTDG
 : 9

 IMDG
 : 9

 IATA
 : 9

14.4 Packing group

UNRTDG

Packing group : III 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

UNRTDG

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.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

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

TCSI : On the inventory, or 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.

Cyantraniliprole Palygorskite

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

H301 : Toxic if swallowed.
H310 : Fatal in contact with skin.
H314 : Causes severe skin burns and eye damage.

. Causes severe skin burns and eye dama

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

H330 : Fatal if inhaled.

H400 : Very toxic to aquatic life.

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

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Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Dam. : Serious eye damage Skin Corr. : Skin corrosion Skin Sens. : Skin sensitization

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 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 carrving 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Classification procedure:

Eye Irrit. 2 H319 Based on product data or assessment Aquatic Acute 1 H400 Based on product data or assessment

Aquatic Chronic 1 H410 Calculation method

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