

SAFETY DATA SHEET



SULEXIN™

Version 1.0 Revision Date: 28.11.2024 SDS Number: 50002959 Date of last issue: -
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Category 1

Long-term (chronic) aquatic hazard, Category 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 : H332 Harmful if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P261 Avoid breathing mist or vapors.
P273 Avoid release to the environment.
Response:
P304 + P312 IF INHALED: Call a POISON CENTER/ doctor if you feel unwell.
P391 Collect spillage.

Hazardous ingredients which must be listed on the label:
flonicamid (ISO)

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.

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)

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Cyantraniliprole	736994-63-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 20 - < 25
flonicamid (ISO)	158062-67-0 616-216-00-9	Acute Tox. 4; H302	>= 20 - < 30
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 <hr/> 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 material 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 : Remove to fresh air.
 If unconscious, place in recovery position and seek medical

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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 ambulance.

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.
Do not induce vomiting without medical advice.
Let the exposed person rinse mouth and let him/her drink several glasses of water, but do not induce vomiting. If vomiting does occur, let him/her rinse mouth and drink fluids again.
Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Harmful if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Hazardous combustion products : brominated compounds
Nitrogen oxides (NO_x)
Carbon oxides
Chlorinated compounds
Hydrogen chloride
Hydrogen cyanide
Fire may produce irritating, corrosive and/or toxic gases.
Fluorinated compounds

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5.3 Advice for firefighters

- Special protective equipment for fire-fighters : 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. If it can be safely done, move undamaged containers away from the fire. Dike runoff from fire control activities for later disposal.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment. If it can be safely done, stop the leak. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Immediately evacuate personnel to safe areas. Ensure adequate ventilation. 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.

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 vapors/dust. For personal protection see section 8.

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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 application 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 aerosol. 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.

Further information on storage 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. A warning sign reading "POISON" is recommended. 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 storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : The product is an approved pesticide and can only be used for the purposes for which it is approved, according to the conditions contained in the label approved by the competent 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	Routes of exposure	Potential health effects	Value
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-	Workers	Inhalation	Long-term local effects	0.02 mg/m ³

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isothiazol-3-one (3:1)				
	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
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 concentration of the dangerous substance at the work place.
- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
- Protective measures : Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.
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 instructions for use.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Color : off-white
Odor : mild, aromatic
Odor Threshold : No data available
pH : 6.42
Concentration: 100 %

6.98
Concentration: 1 %
(aqueous suspension)
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
Vapor pressure : No data available
Relative vapor density : No data available
Relative density : 1.204
Density : 1.2 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
Autoignition temperature : No data available
Decomposition temperature : No data available
Viscosity
 Viscosity, dynamic : 397 mPa.s (20 °C)
 Method: CIPAC MT 192

40 rpm
319 mPa.s (40 °C)
Method: CIPAC MT 192

40 rpm
Viscosity, kinematic : No data available
Explosive properties :
 No data available
Oxidizing properties : No data available

9.2 Other information

Surface tension : 53.127
Particle size : No data available
Particle Size Distribution : D10 = 0.630 µm ± 0.002 µm

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D50 = 1.923 $\mu\text{m} \pm 0.012 \mu\text{m}$
D90 = 5.910 $\mu\text{m} \pm 0.052 \mu\text{m}$

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.
Avoid formation of aerosol.

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if inhaled.

Product:

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 2.19 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
GLP: yes
Remarks: no mortality

Acute dermal toxicity : LD50 Dermal (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

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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 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

flonicamid (ISO):

Acute oral toxicity : LD50 (Rat, male): 884 mg/kg
LD50 (Rat, female): 1,768 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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

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

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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
Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Components:

Cyantraniliprole:

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

flonicamid (ISO):

Species : Rabbit
Result : No skin irritation

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
Assessment : Not classified as irritant
Method : OECD Test Guideline 405
Result : No eye irritation
GLP : yes

Components:

Cyantraniliprole:

Species : Rabbit
Assessment : Not classified as irritant

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Method : OECD Test Guideline 405
Result : slight irritation
GLP : yes

flonicamid (ISO):

Species : Rabbit
Result : slight irritation

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.

Product:

Test Type : Local lymph node test
Species : mice
Assessment : Does not cause skin sensitization.
Result : Not a skin sensitizer.

Components:

Cyantraniliprole:

Test Type : Local lymph node test
Routes of exposure : Dermal
Species : Mouse
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

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Test Type : Magnussen-Kligman test
Routes of exposure : Dermal
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Causes skin sensitization.
GLP : yes

Remarks : see user defined free text

flonicamid (ISO):

Test Type : Buehler Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

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
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

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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.

flonicamid (ISO):

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Carcinogenicity

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

Components:

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

flonicamid (ISO):

Species : Mouse, male
Application Route : Oral
Exposure time : 78 weeks
NOAEL : 10 mg/kg bw/day
Method : OPPTS 870.4200
Result : positive

Species : Mouse, female
Application Route : Oral
Exposure time : 78 weeks
NOAEL : 11.8 mg/kg bw/day
Method : OPPTS 870.4200
Result : negative

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Species : Rat
Application Route : Oral
Exposure time : 104 weeks
Result : positive

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

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
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 - Assessment : Weight of evidence does not support classification for reproductive toxicity

flonicamid (ISO):

Effects on fertility : Test Type: Multi-generation study
Species: Rat
General Toxicity Parent: NOAEL: 18 mg/kg bw/day
Fertility: NOAEL: 109 mg/kg bw/day
Symptoms: No effects on fertility.

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
General Toxicity Maternal: NOAEL: 7.5 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 2.5 mg/kg bw/day
Result: positive
Remarks: Not classified due to data which are conclusive although insufficient for classification.

STOT-single exposure

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

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Components:

Cyantranilprole:

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:

Cyantranilprole:

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

flonicamid (ISO):

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

Repeated dose toxicity

Components:

Cyantranilprole:

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.

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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.

flonicamid (ISO):

Species : Mouse, male
NOAEL : 15.3 mg/kg bw/day
LOAEL : 153.9 mg/kg bw/day
Application Route : Oral
Exposure time : 90 day
Method : OECD Test Guideline 408
Target Organs : Liver
Remarks : Based on available data, the classification criteria are not met.

Species : Rat, male
NOAEL : 60 mg/kg bw/day
LOAEL : 119.4 mg/kg bw/day
Application Route : Oral
Exposure time : 90 day
Method : OPPTS 870.3100
Target Organs : Kidney
Remarks : Based on available data, the classification criteria are not met.

Species : Dog, male and female
NOAEL : 20 mg/kg bw/day
Application Route : Oral

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Exposure time : 90 day
Method : OECD Test Guideline 409

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.

flonicamid (ISO):

No neurotoxicity observed in animal studies.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 54.0 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

Toxicity to soil dwelling organisms : LC50: > 1,000 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:yes

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Toxicity to terrestrial organisms : LD50: > 9,547 mg/kg
Exposure time: 15 d
Species: Coturnix japonica (Japanese quail)
Method: OECD Test Guideline 223
GLP:yes

LD50: 3.11 mg/kg
Exposure time: 24 hrs
Species: Apis mellifera (bees)
Method: OECD Test Guideline 213
GLP:yes
Remarks: Oral

LD50: 2.65 mg/kg
Exposure time: 48 hrs
Species: Apis mellifera (bees)
Method: OECD Test Guideline 213
GLP:yes
Remarks: Oral

LD50: 2.76 mg/kg
Exposure time: 24 hrs
Species: Apis mellifera (bees)
Method: OECD Test Guideline 214
GLP:yes
Remarks: Contact

LD50: 2.40 mg/kg
Exposure time: 48 hrs
Species: Apis mellifera (bees)
Method: OECD Test Guideline 214
GLP:yes
Remarks: Contact

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

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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

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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

flonicamid (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test Type: static test

LC50 (Lepomis macrochirus (Bluegill sunfish)): > 100 mg/l
Exposure time: 96 h
Test Type: static test

LC50 (Cyprinodon variegatus (sheepshead minnow)): > 120

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- 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
Test Type: static test
- Toxicity to algae/aquatic plants : EC50 (algae): > 119 mg/l
End point: Growth inhibition
Exposure time: 96 h
- EC50 (Lemna sp.): > 119 mg/l
Exposure time: 7 d
Test Type: static test
- Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 21 d
Species: Fish
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 3.1 mg/l
Exposure time: 21 d
Species: Crustaceans
- Toxicity to soil dwelling organisms : LC50: > 1,000 mg/kg
Species: worms
- Toxicity to terrestrial organisms : LD50: > 2,000 mg/kg
Species: Colinus virginianus (Bobwhite quail)
- LC50: > 5,000 mg/kg
Species: Colinus virginianus (Bobwhite quail)
Remarks: Dietary
- LC50: > 5,000 mg/kg
Species: Anas platyrhynchos (Mallard duck)
Remarks: Dietary
- LD50: 1,591 - 2,621 mg/kg
Species: Anas platyrhynchos (Mallard duck)

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

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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:

Cyantraniliprole:

Biodegradability : Remarks: Not readily biodegradable.

flonicamid (ISO):

Biodegradability : Result: Readily biodegradable.

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Stability in water : Remarks: resistant to hydrolysis

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:

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

flonicamid (ISO):

Partition coefficient: n-octanol/water : log Pow: 0.3

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

flonicamid (ISO):

Distribution among environmental compartments : Remarks: Mobile in soils

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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.

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.
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 handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

UNRTDG : UN 3082

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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)

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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 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 flonicamid (ISO) Smectite-group minerals
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).

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SECTION 16: Other information

Full text of H-Statements

H301	: Toxic if swallowed.
H302	: Harmful 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.
H330	: Fatal if inhaled.
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
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 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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Further information

Classification of the mixture:

Acute Tox. 4	H332
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method

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