

Material Safety Data Sheet

FLORAMITE® SC MITICIDE

Version 1.12 Revision Date: 14.05.2015 MSDS Number: 400000003977 Country: CA
Language: EN

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : FLORAMITE® SC MITICIDE

Product code : 400000003977

Chemical nature : Miticide

Manufacturer or supplier's details

Company name of supplier : MacDermid Agricultural Solutions, Inc

Address : 245 Freight St
Waterbury, CT United States of America 06702

Telephone : (800) 423-8569

Recommended use of the chemical and restrictions on use

Recommended use : Plant protection agent

Restrictions on use : Agriculture, For professional users only.

Prepared by :
Regulatory.Affairs@AgripharCropSolutions.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!	
Appearance	liquid
Colour	off-white, to, tan
Odour	slight, sweet
Hazard Summary	<p>This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS supplier labeling and MSDS requirements. Please read entire MSDS and product label for safety precautions.</p> <p>May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.</p>

WHMIS Regulatory status : This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS supplier labeling and MSDS requirements. Please read entire MSDS and product label for safety precautions.

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Potential Health Effects

Skin : May cause allergic skin reaction.

Aggravated Medical Condition : None known.

Symptoms of Overexposure : irritant effects
sensitising effects
Symptoms may be delayed.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Miticide

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
Bifenazate	149877-41-8	>= 20 - < 30

SECTION 4. FIRST AID MEASURES

If inhaled : Remove to fresh air.
If not breathing, give artificial respiration.
Obtain medical attention.

In case of skin contact : Wash off with warm water and soap.
Remove contaminated clothing and shoes.
Wash clothing before reuse.
If symptoms persist, call a physician.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water
for at least 15 minutes.
Obtain medical attention.

If swallowed : If victim is fully conscious, give a cupful of water.
Do not induce vomiting without medical advice.
Get medical attention immediately.
Do not give milk, alcoholic beverages or castor oil.

Notes to physician : The first aid procedure should be established in consultation
with the doctor responsible for industrial medicine.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Extinguishing media - large fires

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Alcohol-resistant foam
(on small fires)
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media	: Water spray jet
Specific hazards during fire-fighting	: No information available.
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	: Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Complete suit protecting against chemicals Full protective flameproof clothing

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Wear suitable protective equipment. Avoid contact with skin and eyes.
Environmental precautions	: Do not allow material to contaminate ground water system.
Methods and materials for containment and cleaning up	: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dam up. Large spills should be collected mechanically (remove by pumping) for disposal. In accordance with local and national regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	: Avoid inhalation, ingestion and contact with skin and eyes. Use only in area provided with appropriate exhaust ventilation. Wash thoroughly after handling.
Conditions for safe storage	: Keep in a dry, cool place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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Engineering measures : effective ventilation in all processing areas
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : Impervious gloves

Eye protection : Safety glasses with side-shields

Skin and body protection : impervious clothing

Hygiene measures : Ensure adequate ventilation, especially in confined areas.
Remove and wash contaminated clothing before re-use.
Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: off-white, to, tan
Odour	: slight, sweet
Odour Threshold	: No data available
pH	: 5 - 9
Melting point/range	: Not applicable
Boiling point/boiling range	: > 100 °C
Flash point	: does not flash
Evaporation rate	: No data available
Upper explosion limit	: Not explosive
Lower explosion limit	: Not explosive
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: 1.050 - 1.070 (25 °C)

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Density	: > 1 g/cm ³
Solubility(ies)	
Water solubility	: dispersible
Solubility in other solvents	: Description: miscible with most organic solvents
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: > 399 °C
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: 300 - 700 mPa.s (20 °C)
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Self-Accelerating decomposition temperature (SADT)	: Method: No information available.
Surface tension	: 42.1 mN/m, 25 °C
Oxidising potential	: The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: Carbon oxides Nitrogen oxides (NO _x)

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

- | | |
|---------------------------|---|
| Acute oral toxicity | : LD50 (Rat, male): > 5,000 mg/kg
GLP: yes

LD50 (Rat, female): > 2,000 mg/kg
GLP: yes |
| Acute inhalation toxicity | : LC50 (Rat): > 1.94 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration. |
| Acute dermal toxicity | : LD50 Dermal (Rabbit): > 5,000 mg/kg
GLP: yes |

Components:

Bifenazate:

- | | |
|---------------------------|--|
| Acute oral toxicity | : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

LD50 (Mouse, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes |
| Acute inhalation toxicity | : LC50 (Rat, male and female): > 4.4 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration. |
| Acute dermal toxicity | : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes |

Skin corrosion/irritation

Product:

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Species: Rabbit
Result: No skin irritation
GLP: yes

Components:

Bifenazate:

Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: No eye irritation
GLP: yes

Components:

Bifenazate:

Species: Rabbit
Result: No eye irritation
Exposure time: 48 h
Method: OECD Test Guideline 405
GLP: yes

Respiratory or skin sensitisation

Product:

Species: Guinea pig
Assessment: May cause sensitisation by skin contact.
GLP: yes

Components:

Bifenazate:

Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Assessment: May cause sensitisation by skin contact.
Method: OECD Test Guideline 406
GLP: yes

Germ cell mutagenicity

Components:

Bifenazate:

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

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: Test Type: In Vitro mammalian Cell Gene Mutation Test
Metabolic activation: with and without metabolic activation
Result: negative
GLP: yes

: Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

Bifenazate:

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

Reproductive toxicity

Components:

Bifenazate:

Reproductive toxicity - Assessment : No toxicity to reproduction
No effects on or via lactation

STOT - single exposure

Product:

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

Components:

Bifenazate:

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

STOT - repeated exposure

Product:

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

Components:

Bifenazate:

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

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 1.4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 1.4 mg/l Exposure time: 48 h
Toxicity to algae	: EC50 (Algae): 1.3 mg/l Exposure time: 72 h

Components:

Bifenazate:

Toxicity to fish	: LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.58 mg/l Exposure time: 96 h Test Type: flow-through test GLP: yes LC50 (Oncorhynchus mykiss (rainbow trout)): 0.76 mg/l Exposure time: 96 h Test Type: flow-through test GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0.5 mg/l Exposure time: 48 h Test Type: flow-through test GLP: yes LC50 (Crassostrea virginica): 0.42 mg/l Exposure time: 96 h Test Type: flow-through test GLP: yes
Toxicity to algae	: IC50 (Lemna gibba): > 3.82 mg/l Exposure time: 7 d Analytical monitoring: yes GLP: yes NOEC (Lemna gibba): > 3.82 mg/l Exposure time: 7 d Analytical monitoring: yes GLP: yes NOEC (Selenastrum capricornutum (green algae)): 0.25 mg/l Exposure time: 96 h GLP: yes

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ErC50 (*Selenastrum capricornutum* (green algae)): > 2.02 mg/l

Exposure time: 96 h

GLP: yes

EbC50 (*Selenastrum capricornutum* (green algae)): 0.9 mg/l

Exposure time: 96 h

GLP: yes

NOEC (*Navicula pelliculosa*): 0.52 mg/l

Exposure time: 96 h

GLP: yes

EbC50 (*Navicula pelliculosa*): 0.82 mg/l

Exposure time: 96 h

GLP: yes

ErC50 (*Navicula pelliculosa*): 1.4 mg/l

Exposure time: 96 h

GLP: yes

NOEC(b) (*Anabaena flos-aquae* (cyanobacterium)): 0.53 mg/l

Exposure time: 96 h

GLP: yes

NOEC(r) (*Anabaena flos-aquae* (cyanobacterium)): 1.13 mg/l

Exposure time: 96 h

GLP: yes

EbC50 (*Anabaena flos-aquae* (cyanobacterium)): 1.8 mg/l

Exposure time: 96 h

GLP: yes

ErC50 (*Anabaena flos-aquae* (cyanobacterium)): > 4.48 mg/l

Exposure time: 96 h

GLP: yes

NOEC (*Skeletonema costatum*): 0.2 mg/l

Exposure time: 96 h

GLP: yes

EbC50 (*Skeletonema costatum*): 0.3 mg/l

Exposure time: 96 h

GLP: yes

ErC50 (*Skeletonema costatum*): 0.36 mg/l

Exposure time: 96 h

GLP: yes

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (*Oncorhynchus mykiss* (rainbow trout)): 0.017 mg/l
Exposure time: 87 d

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Test Type: flow-through test
Analytical monitoring: yes
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.15 mg/l
Exposure time: 21 d
Analytical monitoring: yes
GLP: yes

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1,250 mg/kg
Exposure time: 14 d
GLP: yes

NOEC (Eisenia fetida (earthworms)): 95 mg/kg
Exposure time: 14 d
GLP: yes

Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): 8.50 µg/bee
Exposure time: 48 h
End point: mortality
GLP: yes

Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.
Remarks: Not readily biodegradable.

Components:

Bifenazate:

Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.

Bioaccumulative potential

Components:

Bifenazate:

Partition coefficient: n-octanol/water : log Pow: 3.4 (25 °C)

Mobility in soil

Product:

Mobility : Remarks: No data available

Other adverse effects

Product:

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Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
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.
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Bifenazate)
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.
(Bifenazate)
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.

National Regulations

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TDG

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenazate)
Class	: 9
Packing group	: III
Labels	: 9
ERG Code	: 171
Marine pollutant	: no
Remarks	: Not regulated by DOT and TDG if shipped or transported in packaging less than 450 liters by road and/or rail.
Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : D2B: Toxic Material Causing Other Toxic Effects
This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS supplier labeling and MSDS requirements. Please read entire MSDS and product label for safety precautions.

EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 311/312 Hazards : Chronic Health Hazard

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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Carechem24 International Worldwide Coverage

Emergency Phone Number

<u>Europe:</u>	All European Countries	+44 (0) 1235 239 670 (NCEC)
<u>Asia Pacific:</u>	East / South East Asia – Regional Number	+65 3158 1074
	Australia	+61 2801 44558
	New Zealand	+64 9929 1483
	China	+86 532 8388 9090
	China Taiwan	+86 10 5100 3039
	Japan	+81 345 789 341
	Indonesia	00780 3011 0293
	Malaysia	+60 3 6207 4347
	Thailand	001800 1 2066 6751
	Korea	+65 3158 1285 +82 (0)234 798 401
	Vietnam	+65 3158 1255
	India	+65 3158 1198 +91 1166 411 405
	Pakistan	+65 3158 1329
	Philippines	+65 31581203
	Sri Lanka	+65 3158 1195
	Emergency Phone Number	+65 3158 1200
<u>Middle East / Africa:</u>	Arabic speaking countries	+44 (0) 1235 239 671
	South Africa	+27 21 300 2732
	All other countries	+44 (0) 1235 239 670
<u>America</u>	United States of America and Canada	+1866 928 0789 +1 215 207 0061
<u>Latin America:</u>	Brazil	+55 113 711 9144
	Mexico	+52 555 004 8763
	Chile	+56 225 829 336
	All other countries	+44 (0) 1235 239 670