

MATERIAL SAFETY DATA SHEET



ZIGNAL®

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	22.01.2025	50001848	Date of first issue: 22.01.2025

1. IDENTIFICATION

Product name : ZIGNAL®

Manufacturer or supplier's details

Company : FMC LATINOAMÉRICA S.A.

Address : AV. RODRIGO DE CHÁVEZ Y JUAN TANCA
CIUDAD COLÓN. TORRE EMPRESARIAL 2 PISO 3
OFICINA 308. GUAYAQUIL - ECUADOR
(593 04) 3901953

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

Emergency telephone : 1 703 / 741-5970 (CHEMTREC - International)

Medical Emergency Number : Desde Ecuador: 1800 593005 (Quito, La Sierra, Centro y Norte).
Desde Bogotá: 288 60 12; Línea Nacional: 01 8000 916012
Desde Venezuela: 0800 1005012
Desde Perú: SAMU: 106;
CISPROQUIM®: 080-050-847;
FMC LATINOAMERICA S.A. SUCURSAL: 421-4811;

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

Restrictions on use : Use as recommended by the label.

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 4

Serious eye damage/eye irritation : Category 2A

Skin sensitization : Category 1

Reproductive toxicity : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Liver, thymus, Lungs, Pancreas, Uterus (including cervix), eye ball, Central nervous system, Stomach)

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Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal Word : WARNING

Hazard Statements : H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs (Liver, thymus, Lungs, Pancreas, Uterus (including cervix), eye ball, Central nervous system, Stomach) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P203 Obtain, read and follow all safety instructions before use.
P260 Do not breathe mist or vapors.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or with adequate ventilation.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:
P301 + P317 + P330 IF SWALLOWED: Get medical help.
Rinse mouth.
P302 + P352 + P317 IF ON SKIN: Wash with plenty of water.
Get medical help.
P304 + P340 + P317 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P318 IF exposed or concerned, get medical advice.
P333 + P317 If skin irritation or rash occurs: Get medical help.
P337 + P317 If eye irritation persists: Get medical help.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

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Storage:

P405 Store locked up.

Disposal:

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

Other hazards which do not result in classification

Hazard Statements required by Andean Technical Manual for the Registration and Control of Chemical Pesticides for Agricultural Use (Resolution no. 2075):
Harmful if swallowed, in contact with skin or if inhaled.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
fluazinam (ISO)	79622-59-6	$\geq 30 - < 50$
Sodium alkyl naphthalenesulfonate, formaldehyde condensate	68425-94-5	$\geq 1 - < 2,5$
Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6	$\geq 1 - < 2,5$
1,2-benzisothiazol-3(2H)-one	2634-33-5	$\geq 0,0025 - < 0,025$

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and water.
If symptoms persist, call a physician.
Wash contaminated clothing before re-use.

If on skin, rinse well with water.

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 : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

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If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed, in contact with skin or if inhaled.
May cause an allergic skin reaction.
Causes serious eye irritation.
Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Exposure to skin may result in mild symptoms include itching, hives or rash, and skin redness. More severe symptoms include sneezing, itchy watery eyes, and difficulty breathing.

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

Notes to physician : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : > 103 °C

Ignition temperature : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

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

Unsuitable extinguishing media : 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.
Fluorinated compounds
Chlorinated compounds
Hydrogen chloride
Hydrogen fluoride
Nitrogen oxides (NO_x)
Carbon oxides
Ammonia

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions, protective equipment and emergency procedures | : | 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. |
| 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

- | | | |
|---|---|---|
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |
| Advice on safe handling | : | Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. |
| Conditions for safe storage | : | Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards. |
| Further information on storage stability | : | No decomposition if stored and applied as directed. |
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

- | | | |
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| Respiratory protection | : | In the case of dust or aerosol formation use respirator with an approved filter. |
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Hand protection

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.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Color : beige

Odor : aromatic

Odor Threshold : No data available

pH : 8,3

Melting point/ range : No data available

Boiling point/boiling range : No data available

Flash point : > 103 °C

Flammability (liquids) : Will not burn

Self-ignition : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : 0,0011 Pa (20 °C)

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Relative density	:	1,28 (20 °C)
Density	:	1,28 g/cm ³ (20 °C)
Solubility(ies)		
Water solubility	:	Miscible
Solubility in other solvents	:	partly miscible Solvent: Methanol
		partly miscible Solvent: hexane
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	15,5 mPa.s (20 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

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.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed, in contact with skin or if inhaled.

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Product:

Acute oral toxicity	: LD50 Oral(Rat, female): > 2.000 mg/kg Method: OECD Test Guideline 425 Assessment: The component/mixture is minimally toxic after single ingestion. Remarks: no mortality Assessment: The component/mixture is moderately toxic after single ingestion. Remarks: Resolution no. 2075
Acute inhalation toxicity	: LC50(Rat): > 3,56 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403 Assessment: The component/mixture is minimally toxic after short term inhalation. Remarks: Highest attainable concentration. no mortality Assessment: The component/mixture is moderately toxic after short term inhalation. Remarks: Resolution no. 2075
Acute dermal toxicity	: LD50 Dermal(Rat): > 2.000 mg/kg Method: OECD Test Guideline 402 Assessment: The component/mixture is minimally toxic after single contact with skin. Remarks: no mortality Assessment: The component/mixture is moderately toxic after single contact with skin. Remarks: Resolution no. 2075

Components:

fluazinam (ISO):

Acute oral toxicity	: LD50 (Rat, female): > 2.000 mg/kg Method: OECD Test Guideline 425 Symptoms: Diarrhea GLP: yes Assessment: The component/mixture is minimally toxic after single ingestion. Remarks: no mortality
Acute inhalation toxicity	: LC50 (Rat, male): 1,32 - 2,13 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Fatality, Breathing difficulties, ataxia GLP: yes

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Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

Sodium alkyl naphthalenesulfonate, formaldehyde condensate:

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

Alcohols, C13-15, branched and linear, ethoxylated:

Acute oral toxicity : LD50 (Rat): 500 - 2.000 mg/kg

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : LD50 (Rat, male and female): 490 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

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

Product:

Result : No skin irritation

Components:

fluazinam (ISO):

Species : Rabbit
Assessment : No skin irritation

Method : OECD Test Guideline 404
GLP : yes
Remarks : Minimal effects that do not meet the threshold for classification.

Alcohols, C13-15, branched and linear, ethoxylated:

Result : No skin irritation

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit
Exposure time : 72 h
Method : OECD Test Guideline 404
Result : No skin irritation

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Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Result : Moderate eye irritation

Components:

fluazinam (ISO):

Species	: Rabbit
Assessment	: Irritating to eyes.
Method	: OECD Test Guideline 405
GLP	: yes

Sodium alkyl naphthalenesulfonate, formaldehyde condensate:

Result : Eye irritation

Alcohols, C13-15, branched and linear, ethoxylated:

Result : Irreversible effects on the eye

1,2-benzisothiazol-3(2H)-one:

Species	: Bovine cornea
Method	: OECD Test Guideline 437
Result	: No eye irritation

Species	: Rabbit
Method	: EPA OPP 81-4
Result	: Irreversible effects on the eye

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:

Result : May cause sensitization by skin contact.

Remarks : Causes sensitization.

Components:

fluazinam (ISO):

Test Type	: Local lymph node assay (LLNA)
Routes of exposure	: Skin contact
Species	: Mouse
Assessment	: The product is a skin sensitizer, sub-category 1A.
Method	: OECD Test Guideline 429

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Result : May cause sensitization by skin contact.
GLP : yes

1,2-benzisothiazol-3(2H)-one:

Test Type : Maximization Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitization by skin contact.

Species : Guinea pig
Method : FIFRA 81.06
Result : May cause sensitization by skin contact.

Germ cell mutagenicity

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

Product:

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

Components:

fluazinam (ISO):

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Result: negative

Germ cell mutagenicity - : No genotoxic potential.
Assessment

1,2-benzisothiazol-3(2H)-one:

Genotoxicity in vitro : Test Type: gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay
Species: Rat (male)

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Cell type: Liver cells
Application Route: Ingestion
Exposure time: 4 h
Method: OECD Test Guideline 486
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

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.

Product:

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

Components:

fluazinam (ISO):

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Suspected of damaging the unborn child.

Product:

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

Components:

fluazinam (ISO):

Effects on fetal development : Species: Rat
Symptoms: Fetal effects., placental abnormalities, fused or incompletely ossified sternebrae, abnormalities of the head bones, not developed renal papillae and distended ureter
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Species: Rat
Symptoms: Fetal effects., Skeletal and visceral variations .
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility., Some evidence of adverse effects on development, based on animal

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experiments.

1,2-benzisothiazol-3(2H)-one:

Effects on fertility : Species: Rat, male
Application Route: Ingestion
General Toxicity Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Fertility: NOAEL: 112 mg/kg bw/day
Symptoms: No effects on reproduction parameters.
Method: OPPTS 870.3800
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:

fluazinam (ISO):

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

STOT-repeated exposure

May cause damage to organs (Liver, thymus, Lungs, Pancreas, Uterus (including cervix), eye ball, Central nervous system, Stomach) through prolonged or repeated exposure.

Product:

Target Organs : Liver, thymus, Lungs, Pancreas, Uterus (including cervix), eye ball, Central nervous system, Stomach
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Components:

1,2-benzisothiazol-3(2H)-one:

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

Repeated dose toxicity

Components:

fluazinam (ISO):

Species : Rat
LOAEL : 41 mg/kg, 500 ppm

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Application Route	: Ingestion
Exposure time	: 90 days
Target Organs	: Liver
Symptoms	: Reduced body weight, increased liver weight

1,2-benzisothiazol-3(2H)-one:

Species	: Rat, male and female
NOAEL	: 15 mg/kg
Application Route	: Ingestion
Exposure time	: 28 d
Method	: OECD Test Guideline 407
Symptoms	: Irritation

Species	: Rat, male and female
NOAEL	: 69 mg/kg
Application Route	: Ingestion
Exposure time	: 90 d
Symptoms	: Irritation, Reduced body weight

Aspiration toxicity

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

Components:

fluazinam (ISO):

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

Experience with human exposure

Components:

fluazinam (ISO):

Skin contact	: Symptoms: irritant effects, sensitizing effects
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Further information

Product:

Remarks	: No data available
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12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 0,11 mg/l Exposure time: 96 h
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Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia similis (Water flea)): 179,09 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
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Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): > 0,2 mg/l Exposure time: 96 h
Toxicity to soil dwelling organisms	:	LC50: 1.000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 200 Exposure time: 48 h Species: Apis mellifera (bees) LD50: > 4,190 mg/kg Species: Anas platyrhynchos (Mallard duck) LD50: > 1,782 mg/kg Species: Colinus virginianus (Bobwhite quail)

Ecotoxicology Assessment

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

fluazinam (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0,11 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,19 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (Selenastrum capricornutum (green algae)): > 0,2 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50 (activated sludge): 75 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,012 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: < 0,0125 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to soil dwelling organisms	:	LC50: > 1.000 mg/kg Exposure time: 28 d Species: Eisenia fetida (earthworms)

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Toxicity to terrestrial organisms : LD50: > 4.190 mg/kg
Species: *Anas platyrhynchos* (Mallard duck)

LD50: 1.782 mg/kg
Species: *Colinus virginianus* (Bobwhite quail)

Sodium alkyl naphthalenesulfonate, formaldehyde condensate:

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): > 10 - 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (*Pseudokirchneriella subcapitata* (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC10 (*Pseudokirchneriella subcapitata* (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: > 10 - 100 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Alcohols, C13-15, branched and linear, ethoxylated:

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): > 1 - 10 mg/l
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 1 - 10 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (*Scenedesmus subspicatus*): > 1 - 10 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0,1 - 1 mg/l

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (*Cyprinodon variegatus* (sheepshead minnow)): 16,7 mg/l

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Exposure time: 96 h
Test Type: static test

LC50 (Oncorhynchus mykiss (rainbow trout)): 2,15 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2,9 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0,070 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,04 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): 24 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

EC50 (activated sludge): 12,8 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

Persistence and degradability

Product:

Biodegradability : Result: Not biodegradable

Components:

fluazinam (ISO):

Biodegradability : Result: Not readily biodegradable.

Sodium alkyl naphthalenesulfonate, formaldehyde condensate:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

Alcohols, C13-15, branched and linear, ethoxylated:

Biodegradability : Result: Readily biodegradable.

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1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: rapidly biodegradable
Method: OECD Test Guideline 301C

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Product contains substances which are very persistent and very bioaccumulative (vPvB).

Components:

fluazinam (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 500 - 800
Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : log Pow: 4,67 (21 °C)
pH: 7

log Pow: 3,34 (22 °C)
pH: 9

Alcohols, C13-15, branched and linear, ethoxylated:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Bioconcentration factor (BCF): 6,62
Method: OECD Test Guideline 305
Remarks: Substance is not persistent, bioaccumulative, and toxic (PBT).

Partition coefficient: n-octanol/water : log Pow: 0,7 (20 °C)
pH: 7

log Pow: 0,99 (20 °C)
pH: 5

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: immobile

Components:

fluazinam (ISO):

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Distribution among environmental compartments : Remarks: Low mobility in soil.

1,2-benzisothiazol-3(2H)-one:

Distribution among environmental compartments : Koc: 9,33 ml/g, log Koc: 0,97
Method: OECD Test Guideline 121
Remarks: Highly mobile in soils

Other adverse effects

Product:

Results of PBT and vPvB assessment : Product contains substances which are very persistent and very bioaccumulative (vPvB).

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 : It is prohibited to reuse, bury, burn, or sell containers. Rinsable containers: Triple rinse containers of less than 20 liters and pressure rinse containers of 20 liters or more. Triple rinsing: Add water up to ¼ of the container's capacity, close and shake for 30 seconds. Pour the rinse water into the mixing tank, considering this volume of water within the recommended volume for mixing preparation. Perform this procedure three times. Pressure rinsing: Activate the pressure rinsing device for 30 seconds, considering the volume of water used as part of the recommended volume for mixing preparation. In both procedures, punctured the container on its base without damaging the label. In all cases, take the empty containers to collection points indicated by the local empty containers program.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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N.O.S.
(Methanol, Fluazinam)
(Fluazinam)

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.
(Methanol, Fluazinam)
(Fluazinam)

Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(Methanol, Fluazinam, 1,2-Benzisothiazol-3(2H)-one)()

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

Special precautions for user

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

15. REGULATORY INFORMATION

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

Organic Law on Integral Prevention of Social and Economic Phenomenon of Drugs and of Regulation and Use Control of Listed Substances subject to Monitoring : sodium hydroxide

The ingredients of this product are reported in the following inventories:

TCSI : Not in compliance with the inventory

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

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AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. fluazinam (ISO) Sodium alkyl naphthalenesulfonate, formaldehyde condensate Alcohols, C13-15, branched and linear, ethoxylated Sulfurous acid, monosodium salt, reaction products with cresol-formaldehyde-nonylphenol polymer
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

16. OTHER INFORMATION

Revision Date	:	22.01.2025
Date format	:	dd.mm.yyyy

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;

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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

Disclaimer

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