Benevia™ 100 OD



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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Benevia™ 100 OD

Other means of identification : Cyantraniliprole 100 g/l OD

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 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 sensitization : Category 1

Short-term (acute) aquatic

hazard

Category 1

Long-term (chronic) aquatic

hazard

Category 1

GHS label elements

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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 ad-

vice/ 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 | |
| calcium dodecylbenzenesulphonate | 26264-06-2 | >= 10 -< 20 | |
| 2-ethylhexan-1-ol | 104-76-7 | >= 2.5 -< 10 | |
| Polyoxyethylene sorbitol hexaoleate | 57171-56-9 | >= 2.5 -< 10 | |
| Fatty acids, C6-10, Me esters | 68937-83-7 | >= 1 -< 10 | |

4. FIRST AID MEASURES

General advice : Move out of dangerous area.

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

ance.

Do not leave the victim unattended.

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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 ambu-

lance.

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

If on skin, rinse well with water.

Wash off with soap and plenty of water.

Get medical attention immediately if irritation develops and

persists.

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

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Do not induce vomiting without medical advice.

Most important symptoms and effects, both acute and

delayed

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 : 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 prod-

ucts

Fire may produce irritating, corrosive and/or toxic gases.

Carbon oxides Sulfur oxides

Nitrogen oxides (NOx)

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Hydrogen chloride Hydrogen cyanide Chlorine compounds Bromine compounds

Specific extinguishing meth-

ods

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

Use a water spray to cool fully closed containers.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

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

Wear self-contained breathing apparatus for firefighting if nec-

essary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- : tive equipment and emergency procedures

Use personal protective equipment.

If it can be safely done, stop the leak. Evacuate personnel to safe areas.

Do not touch or walk through the spilled material.

Remove all sources of ignition. 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.

For disposal considerations see section 13.

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 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 fire and explosion

Normal measures for preventive fire protection.

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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 ap-

plication 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.

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 stor-

age 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 tem-

perature

5 - 30 °C

Further information on stor-

age 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 |

Biological occupational exposure limits

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable per-

sonal respiratory protection and protective suit.

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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 in-

structions.

Wear suitable protective equipment. When using do not eat, drink or smoke.

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

tions for use.

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, includ-

ing 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

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Boiling point/boiling range : 99 °C

Flash point : > 99 °C

Method: closed cup

Evaporation rate : No data available

Flammability (liquids) : Not classified as a flammability hazard

Self-ignition : 254 °C

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower

flammability limit

not determined

Vapor pressure : Not available for this mixture.

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

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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 reac-

tions

No decomposition if stored and applied as directed.

Conditions to avoid : Avoid formation of aerosol.

Protect from frost, heat and sunlight.

Heating of the product will produce harmful and irritant va-

pours.

Incompatible materials : Avoid strong acids, bases, and oxidizers.

Hazardous decomposition

products

No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Routes of exposure : Inhalation

Skin contact

Symptoms of Overexposure : None known.

Acute toxicity

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

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 tox-

icity

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Acute inhalation toxicity : LC50 (Rat): > 3.3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: ves

Assessment: The substance or mixture has no acute inhala-

tion toxicity

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 tox-

icitv

Remarks: no mortality

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

GLP: yes

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

icity

Remarks: no mortality

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

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: yes

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: no mortality

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

Method: OECD Test Guideline 402

GLP: yes

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: no mortality

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

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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

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

Product:

Species : Rabbit

Assessment : No skin irritation

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : yes

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

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

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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

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

Product:

Species : Rabbit

Result : No eye irritation
Assessment : No eye irritation

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

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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

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

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

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.

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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.

Chronic toxicity

Germ cell mutagenicity

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

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

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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

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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

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

Product:

Carcinogenicity - Assess-

ment

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 - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

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 - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

2-ethylhexan-1-ol:

Species : Rat

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Application Route : Oral

Exposure time : 24 month(s)
Result : negative

Reproductive toxicity

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

Product:

Reproductive toxicity - As-

sessment

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 - As-

sessment

Weight of evidence does not support classification for repro-

ductive 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 - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

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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

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.

2-ethylhexan-1-ol:

Assessment : May cause respiratory irritation.

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.

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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

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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

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

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.

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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 or-

ganisms

LC50 (worms): > 1,000 mg/kg

Toxicity to terrestrial organ-

isms

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

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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 tox- :

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC (Cyprinodon variegatus (sheepshead minnow)): 2.9

mg/

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 (Chron-

ic 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

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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 or-

ganisms

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 minerali-

zation.

Method: OECD Test Guideline 217

Remarks: No significant adverse effect on Carbon mineraliza-

tion.

Toxicity to terrestrial organ-

isms

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:

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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 (Chron-

ic 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 or-

ganisms

LC50 (Eisenia fetida (earthworms)): 1,000 mg/kg

Exposure time: 14 d

Method: OECD Test Guideline 207

Toxicity to terrestrial organ-

isms

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

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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 bio-

degradable components, which may not be degradable in

waste water treatment plants.

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

calcium dodecylbenzenesulphonate:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301E

2-ethylhexan-1-ol:

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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-

: log Pow: 2.9 (25 °C)

octanol/water

Mobility in soil

Product:

Distribution among environ- : Remarks: No data is available on the product itself.

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mental compartments

Components:

Cyantraniliprole:

Distribution among environ-

mental compartments

Koc: 241 ml/g, log Koc: 2.38

Kd: 3.73 ml/g

Remarks: Mobile in soils

Other adverse effects

Product:

Additional ecological infor-

mation

See product label for additional application instructions relat-

ing 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 chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Triple rinse containers.

Do not re-use empty containers.

Packaging that is not properly emptied must be disposed of as

the unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

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

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UN/ID No. UN 3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

(Cyantraniliprole)

Class Packing group Ш

Labels Miscellaneous

Packing instruction (cargo

aircraft)

Packing instruction (passen-964

ger aircraft)

Environmentally hazardous yes

IMDG-Code

UN number UN 3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, Proper shipping name

N.O.S.

yes

964

(Cyantraniliprole)

Class 9 Packing group Ш Labels 9 F-A, S-F **EmS Code** Marine pollutant

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

National regulatory information

Regulations on Occupational Safety and Health Faciliapplicable

Standards for the Storage, Cleanup, Handling and applicable

Disposal of Industrial Waste

Regulations on Labelling and Hazard Communication applicable

of Hazardous Chemicals

Rules on Road Traffic Safety applicable Standards of Permissible Exposure Limits in Workapplicable

place

Rules on the Prevention of Poisoning from Organic Not applicable

Solvents.

Standard for the Control of Designated Hazardous and : Not applicable

Dangerous Chemicals

Establishment Standards and Safety Control Regula-Quantity subject to control tions for Manufacturing, Storing, Processing Public

Gases Places

Toxic and Concerned Chemical Substances Control

Hazardous Substances and Flammable Pressurized

Act

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Toxic chemical substances : Not applicable Concerned chemical substances : Not applicable Regulations for Governing Designating and Handling : Not applicable

of Priority Management Chemicals

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

Responsible Department : FMC Corporation

Contact person : Bee Huang

Revision Date : 2025/05/15

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

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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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