

SAFETY DATA SHEET



Bistar™ 10TK insecticide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	2024/10/17	50000371	Date of first issue: 2024/10/17

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Bistar™ 10TK insecticide

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as insecticide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Corporation

Address : 2929 Walnut Street
Philadelphia PA 19104
USA

Telephone : (215) 299-6000

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

Emergency telephone : For leak, fire, spill or accident emergencies, call:
001-803-017-9114 (CHEMTREC)
1 703 / 741-5970 (CHEMTREC - International)

Medical emergency:
0800 140 1447

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Specific target organ toxicity - : Category 1 (Nervous system)
repeated exposure

Short-term (acute) aquatic : Category 1
hazard

Long-term (chronic) aquatic : Category 1
hazard

GHS label elements

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Hazard pictograms

:



Signal Word

: DANGER

Hazard Statements

: H302 + H332 Harmful if swallowed or if inhaled.
H372 Causes damage to organs (Nervous system) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

: **Prevention:**
P260 Do not breathe dust.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P314 Get medical advice/ attention if you feel unwell.
P391 Collect spillage.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Bifenthrin	82657-04-3	10
kaolin	1332-58-7	>= 30 -< 60
Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified	64742-56-9	< 10
sodium 2-[methylethylamino]ethane-1-sulphonate	137-20-2	< 10

4. FIRST AID MEASURES

General advice : Move out of dangerous area.

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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.
Call a physician if irritation develops or persists.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed or if inhaled.
Causes damage to organs through prolonged or repeated exposure.

Notes to physician : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical
Carbon dioxide (CO₂)
Foam

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Thermal decomposition can lead to release of irritating gases and vapors.
Halogenated compounds
Carbon oxides

Specific extinguishing methods : 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.

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6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid dust formation.
Ensure adequate ventilation.
Avoid formation of aerosol.
- 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 : Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapors/dust.
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.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : Keep in a dry place.
No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
kaolin	1332-58-7	NAB (Respirable)	2 mg/m3	ID OEL
		Further information: Not classified as carcinogenic to humans. Not enough data to classify these materials as carcinogenic to humans or animals		
		TWA (Res-	2 mg/m3	ACGIH

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		pirable particulate matter)		
Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified	64742-56-9	NAB (Mist)	5 mg/m3	ID OEL
		PSD (Mist)	10 mg/m3	ID OEL
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH

Personal protective equipment

- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
- Hand protection
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
- Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Powder
- Color : tan
- Odor : very faint, aromatic
- pH : 8,36 (25 °C)
Concentration: 5 %
- Melting point/freezing point : not determined
- Boiling point/boiling range : not determined
- Flash point : Not applicable

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Flammability (liquids)	: Not applicable
Self-ignition	: No data available
Density	: 0,29 - 0,4 g/cm ³
Bulk density	: 288,4 - 400,5 kg/m ³
Partition coefficient: n-octanol/water	: Not applicable
Viscosity Viscosity, kinematic	: Not applicable
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. Dust may form explosive mixture in air.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Strong acids Strong bases Strong oxidizing agents
Hazardous decomposition products	: Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	: LD50 (Rat, male and female): 375 mg/kg
Acute inhalation toxicity	: LC50 (Rat, male and female): 4,82 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rabbit, male and female): > 2.000 mg/kg

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Assessment: The substance or mixture has no acute dermal toxicity

Components:

Bifenthrin:

Acute oral toxicity	: LD50 (Rat, male and female): 56,7 mg/kg Symptoms: Convulsions, Tremors, ataxia LD50 (Mouse, female): 42,5 mg/kg Method: OPPTS 870.1100
Acute inhalation toxicity	: LC50 (Rat, female): 0,6 - 1,2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Tremors, Convulsions LC50 (Rat, male): 1,10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Tremors, Fatality
Acute dermal toxicity	: LD50 (Rat, male and female): > 2.000 mg/kg Remarks: no mortality

kaolin:

Acute oral toxicity	: LD50 (Rat): > 5.000 mg/kg Method: OECD Test Guideline 401 LD50: > 2.000 mg/kg Method: OECD Test Guideline 420 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	: LC50 (Rat): 36 mg/l Exposure time: 1 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rat): > 5.000 mg/kg LD50: > 2.000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Acute oral toxicity	: LD50 (Rat, male and female): > 5.000 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials
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Acute inhalation toxicity : LC50 (Rat, male and female): > 5,53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 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:

Species : Rabbit
Result : No skin irritation

Components:

Bifenthrin:

Species : Rabbit
Method : OECD Test Guideline 404
Result : slight or no skin irritation.
GLP : yes

kaolin:

Method : OECD Test Guideline 404
Result : No skin irritation

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

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

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Serious eye damage/eye irritation

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

Product:

Species	:	Rabbit
Result	:	slight irritation

Components:

Bifenthrin:

Species	:	Rabbit
Result	:	Slight or no eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes

kaolin:

Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

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

sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 7 days
Method	:	OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Product:

Species	:	Guinea pig
Result	:	Does not cause skin sensitization.

Components:

Bifenthrin:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406

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

kaolin:

Method : OECD Test Guideline 429
Result : Does not cause skin sensitization.

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.
Remarks : Based on data from similar materials

sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

Test Type : Maximization Test
Species : Guinea pig
Assessment : Does not cause skin sensitization.
Method : OECD Test Guideline 406
Result : negative

Germ cell mutagenicity

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

Components:

Bifenthrin:

Genotoxicity in vitro : Test Type: gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Result: negative

Test Type: reverse mutation assay
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: Mouse lymphoma assay
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: Sex-linked Recessive Lethal Test
Species: Drosophila melanogaster (vinegar fly)
Result: negative

Test Type: unscheduled DNA synthesis assay
Species: Rat
Method: OECD Test Guideline 486
Result: negative

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kaolin:

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Remarks: No data available

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Genotoxicity in vitro : Test Type: reverse mutation assay
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 471
Result: positive
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

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

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

Genotoxicity in vivo : Remarks: No data available

Carcinogenicity

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

Components:

Bifenthrin:

Species : Rat, female
Application Route : Oral
Exposure time : 2 Years
NOAEL : 3 mg/kg bw/day
Result : negative

Species : Mouse, male
Application Route : Oral
Exposure time : 18 month(s)
NOAEL : 7,6 mg/kg bw/day
Result : positive
Symptoms : malignant tumors

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Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Species	: Mouse, female
Application Route	: Dermal
Exposure time	: 78 weeks
Result	: negative
Remarks	: Based on data from similar materials

sodium 2-[methyloleoylamino]ethane-1-sulphonate:

Remarks	: This information is not available.
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Reproductive toxicity

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

Components:

Bifenthrin:

Effects on fertility	: Test Type: Two-generation study Species: Rat Application Route: Oral General Toxicity Parent: NOAEL: 3 mg/kg bw/day General Toxicity F1: NOAEL: 5 mg/kg bw/day Result: negative
Effects on fetal development	: Test Type: Embryo-fetal development Species: Rabbit Application Route: Oral General Toxicity Maternal: NOAEL: 2,7 mg/kg bw/day Teratogenicity: NOAEL: 2,7 mg/kg bw/day Symptoms: Maternal effects. Result: No teratogenic effects. Test Type: Embryo-fetal development Species: Rat Application Route: Oral General Toxicity Maternal: NOAEL: 1 mg/kg bw/day Teratogenicity: NOAEL: 2 mg/kg bw/day Result: No teratogenic effects. Species: Rat Application Route: Oral General Toxicity Maternal: LOAEL: 7,2 mg/kg bw/day Developmental Toxicity: LOAEL: 7,2 mg/kg bw/day Embryo-fetal toxicity.: NOEL: 9,0 mg/kg bw/day Method: OECD Test Guideline 426 Result: Animal testing did not show any effects on fertility., Some evidence of adverse effects on development, based on animal experiments.

kaolin:

Effects on fertility	: Remarks: No data available
Effects on fetal development	: Remarks: No data available

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sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

Effects on fertility : Test Type: Fertility
Species: Rat, male and female
General Toxicity Parent: NOAEL: 1.000 mg/kg body weight
Method: OECD Test Guideline 421
Remarks: No data available

Effects on fetal development : Test Type: Pre-natal
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 1.000 mg/kg body weight
Embryo-fetal toxicity.: NOAEL: 1.000 mg/kg body weight
Method: OECD Test Guideline 414

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

STOT-single exposure

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

Components:

kaolin:

Remarks : No significant adverse effects were reported

STOT-repeated exposure

Causes damage to organs (Nervous system) through prolonged or repeated exposure.

Product:

Target Organs : Nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Components:

Bifenthrin:

Target Organs : Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

kaolin:

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

Repeated dose toxicity

Components:

Bifenthrin:

Species : Rat, male and female

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NOEL : 100 ppm
Application Route : Oral - feed
Exposure time : 90 d
Remarks : No toxicologically significant effects were found.

Species : Dog, male and female
NOEL : 2,5 mg/kg bw/day
Application Route : Oral - feed
Exposure time : 13 w
Symptoms : Tremors

kaolin:

Remarks : No data available

sodium 2-[methyloleoylamino]ethane-1-sulphonate:

Species : Rat
NOAEL : 1.000 mg/kg
Application Route : Oral
Exposure time : 28 d
Method : OECD Test Guideline 407

Aspiration toxicity

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

Components:

Bifenthrin:

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

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks : No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Bifenthrin:

Toxicity to fish : LC50 (Salmo gairdneri): 0,00015 mg/l
Exposure time: 96 h
Test Type: flow-through test

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,00035 mg/l
Exposure time: 96 h

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Test Type: flow-through test

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,000256 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

LC50 (Pimephales promelas (fathead minnow)): 0,000234 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia): 0,00011 mg/l
Exposure time: 48 h

LC50 (Daphnia): 0,0016 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (algae): 0,822 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1.000

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0,00012 mg/l
Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0,0013 µg/l
Exposure time: 21 d

NOEC (Daphnia magna (Water flea)): 0,00095 µg/l
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 100.000

Toxicity to soil dwelling organisms : LD50 (Eisenia fetida (earthworms)): > 16 mg/kg
Exposure time: 14 d

Toxicity to terrestrial organisms : LD50 (Colinus virginianus (Bobwhite quail)): 1.800 mg/kg

LD50 (Anas platyrhynchos (Mallard duck)): > 2.150 mg/kg

LD50 (Apis mellifera (bees)): 0,1 - 0,35 µg/bee
Exposure time: 24 h
End point: Acute oral toxicity
Method: OECD Test Guideline 213

LD50 (Apis mellifera (bees)): 0,1 - 0,3 µg/bee

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Exposure time: 24 h
End point: Acute contact toxicity
Method: OECD Test Guideline 214

kaolin:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1.000 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: No data available
- Toxicity to microorganisms : Remarks: No data available

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

- Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10.000 mg/l
Exposure time: 24 h
Test Type: static test
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
- Toxicity to fish (Chronic toxicity) : NOELR (Oncorhynchus mykiss (rainbow trout)): 1.000 mg/l
Exposure time: 14 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211
- Toxicity to microorganisms : NOEL: > 1,93 mg/l
Exposure time: 0,16 h

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Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 1,32 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 5,76 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 117 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 2 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	:	EC50 (activated sludge): > 1.000 mg/l Method: OECD Test Guideline 209

Persistence and degradability

Components:

Bifenthrin:

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life (DT50): 2,2 d Hydrolysis: at 60 °C Degradation half life (DT50): 15,6 d Hydrolysis: at 40 °C

kaolin:

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
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Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Biodegradability	:	Result: Inherently biodegradable. Biodegradation: 31 % Exposure time: 28 d Method: OECD Test Guideline 301F
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sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 80 % Exposure time: 28 d Method: OECD Test Guideline 301B
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Bioaccumulative potential

Components:

Bifenthrin:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 1.709
Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.
See section 9 for octanol-water partition coefficient.

Partition coefficient: n-octanol/water : log Pow: 6,6

kaolin:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : Remarks: Not applicable

sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 2,9
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1,36
Method: OECD Test Guideline 117
Remarks: Not applicable

Mobility in soil

Components:

Bifenthrin:

Distribution among environmental compartments : Koc: 236610 ml/g, log Koc: 5,37
Remarks: immobile

kaolin:

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

sodium 2-[methyleoleoylamino]ethane-1-sulphonate:

Distribution among environmental compartments : Koc: 53,4 ml/g, log Koc: 1,72
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.

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Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Disposal methods

- | | | |
|------------------------|---|--|
| Waste from residues | : | The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company. |
| Contaminated packaging | : | Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers. |

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

- | | | |
|---------------------------|---|--|
| UN number | : | UN 3077 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Bifenthrin) |
| Class | : | 9 |
| Subsidiary risk | : | ENVIRONM. |
| Packing group | : | III |
| Labels | : | 9 (ENVIRONM.) |
| Environmentally hazardous | : | yes |

IATA-DGR

- | | | |
|--|---|--|
| UN/ID No. | : | UN 3077 |
| Proper shipping name | : | Environmentally hazardous substance, solid, n.o.s.
(Bifenthrin) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | Miscellaneous |
| Packing instruction (cargo aircraft) | : | 956 |
| Packing instruction (passenger aircraft) | : | 956 |
| Environmentally hazardous | : | yes |

IMDG-Code

- | | | |
|----------------------|---|--|
| UN number | : | UN 3077 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Bifenthrin) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| EmS Code | : | F-A, S-F |

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Marine pollutant : yes

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

Not applicable for product as supplied.

Special precautions for user

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

15. REGULATORY INFORMATION

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

Minister of Industry Regulation No. 23/M-IND/PER/4/2013 concerning the Revision of Minister of Industry Regulation No. 87/M-IND/PER/9/2009 concerning Globally Harmonized System of Classification and Labelling of Chemicals.

Regulation of the Minister of Health No. 472 of 1996 on the Safeguarding of Substances Hazardous to Health

Hazardous substances that must be registered : Not applicable

Government Regulation No. 74 of 2001 on the Management of Hazardous and Toxic Substances

Hazardous substances approved for use : Not applicable

Prohibited substances : Not applicable

Restricted substances : 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.

Bifenthrin
N-methyltaurine

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

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IECSC : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

16. OTHER INFORMATION

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Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ID OEL : Indonesia. Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average

ID OEL / NAB : Long term exposure limit

ID OEL / PSD : Short term exposure limit

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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