

SAFETY DATA SHEET



TALSTAR 10 WP

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	2021/08/06	50000371	Date of first issue: 2021/08/06

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TALSTAR 10 WP

Other means of identification : BRIGADE 10 WP
BRIGADE WSB
TALSTAR T&O 10 WP
TALSTAR WP

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 Agro Philippines, Inc.

Address : 5th Avenue cor. 26th Street,
Bonifacio Global City, Taguig City NCR 1634

Telephone : +63279443400

National Poison Control Center : U.P. PGH, Padre Faura, Manila (+63) 2 8524 1078
East Avenue, Quezon City (+63) 2 8928 0611
Southern Philippines Medical Center (+63) 82 227 2731
(formerly Davao Medical Center Davao City)

Emergency telephone : For leak, fire, spill or accident emergencies, call:
+(63) 2-395-3308 (CHEMTREC)

Medical emergency:
All other countries: +1 651 / 632-6793 (Collect)

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

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

Short-term (acute) aquatic hazard : Category 1

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Long-term (chronic) aquatic hazard : Category 1

GHS label elements

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/ fume/ gas/ mist/ vapors/ spray.
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)
kaolin	1332-58-7	>= 30 -< 50
bifenthrin (ISO)	82657-04-3	>= 10 -< 20
Quartz (SiO ₂)	14808-60-7	>= 1 -< 10
Distillates (petroleum), solvent-dewaxed light paraffinic	64742-56-9	>= 1 -< 10
titanium dioxide	13463-67-7	>= 1 -< 10
sodium 2-[methyloleoylamino]ethane-1-	137-20-2	>= 1 -< 10

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sulphonate		
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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 | : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician. |
| 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 | : Wear self-contained breathing apparatus for firefighting if nec- |

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for fire-fighters

essary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid dust formation.

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.

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	TWA (Respirable particulate matter)	2 mg/m ³	ACGIH
Quartz (SiO ₂)	14808-60-7	TWA (Respirable dust)	250 mppcf / %SiO ₂ +5	PH OEL

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		Further information: The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable., Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.		
		TWA (Respirable dust)	10 mg/m3 / %SiO ₂ +2	PH OEL
		TWA (Total dust)	30 mg/m3 / %SiO ₂	PH OEL
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH
Distillates (petroleum), solvent-dewaxed light paraffinic	64742-56-9	TWA (Mist)	5 mg/m3	PH OEL
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
titanium dioxide	13463-67-7	TWA	15 mg/m3	PH OEL
		TWA	10 mg/m3 (Titanium dioxide)	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

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pH	: 8.36 (25 °C)
Flash point	: Not applicable
Density	: 0.29 - 0.4 g/cm ³
Bulk density	: 288.4 - 400.5 kg/m ³
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 Assessment: The substance or mixture has no acute dermal toxicity

Components:

kaolin:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401
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LD50: > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LD50: 5.07 mg/l
Method: OECD Test Guideline 436

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

bifenthrin (ISO):

Acute oral toxicity : LD50 (Rat): 53.4 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0.8 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

LC50 (Rat, male): 1.01 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Quartz (SiO₂):

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

Acute inhalation toxicity : LC50 (Rat): > 5.01 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed light paraffinic:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.53 mg/l

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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

titanium dioxide:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male): 3.43 - 5.09 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

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

Not classified based on available information.

Product:

Species : Rabbit
Result : No skin irritation

Components:

kaolin:

Method : OECD Test Guideline 404
Result : No skin irritation

bifenthrin (ISO):

Species : Rabbit
Method : EPA OPP 81-5
Result : No skin irritation

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Quartz (SiO₂):

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

Distillates (petroleum), solvent-dewaxed light paraffinic:

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

titanium dioxide:

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

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

Species	:	Rabbit
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 irritation

Components:

kaolin:

Result	:	No eye irritation
Method	:	OECD Test Guideline 405

bifenthrin (ISO):

Species	:	Rabbit
Result	:	No eye irritation
Method	:	EPA OPP 81-4

Quartz (SiO₂):

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

Distillates (petroleum), solvent-dewaxed light paraffinic:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

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Remarks : Based on data from similar materials

titanium dioxide:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

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

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

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

Components:

kaolin:

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

bifenthrin (ISO):

Method : OECD Test Guideline 406
Result : May cause sensitization by skin contact.

Quartz (SiO₂):

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Method : OECD Test Guideline 429
Result : Does not cause skin sensitization.
Remarks : Based on data from similar materials

Distillates (petroleum), solvent-dewaxed light paraffinic:

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

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titanium dioxide:

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

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

Not classified based on available information.

Components:**kaolin:**

Genotoxicity in vitro	: Test Type: Ames test Method: OECD Test Guideline 471 Result: negative
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Genotoxicity in vivo	: Remarks: No data available
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bifenthrin (ISO):

Genotoxicity in vitro	: Test system: Chinese hamster ovary cells Result: negative
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Genotoxicity in vivo	: Test Type: Bone marrow chromosome aberration Species: Rat Result: negative
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Quartz (SiO₂):

Genotoxicity in vitro	: Test Type: reverse mutation assay Result: negative Remarks: Based on data from similar materials
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Genotoxicity in vivo	: Test Type: Micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials
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Distillates (petroleum), solvent-dewaxed light paraffinic:

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
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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

titanium dioxide:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative

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

Not classified based on available information.

Product:

Carcinogenicity - Assessment : This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.

Components:

kaolin:

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

bifenthrin (ISO):

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

Species : Mouse
Application Route : Oral

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Exposure time : 18 month(s)
NOAEL : 7.6 mg/kg bw/day
Result : positive

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

Distillates (petroleum), solvent-dewaxed light paraffinic:

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

titanium dioxide:

Species : Mouse, male and female
Application Route : Oral
Exposure time : 103 weeks
Result : negative

Species : Rat, male and female
Application Route : Inhalation
Exposure time : 2 Years
Result : negative

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

Remarks : This information is not available.

Reproductive toxicity

Not classified based on available information.

Components:

kaolin:

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

bifenthrin (ISO):

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: 3 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
Symptoms: Maternal effects.
Result: No teratogenic effects.

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Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

titanium dioxide:

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Oral
Method: OECD Test Guideline 414
Result: negative

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

Not classified based on available information.

Components:

kaolin:

Remarks : No significant adverse effects were reported

bifenthrin (ISO):

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:

kaolin:

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

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organ toxicant, repeated exposure.

bifenthrin (ISO):

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

Quartz (SiO₂):

Routes of exposure	:	Inhalation
Target Organs	:	Lungs
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Repeated dose toxicity

Components:

kaolin:

Remarks	:	No data available
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bifenthrin (ISO):

Species	:	Rat
LOAEL	:	7 - 9 mg/kg
Application Route	:	Oral
Exposure time	:	90 d

Quartz (SiO₂):

Species	:	Rat
	:	0.0025 mg/l
Application Route	:	Inhalation
Exposure time	:	90 day
Method	:	OECD Test Guideline 413
Target Organs	:	Lungs
Remarks	:	Based on data from similar materials

titanium dioxide:

Species	:	Rat
NOAEL	:	1,000 mg/kg
Application Route	:	Ingestion
Method	:	OECD Test Guideline 408

Species	:	Mouse, female
	:	0.0108 mg/l
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	13 weeks

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

Species	:	Rat
NOAEL	:	1,000 mg/kg
Application Route	:	Oral

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Exposure time : 28 d
Method : OECD Test Guideline 407

Aspiration toxicity

Not classified based on available information.

Components:

bifenthrin (ISO):

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

Distillates (petroleum), solvent-dewaxed light paraffinic:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks : No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

bifenthrin (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.15
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.11
Exposure time: 48 h

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Toxicity to algae/aquatic plants	:	EC50 (algae): 0.822 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10,000
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 (Crustaceans): 0.0013 Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	100,000
Toxicity to soil dwelling organisms	:	(Eisenia fetida (earthworms)): > 18.9 mg/kg Exposure time: 14 d
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): 1,800 mg/kg
		LD50 (Apis mellifera (bees)): 0.015 µg/bee Remarks: Contact
		LD50 (Apis mellifera (bees)): 0.1 µg/bee Remarks: Oral

Quartz (SiO₂):

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 10,000 mg/l Exposure time: 72 h
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Distillates (petroleum), solvent-dewaxed light paraffinic:

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	:	(Daphnia magna (Water flea)): 10 mg/l

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aquatic invertebrates (Chronic toxicity) : 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

titanium dioxide:

Toxicity to fish : LC50 (Carassius auratus (goldfish)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,000 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Lemna minor (duckweed)): > 100 mg/l
Exposure time: 7 d

Toxicity to microorganisms : EC50: >= 1,000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition

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

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:

kaolin:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

bifenthrin (ISO):

Biodegradability : Result: Not readily biodegradable.

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Quartz (SiO₂):

Biodegradability : Result: Not biodegradable.

Distillates (petroleum), solvent-dewaxed light paraffinic:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

titanium dioxide:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

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

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

Bioaccumulative potential

Components:

kaolin:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

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

bifenthrin (ISO):

Bioaccumulation : Species: *Lepomis macrochirus* (Bluegill sunfish)
Bioconcentration factor (BCF): 1,414
Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.
See section 9 for octanol-water partition coefficient.

Quartz (SiO₂):

Bioaccumulation : Remarks: Does not bioaccumulate.

sodium 2-[methyloleoylamino]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

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Mobility in soil

Components:

kaolin:

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

bifenthrin (ISO):

Distribution among environmental compartments : Remarks: immobile

Stability in soil : Dissipation time: 86 d

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

Distribution among environmental compartments : Koc: 53.4

Other adverse effects

Product:

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 : 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

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Labels : 9 (ENVIRONM.)

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
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

Priority Chemical List (PCL) : Not applicable

Chemical Control Order (CCO) : 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.

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bifenthrin (ISO)
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
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory

16. OTHER INFORMATION

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
PH OEL	:	Philippines. Threshold Limit Values For Airborne Contaminants

ACGIH / TWA	:	8-hour, time-weighted average
PH OEL / TWA	:	Threshold limit for airborne contaminants

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 Tem-

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perature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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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