

SAFETY DATA SHEET

Exirel® Insect Control



| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Exirel® Insect Control

Other means of identification : Cyantraniliprole 100 g/L SE

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as insecticide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Taiwan Co. Ltd.

Address : 3F, No. 179, Fuhuiyuan Blvd.,
Xitun Dist., Taichung City, 40758
Taiwan

Telephone : +886 4 2254 2785

Telefax : +886 4 2254 2831

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

Emergency telephone : For leak, fire, spill or accident emergencies, call:
00801-14-8954 (CHEMTREC)

Medical emergency:
00886 2 28757525 (in case of chemical spill, fire or poisoning
accident)

2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion/irritation : Category 3

Skin sensitization : Category 1

Short-term (acute) aquatic
hazard : Category 1

Long-term (chronic) aquatic
hazard : Category 1

SAFETY DATA SHEET



Exirel® Insect Control

Version 1.0 Revision Date: 2025/07/07 SDS Number: 50000098 Date of last issue: -
Date of first issue: 2025/07/07

GHS label elements

Hazard pictograms



Signal Word

: WARNING

Hazard Statements

: H316 Causes mild skin irritation.
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

| Hazardous ingredients | CAS-No. | Concentration (% w/w) |
|----------------------------------|-------------|-----------------------|
| Cyantraniliprole | 736994-63-1 | >= 10 -< 20 |
| Fatty acids, soya, Me esters | 68919-53-9 | >= 30 -< 50 |
| calcium dodecylbenzenesulphonate | 26264-06-2 | >= 1 -< 2.5 |

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.

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

First aid measures for different exposure routes

- | | |
|---|---|
| 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 | : Take off all contaminated clothing immediately. If on clothes, remove clothes. If on skin, rinse well with water. Wash off immediately with soap and plenty of water. Get medical attention immediately if irritation develops and persists. Wash contaminated clothing before re-use. |
| 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. |
| Most important symptoms and effects, both acute and delayed | : Causes mild skin irritation. May cause an allergic skin reaction. |
| Protection of first-aiders | : Avoid inhalation, ingestion and contact with skin and eyes. |
| Notes to physician | : Treat symptomatically. Immediate medical attention is required in case of ingestion. |

5. FIRE-FIGHTING MEASURES

- | | |
|---------------------------------------|--|
| 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. |
| 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. Bromine compounds |

SAFETY DATA SHEET

Exirel® Insect Control



| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

Nitrogen oxides (NO_x)
Carbon oxides
Hydrogen cyanide
Sulfur oxides
Chlorine compounds

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.
Standard procedure for chemical fires.
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.
Do not touch or walk through the spilled material.
If it can be safely done, stop the leak.
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.

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.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

fire and explosion

Advice on safe handling : Avoid formation of aerosol.
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.
Provide sufficient air exchange and/or exhaust in work rooms.
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.

Storage

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 : > 0 - 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

Contains no substances with occupational exposure limit values.

Biological occupational exposure limits

Contains no substances with biological exposure indices.

Personal protective equipment

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

| | |
|--------------------------|---|
| 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 Wear face-shield and protective suit for abnormal processing problems. |
| 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 | : General industrial hygiene practice. 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 |
| Color | : off-white |
| Odor | : mild, phenol-like |
| Odor Threshold | : not determined |
| pH | : 5.6 Concentration: 10 g/l 1 % (as a dispersion) |

SAFETY DATA SHEET

Exirel® Insect Control



| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

Melting point/ range : No data available

Boiling point/boiling range : 97 °C

Flash point : > 97 °C
Method: closed cup
No flash up to boiling point.

Evaporation rate : No data available

Flammability (solid, gas) : The product is not flammable.

Self-ignition : 358 °C

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : Not available for this mixture.

Relative vapor density : No data available

Relative density : 0.982
Method: Regulation (EC) No. 440/2008, Annex, A.3

Density : No data available

Solubility(ies)
Water solubility : dispersible

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : Not available for this mixture.

Autoignition temperature : No data available

Viscosity
Viscosity, dynamic : 649.5 mPa.s (24.7 °C)
Method: CIPAC MT 192
25 rpm

454.3 mPa.s (24.7 °C)
Method: CIPAC MT 192
50 rpm

329.9 mPa.s (24.7 °C)
Method: CIPAC MT 192
100 rpm

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

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| Explosive properties | : Not explosive |
| Oxidizing properties | : The product is not oxidizing. |
| Surface tension | : 25.9 mN/m, 22 °C, Regulation (EC) No. 440/2008, Annex, A.5 |
| 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 extreme temperatures. Avoid formation of aerosol. Heat, flames and sparks. Heating of the product will produce harmful and irritant vapours. |
| Incompatible materials | : Avoid strong acids, bases, and oxidizers. |
| Hazardous decomposition products | : Nitrogen oxides (NOx) Carbon oxides Sulfur oxides |

11. TOXICOLOGICAL INFORMATION

Symptoms of Overexposure : None known.

Acute toxicity

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

Product:

| | |
|---------------------------|---|
| Acute oral toxicity | : LD50 (Rat, female): > 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, male and female): > 2.4 mg/l Exposure time: 4 h Test atmosphere: dust/mist |

SAFETY DATA SHEET

Exirel® Insect Control



| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402

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

Fatty acids, soya, Me esters:

Acute oral toxicity : LD50 (Rat): 5,000 - 15,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

Assessment: The substance or mixture has no acute dermal toxicity

Remarks: Based on data from similar materials

Skin corrosion/irritation

Causes mild skin irritation.

Product:

| | | |
|---------|---|-------------------------|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | Mild skin irritant |

Components:

Cyantraniliprole:

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

Fatty acids, soya, Me esters:

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

calcium dodecylbenzenesulphonate:

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

Serious eye damage/eye irritation

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

Product:

| | | |
|---------|---|--|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Method | : | OECD Test Guideline 405 |
| Remarks | : | Minimal effects that do not meet the threshold for classification. |

Components:

Cyantraniliprole:

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

Fatty acids, soya, Me esters:

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

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 |

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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

Product:

| | |
|-----------|--|
| Test Type | : Buehler Test |
| Species | : Guinea pig |
| Method | : OECD Test Guideline 406 |
| Result | : May cause sensitization by skin contact. |
| GLP | : yes |

| | |
|-----------|--|
| Test Type | : Local lymph node assay (LLNA) |
| Species | : mice |
| Method | : OECD Test Guideline 429 |
| Result | : The product is a skin sensitizer, sub-category 1B. |
| GLP | : yes |

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 |

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

| | |
|--------------------|--------------------------------------|
| Test Type | : Buehler Test |
| Routes of exposure | : Dermal |
| Species | : Guinea pig |
| Method | : OECD Test Guideline 406 |
| Result | : Does not cause skin sensitization. |
| GLP | : yes |

Fatty acids, soya, Me esters:

| | |
|--------|--------------------------------------|
| Result | : Does not cause skin sensitization. |
|--------|--------------------------------------|

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 |

Chronic toxicity

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 |
| Genotoxicity in vivo | : Test Type: Micronucleus test Species: Mouse |

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

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.

Carcinogenicity

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

Components:

Cyantraniliprole:

Species : Rat, male
Application Route : Ingestion
Exposure time : 2 Years
NOAEL : 200 ppm
Method : OECD Test Guideline 453
Result : negative

Species : Rat, female
Application Route : Ingestion
Exposure time : 2 Years
NOAEL : 2,000 ppm
Method : OECD Test Guideline 453
Result : negative

Species : Mouse, male and female
Application Route : Ingestion
Exposure time : 18 month(s)
NOAEL : 7,000 ppm
Method : OECD Test Guideline 451
Result : negative

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

Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

Fatty acids, soya, Me esters:

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

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

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

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

STOT-single exposure

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

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.

STOT-repeated exposure

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

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

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

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.232 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes
Remarks: (Data on the product itself)
Information source: Internal study report

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (green algae)): 3.39

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

plants
mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes
Remarks: (Data on the product itself)
Information source: Internal study report

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.00969 mg/l
Exposure time: 21 d

Toxicity to terrestrial organisms : LD50 (Bumblebees (Bombus terrestris L.)): > 0.47 µg a.i./bee
Exposure time: 48 h
End point: Acute oral toxicity
Method: OECD Test Guideline 213

LD50 (Bumblebees (Bombus terrestris L.)): > 100 µg a.i./bee
Exposure time: 48 h
End point: Acute contact toxicity
Method: OECD Test Guideline 214

Ecotoxicology Assessment

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

SAFETY DATA SHEET

Exirel® Insect Control



| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

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 (*Colinus 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

Fatty acids, soya, Me esters:

Toxicity to fish : LC50 (Fish): > 1,000 mg/l
Exposure time: 96 h

LC50 (*Leuciscus idus* (Golden orfe)): > 100 mg/l
Exposure time: 48 h
Method: ISO 7346/2

Toxicity to daphnia and other aquatic invertebrates : EC50 (Crustaceans): 800 - 5,243 mg/l
Exposure time: 48 h

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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

| | |
|--|--|
| | 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 |

Persistence and degradability

Components:

Cyantraniliprole:

| | |
|--------------------|---|
| Biodegradability | : Remarks: Not readily biodegradable. |
| Stability in water | : Degradation half life (DT50): 9.09 - 37.7 d Remarks: Fresh water |
| | Degradation half life (DT50): 76.6 - 119 d Remarks: Soil |
| | Degradation half life (DT50): 22.8 - 25.1 d Remarks: total system |

Fatty acids, soya, Me esters:

| | |
|------------------|----------------------------------|
| Biodegradability | : Result: Readily biodegradable. |
|------------------|----------------------------------|

calcium dodecylbenzenesulphonate:

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

Bioaccumulative potential

Components:

Cyantraniliprole:

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|----------------|------------------------------|-------------------------|--|
| Version 1.0 | Revision Date: 2025/07/07 | SDS Number: 50000098 | Date of last issue: - Date of first issue: 2025/07/07 |
|----------------|------------------------------|-------------------------|--|

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

Fatty acids, soya, Me esters:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

calcium dodecylbenzenesulphonate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 70.79
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4.77 (25 °C)

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

Other adverse effects

Product:

Additional ecological information : 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.

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

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.

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

15. REGULATORY INFORMATION

National regulatory information

| | |
|--|---|
| Regulations on Occupational Safety and Health Facilities | : applicable |
| Standards for the Storage, Cleanup, Handling and Disposal of Industrial Waste | : applicable |
| Regulations on Labelling and Hazard Communication of Hazardous Chemicals | : applicable |
| Rules on Road Traffic Safety | : applicable |
| Standards of Permissible Exposure Limits in Workplace | : Contains no substances with occupational exposure limit values. |
| Rules on the Prevention of Poisoning from Organic Solvents. | : Not applicable |
| Standard for the Control of Designated Hazardous and Dangerous Chemicals | : Not applicable |
| Establishment Standards and Safety Control Regulations for Manufacturing, Storing, Processing Public Hazardous Substances and Flammable Pressurized Gases Places | : Not applicable |
| Toxic and Concerned Chemical Substances Control Act | |
| Toxic chemical substances | : Not applicable |
| Concerned chemical substances | : Not applicable |
| Regulations for Governing Designating and Handling of Priority Management Chemicals | : Not applicable |
| Rules on Labour Health Protection | : Not applicable |

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 |
| 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

SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

Responsible Department : FMC Corporation

Contact person : Bee Huang

Revision Date : 2025/07/07

Date format : yyyy/mm/dd

Full text of other abbreviations

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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SAFETY DATA SHEET



Exirel® Insect Control

| | | | |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: - |
| 1.0 | 2025/07/07 | 50000098 | Date of first issue: 2025/07/07 |

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