SAFETY DATA SHEET

AUTHORITY®

Version	Revision Date:	SDS Number:	Date of last issue: -
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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AUTHORITY®

Manufacturer or supplier's details

Company : FMC QUÍMICA DO BRASIL LTDA.

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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard

Acute toxicity (Oral) : Category 5

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 5

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H303 + H313 May be harmful if swallowed or in contact with

skin.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H401 Toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P261 Avoid breathing mist or vapors.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.

Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P312 Call a POISON CENTER/ doctor if you feel unwell.
P391 Collect spillage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

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

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
azoxystrobin (ISO)	131860-33-8	Acute toxicity (Inhalation), Category 3 Acute toxicity (Dermal), Category 5 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1	>= 10 -< 20
Flutriafol	76674-21-0	Acute toxicity (Oral), Category 4 Acute toxicity (Inhalation), Category 4	>= 5 -< 10

		Acute toxicity (Dermal), Category 5 Specific target organ toxicity - single exposure (Respiratory system), Category 3 Short-term (acute) aquatic hazard, Category 3 Long-term (chronic) aquatic hazard, Category 2	
Coconut oil fatty acids, glycerin, phthalic anhydride polymer	67746-02-5	Acute toxicity (Oral), Category 5 Acute toxicity (Dermal), Category 5	>= 1 -< 5
SODIUM ALKYL NAPTHALENE SULPHONATE.	68425-94-5	Eye irritation, Category 2A Short-term (acute) aquatic hazard, Category 3 Long-term (chronic) aquatic hazard, Category 3	>= 2,5 -< 5
1,2-Benzisothiazolin-3-one	2634-33-5	Acute toxicity (Oral), Category 4 Serious eye damage, Category 1 Skin sensitization, Category 1 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 2	>= 0,025 -< 0,1

SECTION 4. 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.

If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : Wash off with soap and water.

		If symptoms persist, call a physician. Wash contaminated clothing before re-use.
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.
Most important symptoms and effects, both acute and delayed	:	May be harmful if swallowed or in contact with skin. Harmful if inhaled. May cause respiratory irritation.
Protection of first-aiders	:	Avoid inhalation, ingestion and contact with skin and eyes.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

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. Hydrogen fluoride Nitrogen oxides (NOx) Carbon oxides Fluorinated compounds Hydrogen cyanide
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Use a water spray to cool fully closed containers. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. If it can be safely done, stop the leak. Do not touch or walk through the spilled material. Ensure adequate ventilation.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Never return spills in original containers for re-use. Collect as much of the spill as possible with a suitable absorbent material. Pick up and transfer to properly labeled containers. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.
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.
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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	In the case of dust or aerosol formation use respirator with an approved filter.
Hand protection Material	:	Protective gloves
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	beige
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	7,65
Melting point/range	:	No data available
Boiling point/boiling range	:	96,4 °C
Flash point	:	does not flash Based on data from similar materials
Evaporation rate	:	No data available
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	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	1,01 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

May be harmful if swallowed or in contact with skin.
Harmful if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat): > 2.000 mg/kg Method: OECD Test Guideline 423 Symptoms: apathy Assessment: The component/mixture is minimally toxic after single ingestion. Remarks: no mortality
Acute inhalation toxicity	:	LC50 (Rat): > 2,61 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: respiratory tract irritation, apathy Assessment: The component/mixture is moderately toxic after short term inhalation. Remarks: no mortality
Acute dermal toxicity	:	LD50 (Rat, male and female): > 4.000 mg/kg Method: OECD Test Guideline 402 Assessment: The component/mixture is minimally toxic after single contact with skin. Remarks: no mortality

Components:

azoxystrobin (ISO):

Acute oral toxicity	:	LD50 (Rat): > 5.000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat, female): 0,69 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat): > 2.000 mg/kg Method: OECD Test Guideline 402

Flutriafol:

Acute oral toxicity	:	LD50 (Rat, male): 1.140 mg/kg LD50 (Rat, female): 1.480 mg/kg LD50 (Rat, female): 300 - 2.000 mg/kg Method: OECD Test Guideline 423 Target Organs: Liver, Gastrointestinal tract Symptoms: Fatality

Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 5,2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

LC50 (Rat, male and female): > 2,13 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rat): > 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

Coconut oil fatty acids, glycerin, phthalic anhydride polymer:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402

SODIUM ALKYL NAPTHALENE SULPHONATE.:

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

1,2-Benzisothiazolin-3-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

Not classified based on available information.

Product:

Species : Rabbit
Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Result : slight or no skin irritation.

Components:

azoxystrobin (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on available data, the classification criteria are not met.

Flutriafol:

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

Coconut oil fatty acids, glycerin, phthalic anhydride polymer:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

SODIUM ALKYL NAPTHALENE SULPHONATE.:

Remarks	:	No data available

1,2-Benzisothiazolin-3-one:

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

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Result	:	Slight or no eye irritation
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405
Remarks	:	Vapors may cause irritation to the eyes, respiratory system and the skin.

Components:

azoxystrobin (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant

Method	:	OECD Test Guideline 405
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on available data, the classification criteria are not met.

Flutriafol:

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

Coconut oil fatty acids, glycerin, phthalic anhydride polymer:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

SODIUM ALKYL NAPTHALENE SULPHONATE.:

Result	:	Eye irritation

1,2-Benzisothiazolin-3-one:

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

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

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

Components:

azoxystrobin (ISO):

Species	:	Guinea pig
Assessment	:	Not a skin sensitizer.

Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.

Flutriafol:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Not a skin sensitizer.

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Assessment	:	Did not cause sensitization on laboratory animals.
Method	:	OECD Test Guideline 406

Coconut oil fatty acids, glycerin, phthalic anhydride polymer:

Test Type	:	Buehler Test
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.

1,2-Benzisothiazolin-3-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

Not classified based on available information.

Product:

Genotoxicity in vitro	:	Test Type: Ames test Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity - Assessment	:	Test on bacterial cultures did not show mutagenic effects., Animal testing did not show any mutagenic effects.

Components:

Flutriafol:

Genotoxicity in vivo	:	Test Type: dominant lethal test Method: OECD Test Guideline 478

Result: negative

1,2-Benzisothiazolin-3-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) 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

Not classified based on available information.

Components:

azoxystrobin (ISO):

Method	:	OECD Test Guideline 451
Result	:	negative
Remarks	:	No significant adverse effects were reported
Method	:	OECD Test Guideline 453
Result	:	negative
Remarks	:	No significant adverse effects were reported
Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Flutriafol:

Species	:	Mouse
Exposure time	:	2 Years
NOAEL	:	1,2 mg/kg bw/day
Result	:	negative

Species	:	Rat
Exposure time	:	2 Years
NOAEL	:	1 mg/kg bw/day
Result	:	negative

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Not classified based on available information.

Components:

azoxystrobin (ISO):

Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity Did not show teratogenic effects in animal experiments.

Flutriafol:

Reproductive toxicity - Assessment	:	Animal testing did not show any effects on fertility. Animal testing showed no developmental toxicity.

1,2-Benzisothiazolin-3-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

May cause respiratory irritation.

Product:

Assessment	:	May cause respiratory irritation.

Components:

azoxystrobin (ISO):

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

Flutriafol:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Components:

azoxystrobin (ISO):

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

1,2-Benzisothiazolin-3-one:

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

Repeated dose toxicity

Components:

azoxystrobin (ISO):

Species	:	Rat
NOAEL	:	21 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90 d
Remarks	:	No significant adverse effects were reported

Species	:	Dog
NOAEL	:	50 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90 d
Remarks	:	No significant adverse effects were reported

Species	:	Dog
NOAEL	:	25 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	1 yr
Remarks	:	No significant adverse effects were reported

Flutriafol:

Species	:	Rat
NOAEL	:	13.3 mg/kg bw/day
Application Route	:	Oral - feed
Exposure time	:	90 d

Symptoms	:	anemia, Liver effects

Species	:	Dog
NOAEL	:	5 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90 d
Symptoms	:	anemia, Liver effects

1,2-Benzisothiazolin-3-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

Not classified based on available information.

Components:

azoxystrobin (ISO):

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

Flutriafol:

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

Neurological effects

Components:

Flutriafol:

No neurotoxicity observed in animal studies.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

azoxystrobin (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0,47 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,28 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 EC50 (Americamysis bahia (mysid shrimp)): 0,055 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	EC50 (Lemna gibba (duckweed)): 3,2 mg/l Exposure time: 14 d EC50 (Navicula pelliculosa (Diatom)): 0,146 mg/l Exposure time: 72 h NOEC (Navicula pelliculosa (Diatom)): 0,02 mg/l Exposure time: 72 h NOEC (Lemna gibba (duckweed)): 0,8 mg/l Exposure time: 14 d
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0,16 mg/l Exposure time: 28 d Method: OECD Test Guideline 204 NOEC (Pimephales promelas (fathead minnow)): 0,147 mg/l Exposure time: 28 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0,044 mg/l Exposure time: 21 d NOEC (Americamysis bahia (mysid shrimp)): 0,00954 mg/l Exposure time: 28 d
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 283 mg/kg Exposure time: 14 d

Toxicity to terrestrial organisms	:	LD50 (Anas platyrhynchos (Mallard duck)): > 1.000 mg/kg
		LD50 (Colinus virginianus (Bobwhite quail)): > 1.000 mg/kg
		LD50 (Colinus virginianus (Bobwhite quail)): > 5.200 ppm Remarks: Dietary
		LD50 (Apis mellifera (bees)): > 200 µg/bee Exposure time: 48 h End point: Acute contact toxicity
		LD50 (Apis mellifera (bees)): > 25 µg/bee Exposure time: 48 h End point: Acute oral toxicity

Flutriafol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 61 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 75,7 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	IC50 (Selenastrum capricornutum (green algae)): 12 mg/l Exposure time: 96 h
		IC50 (Scenedesmus subspicatus): 1,9 mg/l Exposure time: 72 h
		EbC50 (Lemna gibba (duckweed)): 0,65 mg/l Exposure time: 7 d
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 6,2 mg/l Exposure time: 28 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0,31 mg/l Exposure time: 21 d
Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): 0.01 mg/cm2 Exposure time: 180 d
Toxicity to terrestrial organisms	:	LD50 (Apis mellifera (bees)): > 144 End point: Acute oral toxicity Method: OECD Test Guideline 213 GLP: yes

LD50 (Apis mellifera (bees)): > 150
End point: Acute contact toxicity
Method: OECD Test Guideline 214
GLP: yes

LDD50 (Apis mellifera (bees)): 14
Exposure time: 10 d
End point: Acute oral toxicity
Method: OECD TG 245
GLP: yes

LD50 (Anas platyrhynchos (Mallard duck)): > 5.000 mg/kg

Coconut oil fatty acids, glycerin, phthalic anhydride polymer:

Toxicity to fish	:	LL50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials LL50 (Oncorhynchus mykiss (rainbow trout)): > 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	:	EL50 (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 microorganisms	:	EC50 (Bacteria): 34 mg/l Remarks: Based on data from similar materials

SODIUM ALKYL NAPTHALENE SULPHONATE.:

Toxicity to fish	:	LC50 (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 (Daphnia magna (Water flea)): > 10 - 100 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

1,2-Benzisothiazolin-3-one:

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

Components:

azoxystrobin (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Remarks: The product is insoluble and sinks in water.

Flutriafol:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Remarks: Does not readily hydrolyze

Coconut oil fatty acids, glycerin, phthalic anhydride polymer:

Biodegradability : Biodegradation: 42 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

SODIUM ALKYL NAPTHALENE SULPHONATE.:

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

1,2-Benzisothiazolin-3-one:

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

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

azoxystrobin (ISO):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 2,5 (20 °C)

Flutriafol:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 7
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n- : log Pow: 2,29

octanol/water

Coconut oil fatty acids, glycerin, phthalic anhydride polymer:

Partition coefficient: n-octanol/water : log Pow: -4,9

1,2-Benzisothiazolin-3-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 6,62
Exposure time: 56 d
Method: OECD Test Guideline 305
Remarks: This substance is not considered to be persistent, bioaccumulating 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

Components:

azoxystrobin (ISO):

Distribution among environmental compartments : Remarks: Under normal conditions the substance has low to moderate mobility in soil.

Flutriafol:

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Remarks: Very persistent in soil.

1,2-Benzisothiazolin-3-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:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Components:

Flutriafol:

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

SECTION 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 packaging. Washable packaging: Triple wash packs of less than 20 liters and pressure wash packs of 20 liters or more. Triple Wash (Manual Wash): Completely empty the contents of the package into the sprayer tank, keeping it in an upright position for 30 seconds; Add clean water to the package up to ¼ of its volume; Cover the package well and shake it for 30 seconds; Pour the wash water into the spray tank; Do this operation three times; Make the plastic or metal packaging unusable by perforating the bottom. Pressure wash: Fit the empty package in the appropriate place of the funnel installed on the sprayer; Activate the mechanism to release the water jet; Direct the water jet to all the inside walls of the package, for 30 seconds; Wash water must be transferred to the sprayer tank; Make the plastic or metal packaging unusable by perforating the bottom. In both procedures, puncture the container at its base without damaging the label. Within a period of up to one year from the date of purchase, the user must return the empty packaging, with lid, to the establishment where the product was purchased or to the place indicated on the invoice, issued at the time of purchase.Activate the mechanism to release the water jet. Direct the water jet to all the inside walls of the package, for 30 seconds. Wash water must be transferred to the sprayer tank. Make the plastic or metal packaging unusable by perforating the bottom.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

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

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Azoxystrobin, Flutriafol)
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. (Azoxystrobin, Flutriafol)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

Domestic regulation

ANTT

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Azoxystrobin, Flutriafol)
Class	:	9
Packing group	:	III
Labels	:	9
Hazard Identification Number	:	90

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.

SECTION 15. REGULATORY INFORMATION

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

Law No. 7802 of July 11, 1989. Decree No. 4074 of January 4, 2002 and its regulatory rules. ANTT Resolution nº 5.998/22 of November 3, 2022. This FISPQ was prepared in accordance with the criteria of ABNT NBR 14725. It is recommended that the user pay attention to local regulations

National List of Carcinogenic Agents for Humans - (LINACH) : Not applicable

Brazil. List of chemicals controlled by the Federal Police : 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
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. Sulfurous acid, monosodium salt, reaction products with cresol-formaldehyde-nonylphenol polymer azoxystrobin (ISO) Flutriafol
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

SECTION 16. OTHER INFORMATION

Revision Date	:	11.04.2023
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; 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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