SAFETY DATA SHEET

BENEVIA® 100OD

Version	Revision Date:	SDS Number:	Date of last issue: 2020/06/20
1.2	2025/01/21	50000912	Date of first issue: 2020/06/20

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : BENEVIA® 100OD

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Vietnam Company Limited

Address : No.12, Lot B, Thong Nhat Road
Song Than 2 Industrial Zone, Di An Ward
Di An Town, Binh Duong Province
Vietnam

Telephone : +842743790503

Telefax : +842743790501

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

Emergency telephone : For leak, fire, spill or accident emergencies, call:
+(84)-444581938 (CHEMTREC Vietnam)

Medical emergency:
All other countries: +1 651 / 632-6793 (Collect)

2. HAZARDS IDENTIFICATION

GHS Classification

Skin sensitization : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal Word : WARNING

Hazard Statements : H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P261 Avoid breathing mist or vapors.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Cyantraniliprole	736994-63-1	9,64 -10,88
calcium dodecylbenzenesulphonate	26264-06-2	>= 15 -< 25
2-ethylhexan-1-ol	104-76-7	>= 5 -< 7
Polyoxyethylene sorbitol hexaoleate	57171-56-9	>= 5 -< 7
Fatty acids, C6-10, Me esters	68937-83-7	>= 1,5 -< 3

4. 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.

If inhaled	:	Remove to fresh air. 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 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	:	DO NOT induce vomiting unless directed to do so by a physician or poison control center. 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.
Most important symptoms and effects, both acute and delayed	:	Exposure to skin may result in mild symptoms include itching, hives or rash, and skin redness. More severe symptoms include sneezing, itchy watery eyes, and difficulty breathing. May cause an allergic skin reaction.
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.
Notes to physician	:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Dry chemical Water spray Foam
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products	:	Fire may produce irritating, corrosive and/or toxic gases. Carbon oxides Sulfur oxides Chlorine compounds Nitrogen oxides (NOx) Bromine compounds Hydrogen cyanide
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Use a water spray to cool fully closed containers. Use extinguishing measures that are appropriate to local circumstances 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.
Special protective equipment for fire-fighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. If it can be safely done, stop the leak. Do not touch or walk through the spilled material. Never return spills in original containers for re-use. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene.
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.
Methods and materials for containment and cleaning up	:	Never return spills in original containers for re-use. Collect as much of the spill as possible with a suitable absorbent material. Pick up and transfer to properly labeled containers. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage : 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 : The product is stable under normal conditions of warehouse storage.
Protect from frost and extreme heat.
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.

Recommended storage temperature : 5 - 30 °C

Further information on storage stability : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-ethylhexan-1-ol	104-76-7	TWA	5 ppm	ACGIH

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

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.

Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
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.
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. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Form	:	dispersion
Color	:	off-white
Odor	:	mild, oily
Odor Threshold	:	No data available
pH	:	5,1 Concentration: 10 g/l 1 % (as a dispersion)
Melting point/freezing point	:	not determined
Boiling point/boiling range	:	99 °C
Flash point	:	> 99 °C

		Method: closed cup
Evaporation rate	:	No data available
Flammability (liquids)	:	Not highly flammable, may be ignitable, Based on available information, the classification criteria for flammability hazard are not met.
Self-ignition	:	254 °C
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Relative vapor density	:	Not available for this mixture.
Relative density	:	0,978
Density	:	No data available
Bulk density	:	0,9 - 1,1 g/cm3
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	:	not determined
Viscosity		
Viscosity, dynamic	:	345 mPa.s 25 rpm 257 mPa.s 50 rpm 200 mPa.s 100 rpm
Viscosity, kinematic	:	353 mm2/s 25 rpm 204 mm2/s 100 rpm
Explosive properties	:	Not explosive

Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable
Particle size	:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Avoid formation of aerosol. Avoid extreme temperatures. Heat, flames and sparks. Protect from frost, heat and sunlight. Heating of the product will produce harmful and irritant vapours.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Routes of exposure	:	Inhalation Skin contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD50 (Rat): > 5.000 mg/kg Method: OECD Test Guideline 425 GLP: yes Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat): > 3,3 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 inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

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

calcium dodecylbenzenesulphonate:

Acute oral toxicity : LD50 (Rat, male and female): 1.300 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: Not classified

Acute dermal toxicity : LD50 (Rat, male and female): > 2000 milligram per kilogram
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

2-ethylhexan-1-ol:

Acute oral toxicity	:	LD50 (Rat, male): 2.047 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 4,3 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat, male and female): > 3.000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Polyoxyethylene sorbitol hexaoleate:

Acute oral toxicity	:	LD50 (Rat): > 5.000 mg/kg

Fatty acids, C6-10, Me esters:

Acute oral toxicity	:	LD50 (Rat): > 5.000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Result	:	slight or no skin irritation.
GLP	:	yes
Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	May cause skin irritation and/or dermatitis.

Components:

Cyantraniliprole:

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

calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

2-ethylhexan-1-ol:

Species	:	Rabbit

Method : OECD Test Guideline 404
Result : Skin irritation

Polyoxyethylene sorbitol hexaoleate:

Species : Rabbit
Result : No skin irritation

Fatty acids, C6-10, Me esters:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species : Rabbit
Result : Slight or no eye irritation
Assessment : Not classified as irritant
Method : OECD Test Guideline 405
GLP : yes

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

Components:

Cyantraniliprole:

Species : Rabbit
Result : slight irritation
Assessment : Not classified as irritant
Method : OECD Test Guideline 405
GLP : yes

calcium dodecylbenzenesulphonate:

Species : Rabbit
Result : Irreversible effects on the eye
Method : OECD Test Guideline 405
Remarks : Based on data from similar materials

Species : Rabbit
Result : Irreversible effects on the eye
Method : OECD Test Guideline 405

2-ethylhexan-1-ol:

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

Polyoxyethylene sorbitol hexaoleate:

Species	:	Rabbit
Result	:	No eye irritation

Fatty acids, C6-10, Me esters:

Species	:	Rabbit
Result	:	slight irritation
Method	:	OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Product:

Test Type	:	Local lymph node test
Species	:	mice
Assessment	:	May cause sensitization by skin contact.
Method	:	OECD Test Guideline 429
Result	:	Causes sensitization.
GLP	:	yes
Remarks	:	Causes sensitization.

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
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

calcium dodecylbenzenesulphonate:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

Polyoxyethylene sorbitol hexaoleate:

Test Type	:	Human repeat insult patch test (HRIPT)
Species	:	Humans
Result	:	negative

Fatty acids, C6-10, Me esters:

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Result	:	Not a skin sensitizer.

Germ cell mutagenicity

Not classified based on available information.

Product:

Genotoxicity in vitro	:	Test Type: Ames test Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: Bone marrow chromosome aberration. Species: Mouse Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity - Assessment	:	Contains no ingredient listed as a mutagen

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

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.

calcium dodecylbenzenesulphonate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Rat (male and female)
Application Route: Oral
Exposure time: 90 d
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

2-ethylhexan-1-ol:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Fatty acids, C6-10, Me esters:

Genotoxicity in vitro	:	Test Type: Ames test Result: negative
Germ cell mutagenicity - Assessment	:	In vitro tests did not show mutagenic effects

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment	:	Contains no ingredient listed as a carcinogen

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

calcium dodecylbenzenesulphonate:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	720 d
NOAEL	:	250 mg/kg body weight
Result	:	negative
Remarks	:	Based on data from similar materials
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

2-ethylhexan-1-ol:

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

Reproductive toxicity

Not classified based on available information.

Product:

Reproductive toxicity - Assessment : Contains no ingredient listed as toxic to reproduction

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

calcium dodecylbenzenesulphonate:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat, male and female
Application Route: Ingestion
General Toxicity Parent: NOAEL: 400 mg/kg body weight
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Ingestion
General Toxicity Maternal: NOAEL: 300 mg/kg body weight
Developmental Toxicity: NOAEL: 600 mg/kg body weight
Method: OECD Test Guideline 422
Result: negative

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

2-ethylhexan-1-ol:

Effects on fetal development : Test Type: Embryo-fetal development
Species: Mouse

Application Route: Oral
Method: OECD Test Guideline 414
Result: negative

STOT-single exposure

Not classified based on available information.

Product:

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

Components:

Cyantraniliprole:

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

2-ethylhexan-1-ol:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Product:

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

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

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.

calcium dodecylbenzenesulphonate:

Species	:	Rat, male and female
NOAEL	:	85 mg/kg
LOAEL	:	145 mg/kg
Application Route	:	Oral
Exposure time	:	9 Months
Remarks	:	Based on data from similar materials

Species	:	Rat, male
LOAEL	:	286 mg/kg
Application Route	:	Skin contact
Exposure time	:	15 Days
Remarks	:	Based on data from similar materials

Species	:	Rat, male and female
NOAEL	:	100 mg/kg bw/day
LOAEL	:	200 mg/kg bw/day
Application Route	:	Oral - gavage
Exposure time	:	28 - 54 Days
Method	:	OECD Test Guideline 422
Remarks	:	Based on data from similar materials

2-ethylhexan-1-ol:

Species	:	Rat
	:	250 mg/kg
Application Route	:	Oral
Exposure time	:	13 Weeks
Method	:	OECD Test Guideline 408

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 37 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,215 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes EC50 (Daphnia magna (Water flea)): 0,00947 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes EC50 (Daphnia magna (Water flea)): 20,4 µg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 63,8 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes
Toxicity to soil dwelling organisms	:	LC50 (worms): > 1.000 mg/kg
Toxicity to terrestrial organisms	:	LD50 (Apis mellifera (bees)): 3.79 µg/bee Exposure time: 72 h End point: Acute oral toxicity LD50 (Apis mellifera (bees)): 6.31 µg/bee Exposure time: 96 h End point: Acute contact toxicity NOEC (Colinus virginianus (Bobwhite quail)): 2.250 mg/kg End point: Acute oral toxicity Method: US EPA Test Guideline OPP 71-1 LD50 (Colinus virginianus (Bobwhite quail)): > 2.250 mg/kg End point: Acute oral toxicity Method: US EPA Test Guideline OPP 71-1

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

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 toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC (Cyprinodon variegatus (sheepshead minnow)): 2,9 mg/l Exposure time: 28 d NOEC (Oncorhynchus mykiss (rainbow trout)): 0,11 mg/l Exposure time: 21 d NOEC (Oncorhynchus mykiss (rainbow trout)): 1,01 mg/l Exposure time: 90 d 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 (Daphnia magna (Water flea)): 0,00656 mg/l End point: Growth Exposure time: 21 d Test Type: Static-Renewal Method: US EPA Test Guideline OPPTS 850.1300 GLP: yes LOEC (Daphnia magna (Water flea)): 0,00969 mg/l End point: Growth Exposure time: 21 d

Test Type: Static-Renewal
Method: US EPA Test Guideline OPPTS 850.1300
GLP: yes

NOEC (Daphnia magna (Water flea)): 0,00447 mg/l
Exposure time: 21 d

NOEC (Americamysis bahia (mysid shrimp)): 0,72 mg/l
End point: reproduction
Exposure time: 35 d
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 (Eisenia fetida (earthworms)): 1.000 mg/kg
Exposure time: 14 d
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 (Apis mellifera (bees)): > 0,0934 µg/bee
Exposure time: 72 h
End point: Acute contact toxicity
Method: OECD Test Guideline 214
GLP: yes

LD50 (Apis mellifera (bees)): > 0,1055 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity
Method: OECD Test Guideline 213
GLP: yes

LD50 (Colinius virginianus): > 2.250 mg/kg
End point: Acute oral toxicity
Method: US EPA Test Guideline OPPTS 850.2100
GLP: yes

NOEC (Anas platyrhynchos (Mallard duck)): 1.000 ppm
End point: Reproduction Test
Method: OECD Test Guideline 206
GLP: yes

calcium dodecylbenzenesulphonate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials LC50 (Pimephales promelas (fathead minnow)): 4,6 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3,5 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 7,9 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials EC50 (Pseudokirchneriella subcapitata (green algae)): 65,4 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 1,65 mg/l Exposure time: 21 d Remarks: Based on data from similar materials NOEC (Daphnia magna (Water flea)): 1,18 mg/l Exposure time: 21 d Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): 500 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 1.000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): 1.356 mg/kg Exposure time: 14 d Method: OECD Test Guideline 223

2-ethylhexan-1-ol:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 17,1 - 28,2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 39 mg/l Exposure time: 48 h

Toxicity to algae/aquatic plants	:	EC10 (Desmodesmus subspicatus (green algae)): 3,2 mg/l Exposure time: 72 h EC50 (Desmodesmus subspicatus (green algae)): 11,5 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Anabaena flos-aquae (cyanobacterium)): 16,6 mg/l Exposure time: 72 h

Polyoxyethylene sorbitol hexaoleate:

Toxicity to algae/aquatic plants	:	EbC50 (Skeletonema costatum (Diatom)): 20 mg/l Exposure time: 72 h ErC50 (Skeletonema costatum (Diatom)): 98 mg/l Exposure time: 72 h

Fatty acids, C6-10, Me esters:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 95 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Gammarus fasciatus (freshwater shrimp)): 14,7 mg/l Remarks: Based on data from similar materials

Persistence and degradability

Product:

Biodegradability	:	Remarks: Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

Components:

Cyantraniliprole:

Biodegradability	:	Remarks: Not readily biodegradable.

calcium dodecylbenzenesulphonate:

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

2-ethylhexan-1-ol:

Biodegradability	:	Result: Readily biodegradable.

Polyoxyethylene sorbitol hexaoleate:

Biodegradability	:	Result: Biodegradable Biodegradation: 99 % Result: Biodegradable Biodegradation: 65 %

Fatty acids, C6-10, Me esters:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Product:

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

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

calcium dodecylbenzenesulphonate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 70,79
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4,77 (25 °C)

2-ethylhexan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 2,9 (25 °C)

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: No data is available on the product itself.

Components:

Cyantraniliprole:

Distribution among environmental compartments : Koc: 241 ml/g, log Koc: 2,38
Kd: 3,73 ml/g
Remarks: Mobile in soils

Other adverse effects

Product:

Additional ecological information	:	See product label for additional application instructions relating to environmental precautions. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cyantraniliprole)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Cyantraniliprole)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cyantraniliprole)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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.

15. REGULATORY INFORMATION

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

Law on Chemicals No. 06/2007/QH12

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. 3-BROMO-1-(3-CHLORO-2-PYRIDYL)-4′-CYAN-2′-METHYL-6′-(METHYLCARBAMOYL)-1H-PYRAZOLE-5-CARBOXANILIDE Fatty acids, C6-10, Me esters
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

16. OTHER INFORMATION

Revision Date	:	2025/01/21
Date format	:	yyyy/mm/dd

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA	:	8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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