SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

TEMPEST®

Version	Revision Date:	SDS Number:	Date of last issue: 12/07/2023
1.1	01/05/2024	50002073	Date of first issue: 12/07/2023

SECTION 1. IDENTIFICATION

Product identifier
Product name TEMPEST®

Other means of identification
Product code 50002073

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.

Details of the supplier of the safety data sheet
Manufacturer
FMC Corporation
2929 WALNUT ST
PHILADELPHIA PA 19104
USA
(215) 299-6000
SDS-Info@fmc.com

Emergency telephone
For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral)	:	Category 3
Acute toxicity (Inhalation)	:	Category 4
Specific target organ toxicity - single exposure	:	Category 1 (Central nervous system)
Specific target organ toxicity - repeated exposure	:	Category 1 (Central nervous system)

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H301 Toxic if swallowed.
H332 Harmful if inhaled.
H370 Causes damage to organs (Central nervous system).
H372 Causes damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P260 Do not breathe mist or vapors.
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.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. 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.
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.

Storage:

P405 Store locked up.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
imidacloprid (ISO)	138261-41-3	11.3
Bifenthrin	82657-04-3	11.3
propane-1,2-diol	57-55-6	>= 5 - < 10
Sodium alkyl naphthalene sulfonate	68425-94-5	>= 1 - < 5

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

Consult a physician.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.

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

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
Get medical attention if irritation develops and 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 induce vomiting without medical advice.
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 : Toxic if swallowed.
Harmful if inhaled.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical, CO2, water spray or regular 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 : Fire may produce irritating, corrosive and/or toxic gases.
Halogenated compounds

Carbon oxides
Nitrogen oxides (NOx)
Fluorinated compounds
Chlorinated compounds
Hydrogen chloride
Hydrogen fluoride

Further information	:	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	:	Use personal protective equipment. Ensure adequate ventilation. Never return spills in original containers for re-use. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene. For disposal considerations see section 13.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

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 contact with skin and eyes. 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.
Conditions for safe storage	:	Prevent unauthorized access. 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
propane-1,2-diol	57-55-6	TWA	10 mg/m3	US WEEL

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

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 : 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.
Always have on hand a first-aid kit, together with proper instructions.
Ensure that eye flushing systems and safety showers are located close to the working place.
Wear suitable protective equipment.

Hygiene measures : Avoid contact with skin, eyes and clothing.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	white, to, tan
Odor	:	No data available
Odor Threshold	:	No data available
pH	:	7.0 Concentration: 1 % (1% solution in water)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	> 212 °F / 100 °C
Evaporation rate	:	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	:	No data available
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	dispersible
Solubility in other solvents	:	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	:	No data available
Oxidizing properties	:	No data available

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. Protect from frost, heat and sunlight.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	Carbon oxides Hydrogen fluoride Hydrogen chloride gas

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Toxic if swallowed.
Harmful if inhaled.

Product:

Acute oral toxicity	:	LD50 Oral (Rat): 175 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 2.32 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 5,000 mg/kg

Components:

imidacloprid (ISO):

Acute oral toxicity	:	LD50 (Rat, female): 379 mg/kg Method: OECD Test Guideline 401

LD50 (Rat, male): 504 mg/kg
Method: OECD Test Guideline 401

LD50 (Mouse, female): 168 mg/kg
Method: OECD Test Guideline 401

LD50 (Mouse, male): 131 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, female): 450 - 475 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, male): 425 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, male): 642 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, female): 648 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.32 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402

Bifenthrin:

Acute oral toxicity : LD50 (Rat, male and female): 50.2 - 58.8 mg/kg
Symptoms: Convulsions, Tremors

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

propane-1,2-diol:

Acute oral toxicity : LD50 (Rat, male and female): 22,000 mg/kg

Acute inhalation toxicity : LC0 (Rabbit): 31.7 mg/l

Exposure time: 2 h
Test atmosphere: vapor
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Sodium alkyl naphthalene sulfonate:
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

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

Product:

Assessment : Not classified as irritant
Result : No skin irritation

Components:

imidacloprid (ISO):

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

Bifenthrin:

Species : Rabbit
Result : slight or no skin irritation.
GLP : yes

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

propane-1,2-diol:

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

Sodium alkyl naphthalene sulfonate:

Remarks : No data available

Serious eye damage/eye irritation

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

Product:

Species : Rabbit
Result : slight irritation

Assessment : Not classified as irritant

Components:

imidacloprid (ISO):

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

Bifenthrin:

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

propane-1,2-diol:

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

Sodium alkyl naphthalene sulfonate:

Result : Eye irritation

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:

Assessment : Did not cause sensitization on laboratory animals.
Result : Not a skin sensitizer.

Components:

imidacloprid (ISO):

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

Bifenthrin:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitization by skin contact.
GLP : yes

propane-1,2-diol:

Test Type	:	Maximization Test
Species	:	Guinea pig
Result	:	negative

Germ cell mutagenicity

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

Components:

imidacloprid (ISO):

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Test system: Chinese hamster cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: yes
Genotoxicity in vivo	:	Test Type: Cytogenetic assay Species: Chinese hamster Result: negative GLP: yes
Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

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

propane-1,2-diol:

Genotoxicity in vitro	:	Test Type: reverse mutation assay

Result: negative

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

Carcinogenicity

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

Components:

imidacloprid (ISO):

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

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

propane-1,2-diol:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	2 Years
Result	:	negative

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

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

Components:

imidacloprid (ISO):

Effects on fertility : Method: OECD Test Guideline 416
Result: Animal testing did not show any effects on fertility.

Effects on fetal development	:	Method: OECD Test Guideline 414 Result: No teratogenic effects.
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

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.

propane-1,2-diol:

Effects on fertility	:	Test Type: reproductive and developmental toxicity study Species: Mouse Application Route: Oral Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Mouse Application Route: Oral Method: OECD Test Guideline 414 Result: Animal testing did not show any effects on fertility. Remarks: Based on data from similar materials

STOT-single exposure

Causes damage to organs (Central nervous system).

Components:

imidacloprid (ISO):

Remarks : No significant adverse effects were reported

Bifenthrin:

Target Organs : Central nervous system
Assessment : Causes damage to organs.

STOT-repeated exposure

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

Components:

imidacloprid (ISO):

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

Bifenthrin:

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

Repeated dose toxicity

Components:

imidacloprid (ISO):

Species : Rat, female
NOAEL : 83.3 mg/kg
Application Route : Oral
Exposure time : 96 d
Method : OECD Test Guideline 408
Symptoms : Reduced body weight, Liver effects

Species : Rat, male
NOAEL : 14 mg/kg
Application Route : Oral
Exposure time : 96 d
Method : OECD Test Guideline 408
Symptoms : Reduced body weight

Bifenthrin:

Species : Rat, male and female
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

propane-1,2-diol:

Species : Rat, male and female
NOAEL : 1,700 mg/kg
Application Route : Oral
Exposure time : 2 Years

Species : Rat, male and female
NOAEL : 1,000 mg/kg
LOAEL : 160 mg/kg
Application Route : Inhalation
Exposure time : 90 Days

Aspiration toxicity

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

Components:

imidacloprid (ISO):

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

Bifenthrin:

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

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

imidacloprid (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 211 mg/l
Exposure time: 96 h
Test Type: semi-static test

LC50 (Leuciscus idus (Golden orfe)): 237 mg/l
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): > 105 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 85 mg/l
Exposure time: 48 h

LC50 (Hyalella azteca (Amphipod)): 0.526 mg/l
Exposure time: 96 h

EC50 (Americamysis bahia (mysid shrimp)): 0.0341 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC (Salmo gairdneri): 28.5 mg/l
Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.8 mg/l
Exposure time: 21 d
Test Type: semi-static test
GLP: yes

EC10 (Chironomus riparius (harlequin fly)): 0.00209 mg/l
Exposure time: 28 d

Toxicity to microorganisms : IC50 (activated sludge): >10000

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 10.7 mg/kg dry weight (d.w.)
Exposure time: 14 d

Toxicity to terrestrial organisms : LD50 (Coturnix japonica (Japanese quail)): 31 mg/kg

LD50 (Apis mellifera (bees)): 0.0081 µg/bee
Exposure time: 48 h

LD50 (Apis mellifera (bees)): 0.0037 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity

LD50 (Coturnix japonica (Japanese quail)): 2,225 ppm
Exposure time: 5 d

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

		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
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
Toxicity to soil dwelling organisms	:	LD50 (Eisenia fetida (earthworms)): > 16 mg/kg Exposure time: 14 d Method: OECD Test Guideline 216 Remarks: No significant adverse effect on Nitrogen mineralization.
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 Exposure time: 24 h End point: Acute contact toxicity

Method: OECD Test Guideline 214

propane-1,2-diol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	(Mysidopsis bahia (opossum shrimp)): 18,800 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 34,100 mg/l Exposure time: 48 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 13,020 mg/l Exposure time: 7 d
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): > 20,000 mg/l Exposure time: 18 h

Sodium alkyl naphthalene sulfonate:

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

Persistence and degradability

Components:

imidacloprid (ISO):

Biodegradability : Result: Not readily biodegradable.

Bifenthrin:

Biodegradability : Result: Not readily biodegradable.

propane-1,2-diol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 23.6 %
Exposure time: 64 d
Method: OECD Test Guideline 306

Sodium alkyl naphthalene sulfonate:

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

Bioaccumulative potential

Components:

imidacloprid (ISO):

Bioaccumulation : Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : log Pow: 0.7 (75 °F / 24 °C)

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

propane-1,2-diol:

Partition coefficient: n-octanol/water : log Pow: -1.07

Mobility in soil

Components:

imidacloprid (ISO):

Distribution among environ- : Koc: 109 - 411

mental compartments | Remarks: Mobile in soils

Bifenthrin:

Distribution among environmental compartments : Koc: 236610 ml/g, log Koc: 5.37
Remarks: immobile

Stability in soil :

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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.

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

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3352
Proper shipping name : PYRETHROID PESTICIDE, LIQUID, TOXIC (Bifenthrin, Imidacloprid)
Class : 6.1
Packing group : III
Labels : 6.1
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3352

Proper shipping name	:	Pyrethroid pesticide, liquid, toxic (Bifenthrin, Imidacloprid)
Class	:	6.1
Packing group	:	III
Labels	:	Toxic
Packing instruction (cargo aircraft)	:	663
Packing instruction (passenger aircraft)	:	655
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3352
Proper shipping name	:	PYRETHROID PESTICIDE, LIQUID, TOXIC (Bifenthrin, Imidacloprid)
Class	:	6.1
Packing group	:	III
Labels	:	6.1
EmS Code	:	F-A, S-A
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

49 CFR Road

UN/ID/NA number	:	UN 3352
Proper shipping name	:	Pyrethroid pesticide, liquid toxic (Bifenthrin, Imidacloprid)
Class	:	6.1
Packing group	:	III
Labels	:	TOXIC
ERG Code	:	151
Marine pollutant	:	yes

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Bifenthrin	82657-04-3	>= 10 - < 20 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

propane-1,2-diol	57-55-6	>= 5 - < 10 %

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

water	7732-18-5
imidacloprid (ISO)	138261-41-3
Bifenthrin	82657-04-3
SILWET VBS-JT	Not Assigned
propane-1,2-diol	57-55-6

Maine Chemicals of High Concern

octamethylcyclotetrasiloxane [D4]	556-67-2

Vermont Chemicals of High Concern

octamethylcyclotetrasiloxane [D4]	556-67-2

Washington Chemicals of High Concern

Product does not contain any listed chemicals

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

TCSI : Not in compliance with the inventory

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

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

2-METHYLBIPHENYL-3-YLMETHYL (Z)-(1RS,3RS)-3-(2-CHLORO-3,3,3-TRIFLUOROPROP-1-ENYL)-2,2-DIMETHYLCYCLOPROPANECARBOXYLATE

imidacloprid (ISO)

SILWET VBS-JT

Smectite-group minerals

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

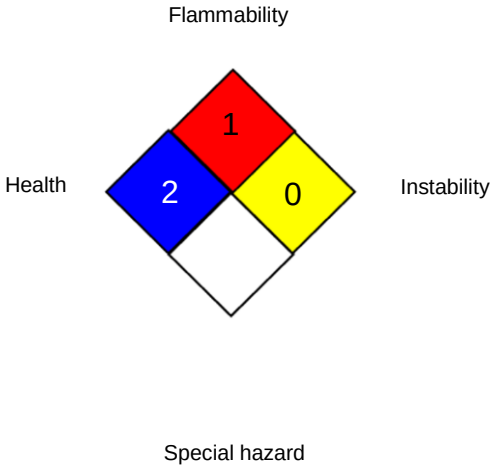
TSCA list
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

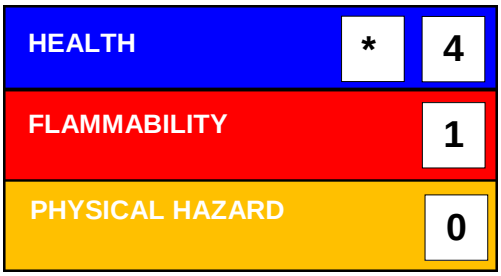
Further information

NFPA 704:



0 No health threat, **1** Slightly Hazardous, **2** Hazardous, **3** Extreme danger, **4** Deadly

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA	:	8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ -

Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. You can contact FMC Corporation to insure that this document is the most current available from FMC Corporation. No warranty of fitness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. Since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

US / EN

Prepared by:

FMC Corporation

End of Material Safety Data Sheet