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

1.1 Product identifier

Product name Atraxis™

Other means of identification

Product code 50003051

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

Use of the Substance/Mixture : Can be used as insecticide only.

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 .

1.4 Emergency telephone number

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

Medical emergency:
For any emergency or poisoning contact: Griffon Poison Information Centre (24 hrs) - +27-(0)-82-446-8946

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : None

Hazard statements : H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
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 reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Citric acid, monohydrate	5949-29-1	Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system)	>= 1 - < 10
Cyantraniliprole	736994-63-1	Aquatic Acute 1; H400 Aquatic Chronic 1;	>= 0.25 - < 1

		H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	
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	>= 0.0015 - < 0.0025

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.
If experiencing any discomfort, immediately remove from exposure. Get medical attention if discomfort does not disappear.

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

		Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and 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. 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. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet 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 products	:	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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
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 : Neutralize with chalk, alkali solution or ammonia.
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 : Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

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

Hygiene measures : When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. 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.

Advice on common storage : Do not store near acids.

Further information on storage 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.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
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 effects	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
Citric acid, monohydrate	Fresh water	0.440 mg/l
	Marine water	0.044 mg/l
	Sewage treatment plant	1000 mg/l
	Fresh water sediment	34.6 mg/kg dry weight (d.w.)
	Marine sediment	34.6 mg/kg dry weight (d.w.)
	Soil	33.1 mg/kg dry weight (d.w.)
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
	Marine water	0.00339 mg/l

	Sewage treatment plant	0.23 mg/l
	Fresh water sediment	0.027 mg/kg
	Marine 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 concentration of the dangerous substance at the work place.

Respiratory protection : No personal respiratory protective equipment normally required.

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
Ensure that eye flushing systems and safety showers are located close to the working place.
Wear suitable protective equipment.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Form	:	Viscous aqueous suspension
Colour	:	brown
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	3.90 (as aqueous solution)
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	:	1.17
Density	:	1.17 g/cm3
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
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	:	8,120 mPa,s (20 °C) GLP: yes 3 rpm 6,420 mPa,s (40 °C) GLP: yes 3 rpm 4,590 mPa,s (20 °C) GLP: yes 6 rpm 3,775 mPa,s (40 °C) GLP: yes 6 rpm
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The product is not oxidizing.

9.2 Other information

Surface tension	:	6.64 mN/m, GLP: yes
Particle size	:	No data available
Particle Size Distribution	:	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 formation of aerosol.

Avoid extreme temperatures

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

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 : LD50 Oral (Rat, female): > 5,000 mg/kg
GLP: yes

Acute inhalation toxicity : LC50 (Rat): 5.02 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
GLP: yes

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

Components:

Citric acid, monohydrate:

Acute oral toxicity : LD50 Oral (Mouse, male and female): 5,400 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

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 toxicity
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 toxicity

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: yes
Assessment: The substance or mixture has no acute inhalation 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

Skin corrosion/irritation

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

Product:

Species : Rabbit
Result : slight irritation
GLP : yes

Components:

Citric acid, monohydrate:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

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

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

Product:

Species : Rabbit
Result : Mild eye irritation
GLP : yes

Components:

Citric acid, monohydrate:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 21 days

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 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:

Test Type : Local lymph node assay (LLNA)
Species : mice
Result : Not a skin sensitizer.
GLP : yes

Components:

Cyantraniliprole:

Test Type	:	Local lymph node test
Exposure routes	:	Dermal
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Test Type	:	Maximisation Test
Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Test Type	:	Buehler Test
Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Test Type	:	Magnussen-Kligman test
Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Causes skin sensitization.
GLP	:	yes
Remarks	:	see user defined free text

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 sensitiser, sub-category 1A.

Germ cell mutagenicity

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

Components:

Citric acid, monohydrate:

Genotoxicity in vitro	:	Test Type: Micronucleus test Method: OECD Test Guideline 487 Result: positive Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative

Genotoxicity in vivo	:	Test Type: chromosome aberration assay Species: Rat (male) Application Route: Oral Method: OECD Test Guideline 475 Result: negative Test Type: Rodent Dominant Lethal Assay Species: Rat (male and female) Application Route: Oral Method: Regulation (EC) No. 440/2008, Annex, B.22 Result: negative
Germ cell mutagenicity- Assessment	:	Animal testing did not show any mutagenic effects.

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 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- Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

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

Components:

Citric acid, monohydrate:

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

Cyantraniliprole:

Species	:	Rat, male and female
Application Route	:	Ingestion
Exposure time	:	2 Years
NOAEL	:	200 - 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 - Assessment	:	Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

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

Components:

Citric acid, monohydrate:

Effects on foetal development	:	Test Type: reproductive and developmental toxicity study Species: Mouse Application Route: Oral Dose: 0, 2.41, 11.2, 52.0, 241 mg/k Duration of Single Treatment: 6 - 15 d Teratogenicity: NOAEL: > 241 mg/kg body weight Test Type: reproductive and developmental toxicity study Species: Rat Application Route: Oral Dose: 0, 2.95, 13.7, 63.6, 295 mg/k Duration of Single Treatment: 6 - 15 d Teratogenicity: NOAEL: > 295 mg/kg body weight Test Type: reproductive and developmental toxicity study Species: Rabbit Application Route: Oral Dose: 0, 4.25, 19.75, 91.70, 425 mg Duration of Single Treatment: 6 - 15 d Teratogenicity: NOAEL: > 425 mg/kg body weight
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

Cyantraniliprole:

Effects on foetal development	:	Test Type: Pre-natal Species: Rat Application Route: Oral General Toxicity Maternal: NOAEL: 1,000 mg/kg bw/day Embryo-foetal 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-foetal toxicity: NOAEL: 100 mg/kg bw/day Symptoms: Maternal effects Method: OECD Test Guideline 414 Result: negative
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive 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:

Citric acid, monohydrate:

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

Cyantraniliprole:

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

Repeated dose toxicity

Components:

Citric acid, monohydrate:

Species	:	Rat
NOAEL	:	4,000 mg/kg

LOAEL	:	8,000 mg/kg
Application Route	:	Oral
Exposure time	:	10d
Dose	:	2, 4, 8, 16 g/kg bw/day

Species	:	Mouse
NOAEL	:	1,000 mg/kg
LOAEL	:	2,000 mg/kg
Application Route	:	Oral
Exposure time	:	10d
Dose	:	1, 2, 4, 8 g/kg bw/day

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
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
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

Components:

Citric acid, monohydrate:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 440 mg/l Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 1,535 mg/l Exposure time: 24 h Test Type: static test
Toxicity to algae/aquatic plants	:	NOEC (Scenedesmus quadricauda (Green algae)): 425 mg/l Exposure time: 8 d Test Type: static test
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): > 10,000 mg/l Exposure time: 16 h Test Type: Cell multiplication inhibition test NOEC (Protozoa): 325 mg/l Exposure time: 72 h
Toxicity to terrestrial organisms	:	NOEC: > 4 mg/kg Exposure time: 14 d Species: Birds LD50: > 4 mg/kg Exposure time: 14 d Species: Birds

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 toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	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 (Chronic toxicity)	:	NOEC: 0.00656 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 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 organisms	:	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 mineralization. Method: OECD Test Guideline 217 Remarks: No significant adverse effect on carbon mineralization.
Toxicity to terrestrial organisms	:	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 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 toxicity) : 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
Method: OECD Test Guideline 209
GLP: yes

Toxicity to fish (Chronic toxicity) : 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 (Chronic 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

Components:

Citric acid, monohydrate:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301B

Result: Readily biodegradable.
Method: OECD Test Guideline 301E

Result: Inherently biodegradable.
Method: OECD Test Guideline 302B

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

Components:

Citric acid, monohydrate:

Bioaccumulation : Bioconcentration factor (BCF): 3.2
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: -1.55

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

Components:

Cyantraniliprole:

Distribution among environmental 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 potential : 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 information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

Components:

Cyantraniliprole:

Endocrine disrupting potential : 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 chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

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, 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 aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
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.

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 components 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
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.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H335	:	May cause respiratory irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very 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
Eye Irrit.	:	Eye irritation
Skin Corr.	:	Skin corrosion
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure

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 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 Chronic 2	H411	Calculation method

Disclaimer

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