## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

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

1.1 Product identifier

Product name CORAGEN®

Other means of identification

Product code 50000015

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

Use of the Sub: : Can be used as insecticide only.

stance/Mixture

Recommended restrictions

on use

: Use as recommended by the label.

1.3 Details of the supplier of the safety data sheet

Supplier Address FMC Chemicals (Pty) Ltd

Company Registration No.: 1988/001451/07

West End Office Park, Building C Cnr. West Ave & Hall Street

Centurion 0014 South Africa

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

1.4 Emergency telephone number

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

Medical emergency:

For any emergency or poisoning contact: Griffon Poison Infor-

mation Centre (24 hrs) - +27-(0)-82-446-8946

## **SECTION 2: Hazards identification**

## 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Short-term (acute) aquatic hazard, Cate-

H400: Very toxic to aquatic life.

gory 1

Long-term (chronic) aquatic hazard, Cat-H410: Very toxic to aquatic life with long lasting

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

egory 1 effects.

#### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

¥\_2>

Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container as hazardous waste in

accordance with local regulations.

**Additional Labelling** 

EUH208 Contains reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1). May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instruc-

tions for use.

#### 2.3 Other hazards

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

## **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

## Components

| Chemical name       | CAS-No.             | Classification     | Concentration |
|---------------------|---------------------|--------------------|---------------|
|                     | EC-No.              |                    | (% w/w)       |
|                     | Index-No.           |                    |               |
|                     | Registration number |                    |               |
| Chlorantraniliprole | 500008-45-7         | Aquatic Acute 1;   | >= 10 - < 20  |
| ·                   |                     | H400               |               |
|                     |                     | Aquatic Chronic 1; |               |

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

|   |                            | M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic   |                         |
|---|----------------------------|---|-------------------------|
| reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) | 55965-84-9<br>613-167-00-5 | aquatic toxicity): 10  Acute Tox. 3; H301  Acute Tox. 2; H330  Acute Tox. 2; H310  Skin Corr. 1C;  H314  Eye Dam. 1; H318  Skin Sens. 1A;  H317  Aquatic Acute 1;  H400  Aquatic Chronic 1;  H410  M-Factor (Acute aquatic toxicity):  100  M-Factor (Chronic aquatic toxicity):  100 | >= 0.0002 - <<br>0.0015 |

For explanation of abbreviations see section 16.

#### **SECTION 4: First aid measures**

## 4.1 Description of first aid measures

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.

If inhaled : If unconscious, place in recovery position and seek medical

advice.

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

pear.

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.

Wash contaminated clothing before re-use.

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

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

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.

#### 4.2 Most important symptoms and effects, both acute and delayed

None known.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

Immediate medical attention is required in case of ingestion.

## **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Unsuitable extinguishing

media

Do not spread spilled material with high-pressure water

streams.

High volume water jet

#### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod- :

ucts

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

Nitrogen oxides (NOx)

Carbon oxides Bromine compounds Chlorine compounds Hydrogen cyanide Hydrogen chloride

#### 5.3 Advice for firefighters

Special protective equipment :

for firefighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

Specific extinguishing meth-

ods

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

SO.

Use a water spray to cool fully closed containers.

Further information : Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

#### **SECTION 6: Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.

Do not touch or walk through the spilled material.

If it can be safely done, stop the leak. Use personal protective equipment.

Never return spills in original containers for re-use.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

#### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform

respective authorities.

## 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Never return spills in original containers for re-use.

Collect as much of the spill as possible with a suitable absor-

bent material.

Pick up and transfer to properly labelled containers. Keep in suitable, closed containers for disposal.

Clean contaminated surface thoroughly.

## 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.

Avoid formation of respirable particles.

Dispose of rinse water in accordance with local and national

regulations.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Advice on protection against :

fire and explosion

Normal measures for preventive fire protection.

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Hygiene measures : Avoid contact with skin, eyes and clothing. This product

should be used only by all personnel thoroughly trained to handle it. Do not inhale aerosol. Wash hands before breaks and immediately after handling the product. When using do not smoke. When using do not eat or drink. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out

of the workplace.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Store in a place accessible by authorized persons only. Store in original container. 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. 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.

Further information on stor-

age stability

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label

approved by country-specific regulatory authorities.

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **Occupational Exposure Limits**

Contains no substances with occupational exposure limit values.

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

| Substance name   | End Use   | Exposure routes | Potential health effects     | Value      |
|--|-----------|-----------------|------------------------------|------------|
| reaction mass of 5-<br>chloro-2-methyl-2H-<br>isothiazol-3-one and<br>2-methyl-2H-<br>isothiazol-3-one (3:1) | Workers   | Inhalation      | Long-term local effects      | 0.02 mg/m3 |
|  | Workers   | Inhalation      | Acute local effects          | 0.04 mg/m3 |
|  | Consumers | Inhalation      | Long-term local ef-<br>fects | 0.02 mg/m3 |

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

| 1 | Consumers | Inhalation | Acute local effects         | 0.04 mg/m3 |
|---|-----------|------------|-----------------------------|------------|
|   | Consumers | Oral       | Long-term systemic effects  | 0.09 mg/kg |
|   | Consumers | Oral       | Acute systemic ef-<br>fects | 0.11 mg/kg |

#### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

| Substance name  | Environmental Compartment | Value        |
|---|---------------------------|--------------|
| Chlorantraniliprole   | Water                     | 0.00045 mg/l |
| reaction mass of 5-chloro-2-<br>methyl-2H-isothiazol-3-one and<br>2-methyl-2H-isothiazol-3-one<br>(3:1) | Fresh water               | 0.00339 mg/l |
|   | Intermittent use/release  | 0.00339 mg/l |
|   | Marine water              | 0.00339 mg/l |
|   | Sewage treatment plant    | 0.23 mg/l    |
|   | Fresh water sediment      | 0.027 mg/kg  |
|   | Marine sediment           | 0.027 mg/kg  |

#### 8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate,

butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Skin and body protection : Impervious clothing

Long sleeved clothing.

Footwear protecting against chemicals

Choose body protection according to the amount and concen-

tration of the dangerous substance at the work place.

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

sonal respiratory protection and protective suit.

Protective measures : Plan first aid action before beginning work with this product.

Always have on hand a first-aid kit, together with proper 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.

## **CORAGEN®**



Version **Revision Date:** SDS Number: Date of last issue: -

13.05.2025 50000015 Date of first issue: 13.05.2025 1.0

## **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

Physical state liquid

Form semi-viscous liquid

white Colour alcohol-like Odour Odour Threshold not determined

pΗ 7.8

> Concentration: 1 % Method: CIPAC MT 75.3

Boiling point/boiling range

not determined

Flash point > 100 °C

No flash up to boiling point.

Not available for this mixture. Evaporation rate The product is not flammable. Flammability (solid, gas)

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower

flammability limit

not determined

Vapour pressure

Not available for this mixture. Relative vapour density Not available for this mixture.

Relative density 1.08 - 1.10

Density 1.094 g/cm3 (20 °C)

Solubility(ies)

Water solubility No data available Solubility in other solvents slightly soluble

Partition coefficient: n-

Not available for this mixture.

octanol/water

Auto-ignition temperature

No data available

Viscosity

Viscosity, dynamic 583 mPa.s

30 rpm 367 - 734 mm2/s Viscosity, kinematic

30 rpm

Explosive properties Not explosive Oxidizing properties Non-oxidizing

9.2 Other information

Not applicable Molecular weight Not applicable Particle size not auto-flammable Self-ignition

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

## **SECTION 10: Stability and reactivity**

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Avoid formation of aerosol.

Heat, flames and sparks.

Protect from frost, heat and sunlight.

Heating of the product will produce harmful and irritant va-

pours.

10.5 Incompatible materials

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

#### 10.6 Hazardous decomposition products

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

## **SECTION 11: Toxicological information**

## 11.1 Information on toxicological effects

#### **Acute toxicity**

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

**Product:** 

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

Method: OECD Test Guideline 425

GLP: yes

Remarks: Information source: Internal study report

(Data on the product itself)

Acute inhalation toxicity : LC50 (Rat): > 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: Highest attainable concentration.

no mortality

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

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Method: OECD Test Guideline 402

GLP: yes

Remarks: Information source: Internal study report

(Data on the product itself)

**Components:** 

Chlorantraniliprole:

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

Method: OECD Test Guideline 425

GLP: yes

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

Method: OECD Test Guideline 425

GLP: yes

Remarks: Information source: Internal study report

LD50 (Mouse, female): > 2,000 mg/kg Method: OECD Test Guideline 425

GLP: no

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.1 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: Information source: Internal study report

LC50 (Rat, male and female): > 5.1 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

LC50 (Rat, male and female): > 5.0 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: GB 15670-1995

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

Remarks: Information source: Internal study report

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

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

Method: GB 15670-1995

GLP: yes

Remarks: no mortality

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

Method: OECD Test Guideline 402

GLP: yes

Remarks: no mortality

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Acute oral toxicity : LD50 Oral (Rat, female): 200 mg/kg

Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat, male and female): 0.33 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit, male): 87 mg/kg

Skin corrosion/irritation

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

**Product:** 

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : yes

Remarks : Information source: Internal study report

(Data on the product itself)

**Components:** 

**Chlorantraniliprole:** 

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : yes

Remarks : Information source: Internal study report

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : yes

Species : Rabbit

Method : GB 15670-1995 Result : No skin irritation

GLP : yes





Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Method : OECD Test Guideline 404

Result : Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation

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

**Product:** 

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

GLP : yes

Remarks : Information source: Internal study report

(Data on the product itself)

**Components:** 

Chlorantraniliprole:

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

GLP : yes

Remarks : Information source: Internal study report

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

Species : Rabbit

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

GLP : yes

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Result : Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

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

Respiratory sensitisation

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

**Product:** 

Test Type : Local lymph node test

Species : Mouse

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Method : OECD Test Guideline 429

Result : Animal test did not cause sensitization by skin contact.

GLP : yes

Remarks : Information source: Internal study report

(Data on the product itself)

**Components:** 

**Chlorantraniliprole:** 

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

GLP : yes

Remarks : Information source: Internal study report

Test Type : Local lymph node assay (LLNA)

Species : mice

Method : OECD Test Guideline 429

Result : Does not cause skin sensitisation.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Test Type : Local lymph node assay (LLNA)

Species : Mouse

Result : The product is a skin sensitiser, sub-category 1A.

Germ cell mutagenicity

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

**Product:** 

Genotoxicity in vitro : Test Type: Ames test

Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse

Method: OECD Test Guideline 474

Result: negative

**Components:** 

**Chlorantraniliprole:** 

Genotoxicity in vitro : Test Type: reverse mutation assay

Metabolic activation: with and without metabolic activation

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells Method: OECD Test Guideline 476





Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse

Method: OECD Test Guideline 474

Result: negative

Germ cell mutagenicity- As-

sessment

Weight of evidence does not support classification as a germ

cell mutagen.

#### Carcinogenicity

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

#### **Components:**

#### Chlorantraniliprole:

Species : Rat, male and female

Application Route : Oral Exposure time : 2 Years

NOAEL : 805 - 1,076 mg/kg bw/day Method : OECD Test Guideline 453

Result : negative

Species : Mouse, male and female

Application Route : Oral

Exposure time : 18 month(s)

NOAEL : 158 - 1,155 mg/kg bw/day Method : OECD Test Guideline 453

Result : negative

Carcinogenicity - Assess-

ment

Animal testing did not show any carcinogenic effects.

## Reproductive toxicity

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

## **Components:**

#### **Chlorantraniliprole:**

Effects on fertility : Test Type: Two-generation study

Species: Rat, male and female

**Application Route: Oral** 

General Toxicity - Parent: NOAEL: 20,000 ppm General Toxicity F1: NOAEL: 20,000 ppm Method: OECD Test Guideline 416

Result: negative

Effects on foetal develop-

ment

Test Type: Pre-natal

Species: Rat

**Application Route: Oral** 

Duration of Single Treatment: 6 - 20 Days

General Toxicity Maternal: NOEL: 1,000 mg/kg bw/day Developmental Toxicity: NOEL: 1,000 mg/kg bw/day





Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Method: OECD Test Guideline 414

Result: negative

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive 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:** 

**Chlorantraniliprole:** 

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:** 

Chlorantraniliprole:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Repeated dose toxicity

**Components:** 

**Chlorantraniliprole:** 

Species : Rat, male and female NOEL : 1188 - 1526 mg/kg

Application Route : Oral Exposure time : 90 Days

Method : OECD Test Guideline 408

Species : Rat

NOAEL : 8,000 mg/kg Application Route : Oral - feed Exposure time : 28 Days

Method : OECD Test Guideline 407

GLP : yes

Species : Rat

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

NOAEL : 300 mg/kg Application Route : Dermal Exposure time : 28 Days

Method : OECD Test Guideline 410

GLP : yes

Species : Rat

NOAEL : 20,000 mg/kg Application Route : Oral - feed Exposure time : 90 Days

Method : OECD Test Guideline 408

GLP : yes

Remarks : Information source: Internal study report

Species : Mouse
NOAEL : 7,000 mg/kg
Application Route : Oral - feed
Exposure time : 90 Days

Method : OECD Test Guideline 408

GLP : yes

Remarks : Information source: Internal study report

## reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Species : Dog NOAEL : 22 mg/kg Application Route : Oral

Species : Rat

NOAEL : 16.3 - 24.7 mg/kg Application Route : Skin contact

Species : Rat
NOAEL : 2.36 mg/m³
Application Route : Inhalation

#### **Aspiration toxicity**

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

#### **Product:**

The mixture does not have properties associated with aspiration hazard potential.

#### **Components:**

#### Chlorantraniliprole:

The substance does not have properties associated with aspiration hazard potential.

#### **Neurological effects**

## **Components:**

### Chlorantraniliprole:

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Remarks : No neurotoxicity observed in animal studies

**Further information** 

**Product:** 

Remarks : No data available

## **SECTION 12: Ecological information**

## 12.1 Toxicity

**Product:** 

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 9.9 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

GLP: yes

Remarks: Information source: Internal study report

(Data on the product itself)

LC50 (Danio rerio (zebra fish)): >1.6 mg a.i./L

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia (water flea)): 0.035 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

GLP: yes

Remarks: Information source: Internal study report

(Data on the product itself)

EC50 (Daphnia magna (Water flea)): 8.2 μg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 20

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: Information source: Internal study report

(Data on the product itself)

NOEC (Pseudokirchneriella subcapitata (green algae)): 20

mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Toxicity to soil dwelling or-

ganisms

LC50: > 1,000 mg/kg Exposure time: 14 d

Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

GLP:yes

Remarks: Information source: Internal study report

(Data on the product itself)

NOEC: 1,000 mg/kg Exposure time: 28 d

Species: Eisenia andrei (red worm) Method: OECD Test Guideline 222

LC50: > 1,000 mg/kg Exposure time: 28 d

Species: Eisenia andrei (red worm) Method: OECD Test Guideline 222

Toxicity to terrestrial organ-

isms

LD50: > 2,000 mg/kg

Species: Colinus virginianus (Bobwhite quail) Method: US EPA Test Guideline OPPTS 850.2100

GLP:ves

Remarks: Information source: Internal study report

(Data on the product itself)

LD50: > 541  $\mu$ g/bee Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 213

GLP:yes

Remarks: Information source: Internal study report

(Data on the product itself)

LD50: > 541 µg/bee Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 214

GLP:yes

Remarks: Information source: Internal study report

(Data on the product itself)

LD50: >= 109.91 µg a.i./bee

Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera L.

Method: OECD Test Guideline 213

NOEL:  $>= 109.91 \mu g a.i./bee$ 

Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera L.

Method: OECD Test Guideline 213

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

LD50: >= 100 µg a.i./bee Exposure time: 48 h

End point: Acute contact toxicity

Species: Apis mellifera L.

Method: OECD Test Guideline 214

NOEL: >= 100 µg a.i./bee Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera L.

Method: OECD Test Guideline 214

NOEC: 1,726 mg/kg Exposure time: 5 d

Species: Colinus virginianus (Bobwhite quail) Method: US EPA Test Guideline OPP 71-2

LC50: > 1,726 mg/kg Exposure time: 5 d

Species: Colinus virginianus (Bobwhite quail) Method: US EPA Test Guideline OPP 71-2

## **Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

Remarks: According to calculation method of Regulation (EC)

No 1272/2008.

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

Remarks: According to calculation method of Regulation (EC)

No 1272/2008.

#### **Components:**

#### Chlorantraniliprole:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 13.8 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

Remarks: Information source: Internal study report

LC50 (Lepomis macrochirus (Bluegill sunfish)): > 15.1 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

GLP: yes

Remarks: Information source: Internal study report

LC50 (Cyprinodon sp. (minnow)): > 12 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.0116 mg/l

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

aquatic invertebrates Exposure time: 48 h

Test Type: static test

Method: OECD Test Guideline 202

GLP: yes

LC50 (Hyalella azteca (Amphipod)): 0.26 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

GLP: yes

LC50 (Ceriodaphnia dubia (water flea)): 0.0067 - 0.011 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 2

mg/l

Exposure time: 120 h

NOEC (Lemna gibba (duckweed)): > 2 mg/l

End point: Biomass Exposure time: 14 d Test Type: static test

ErC50 (Selenastrum capricornutum (green algae)): > 2 mg/l

Exposure time: 72 h

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 2

mg/l

Exposure time: 72 h

Method: US EPA Test Guideline OPP 122-2 & 123-2

GLP: ves

Remarks: Information source: Internal study report

EbC50 (Lemna gibba (duckweed)): > 2 mg/l

End point: Frond Exposure time: 14 d Test Type: static test

Method: US EPA Test Guideline OPP 122-2 & 123-2

GLP: yes

Remarks: Information source: Internal study report

NOEC (Anabaena flos-aquae (cyanobacterium)): > 2 mg/l

End point: Growth rate Exposure time: 120 h Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

NOEC (Skeletonema costatum (Diatom)): > 14.6 mg/l

End point: Growth rate Exposure time: 120 h Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

NOEC (Navicula pelliculosa (Diatom)): > 15.1 mg/l

End point: Growth rate Exposure time: 120 h Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC: 1.28 mg/l Exposure time: 36 d

Species: Cyprinodon variegatus (sheepshead minnow)

NOEC: 0.110 mg/l Exposure time: 28 d

Species: Oncorhynchus mykiss (rainbow trout)

Method: OECD Test Guideline 210

GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0.00447 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Method: US EPA Test Guideline OPPTS 850.1300

GLP: yes

M-Factor (Chronic aquatic

toxicity)

10

Toxicity to soil dwelling or-

ganisms

LC50: > 1,000 mg/kg

Exposure time: 14 d

Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

GLP:yes

Remarks: No significant adverse effect on nitrogen mineraliza-

tion.

No significant adverse effect on carbon mineralization.

NOEC:

100 mg/kg dry weight (d.w.) Exposure time: 16 d

Species: Hypoaspis aculeifer Method: OECD Test Guideline 207

EC50:

>100 mg/kg dry weight (d.w.)

Exposure time: 16 d

Species: Hypoaspis aculeifer Method: OECD Test Guideline 207

Toxicity to terrestrial organ: LD50: > 4.0 μg/bee

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

isms Exposure time: 72 h

End point: Acute contact toxicity Species: Apis mellifera (bees)

Remarks: Active substance dissolved in acetone

LD50:  $> 0.005 \mu g/bee$ Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera (bees)

Remarks: Active substance dissolved in water

LD50: > 104.1  $\mu$ g/bee Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees)

Remarks: Active substance dissolved in acetone

LD50: >  $0.0274 \mu g/bee$ Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees)

Remarks: Active substance dissolved in water

LD50: > 2,250 mg/kg

Species: Poephila guttata (zebra finch)

# reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.19 mg/l

Exposure time: 96 h

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.16 mg/l

Exposure time: 48 h

NOEC (Daphnia magna (Water flea)): 0.1 mg/l

Exposure time: 21 d

EC50 (Daphnia magna (Water flea)): 0.18 mg/l

Exposure time: 21 d

Toxicity to algae/aquatic

plants

NOEC (Skeletonema costatum (marine diatom)): 0.00049 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 201

NOEC (Skeletonema costatum (marine diatom)): 0.019 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

EC50 (Skeletonema costatum (marine diatom)): 0.037 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 201

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

M-Factor (Acute aquatic tox-

icity)

100

Toxicity to microorganisms : NOEC (activated sludge): 0.91 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

GLP: yes

EC50 (activated sludge): 4.5 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

GLP: yes

Toxicity to fish (Chronic tox-

icity)

NOEC: 0.02 mg/l

Exposure time: 35 d

Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0.1 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Chronic Toxicity Value: 0.18 mg/l

Exposure time: 21 d

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic

toxicity)

100

#### 12.2 Persistence and degradability

**Product:** 

Biodegradability : Result: Not readily biodegradable.

Remarks: Estimation based on data obtained on active ingre-

dient.

**Components:** 

**Chlorantraniliprole:** 

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 10 d (25 °C)

pH: 9

Degradation half life (DT50): 0.3 d (50 °C)

pH: 9

Degradation half life (DT50): > 31 d

pH: 5

## **CORAGEN®**



Version **Revision Date:** SDS Number: Date of last issue: -

13.05.2025 50000015 Date of first issue: 13.05.2025 1.0

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Biodegradability Result: Readily biodegradable.

12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation Remarks: Does not bioaccumulate.

Estimation based on data obtained on active ingredient.

**Components:** 

Chlorantraniliprole:

Bioaccumulation Species: Lepomis macrochirus (Bluegill sunfish)

Bioconcentration factor (BCF): 14 Method: OECD Test Guideline 305

GLP: yes

Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 2.77 (20 °C)

pH: 4

log Pow: 2.86 (20 °C)

pH: 7

log Pow: 2.80 (20 °C)

pH: 9

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

(3:1):

Bioaccumulation Exposure time: 28 d

> Bioconcentration factor (BCF): < 54 Method: OECD Test Guideline 305

Partition coefficient: n-

octanol/water

: Pow: 0.75

12.4 Mobility in soil

**Product:** 

Distribution among environ-

mental compartments

Remarks: The product is not expected to be mobile in soils. Estimation based on data obtained on active ingredient.

**Components:** 

**Chlorantraniliprole:** 

mental compartments

Distribution among environ: Koc: 362 ml/g, log Koc: 2.55 Remarks: Mobile in soils

Stability in soil Remarks: Very persistent in soil.

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

#### 12.5 Results of PBT and vPvB assessment

#### **Product:**

Assessment : This substance/mixture contains no components considered

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

#### **Components:**

#### Chlorantraniliprole:

Assessment : This substance/mixture contains no components considered

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

#### 12.6 Other adverse effects

#### **Product:**

Endocrine disrupting poten-

tial

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

#### **Components:**

#### **Chlorantraniliprole:**

Endocrine disrupting poten-

tial

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

#### **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

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.

## **SECTION 14: Transport information**

#### 14.1 UN number

UNRTDG : UN 3082
 IMDG : UN 3082
 IATA : UN 3082

14.2 UN proper shipping name

**UNRTDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Chlorantraniliprole)

**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Chlorantraniliprole)

IATA : Environmentally hazardous substance, liquid, n.o.s.

(Chlorantraniliprole)

#### 14.3 Transport hazard class(es)

Class Subsidiary risks

UNRTDG : 9
 IMDG : 9
 IATA : 9

#### 14.4 Packing group

**UNRTDG** 

Packing group : III Labels : 9

**IMDG** 

Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)

Packing instruction (cargo

aircraft)

Packing instruction (LQ) : Y964
Packing group : III

964

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passen- : 964

ger aircraft)

Packing instruction (LQ) : Y964
Packing group : III

Labels : Miscellaneous

14.5 Environmental hazards

**UNRTDG** 

Environmentally hazardous : yes

**IMDG** 

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

#### **SECTION 15: Regulatory information**

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

## The components of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

NZIoC : Not in compliance with the inventory

TECI: Not in compliance with the inventory

#### 15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

#### **SECTION 16: Other information**

#### **Full text of H-Statements**

H301 : Toxic if swallowed.

H310 : Fatal in contact with skin.

H314 : Causes severe skin burns and eye damage.

H317 : May cause an allergic skin reaction. H318 : Causes serious eye damage.

H330 : Fatal if inhaled.

H400 : Very toxic to aquatic life.

H410 : Very toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Dam. : Serious eye damage Skin Corr. : Skin corrosion Skin Sens. : Skin sensitisation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice: IARC - International Agency for Research on Cancer: IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European

## **CORAGEN®**



Version Revision Date: SDS Number: Date of last issue: -

1.0 13.05.2025 50000015 Date of first issue: 13.05.2025

Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

Other information

## Classification of the mixture: Classification procedure:

Aquatic Acute 1 H400 Based on product data or assessment
Aquatic Chronic 1 H410 Based on product data or assessment

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