

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Talstar XTRA Granular Insecticide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08/04/2025	11568062-00001	Date of first issue: 08/04/2025

SECTION 1. IDENTIFICATION

Product name : Talstar XTRA Granular Insecticide

Product code : Article/SKU: D00001579 UVP: DU000000099 Specification: 102D00000407 EPA Registration No: 101563-388

Manufacturer or supplier's details

Company name of supplier : Environmental Science U.S. LLC.

Address : 5000 Centregreen Way, Suite 400
Cary NC 27513

Telephone : 1-800-331-2867

Emergency telephone : +1 703-741-5970

E-mail address : uscontact@envu.com

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

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

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Sub-category 1B

Carcinogenicity : Category 2

Specific target organ toxicity : Category 2 (Liver, Thyroid)
- repeated exposure

Other hazards

None known.

GHS label elements

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Hazard pictograms

:



Signal Word

:

Warning

Hazard Statements

:

H302 + H332 Harmful if swallowed or if inhaled.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs (Liver, Thyroid) through prolonged or repeated exposure.

Precautionary Statements

:

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust, fume, gas, mist, vapors or 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.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves, protective clothing, eye protection and face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical attention.
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P337 + P313 If eye irritation persists: Get medical attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

P405 Store locked up.

Disposal:

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Substance / Mixture : Mixture

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Bentonite	1302-78-9*	$\geq 85 - < 90$	-
2-Methylpentane-2,4-diol	107-41-5*	$\geq 5 - < 10$	-
Quartz	14808-60-7*	$\geq 3 - < 5$	-
Diisopropyl-1,1'-biphenyl	69009-90-1*	$\geq 1 - < 3$	-
Bifenthrin	82657-04-3*	0.2	-
Cypermethrin cis/trans +/- 40/60	52315-07-8*	0.05	-

* Indicates that the identifier is a CAS No.

SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed or if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.

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Suspected of causing cancer.
May cause 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 personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Silicon oxides

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

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Methods and materials for containment and cleaning up : Surround spill with absorbents and place a damp covering over the area to minimize entry of the material into the air. Add excess liquid to allow the material to enter into solution. Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing. Avoid breathing dust, fume, gas, mist, vapors or spray. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labeled containers. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types: Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-Methylpentane-2,4-diol	107-41-5	TWA (Vapor)	25 ppm	ACGIH

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		STEL (Vapor)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m ³	ACGIH
		C	25 ppm 125 mg/m ³	NIOSH REL
Quartz	14808-60-7	TWA (Respirable dust)	0.05 mg/m ³	OSHA Z-1
		TWA (respirable)	10 mg/m ³ / %SiO ₂ +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO ₂ +5	OSHA Z-3

Engineering measures : Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety goggles

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

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Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Contaminated work clothing should not be allowed out of the workplace.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: granules
Color	: gray
Odor	: mild, solvent
Odor Threshold	: No data available
pH	: 7.0 Concentration: 5 % deionized water
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: Not classified as a flammability hazard
Upper explosion limit / Upper flammability limit	: Not applicable
Lower explosion limit / Lower flammability limit	: Not applicable
Vapor pressure	: Not applicable
Relative vapor density	: Not applicable
Relative density	: No data available
Density	: No data available

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Bulk density	: 887.9 kg/m ³
Solubility(ies) Water solubility	: dispersible
Partition coefficient: n-octanol/water	: Not applicable
Autoignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity Viscosity, kinematic	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Particle characteristics Particle size	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Can react with strong oxidizing agents.
Conditions to avoid	: None known.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin contact
Ingestion
Eye contact

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	: LD50 (Rat): 550 mg/kg
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Acute inhalation toxicity : LC50 (Rat): > 2.11 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Components:

Bentonite:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 425

Acute inhalation toxicity : LC50 (Rat): > 5.27 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436

2-Methylpentane-2,4-diol:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 420

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Quartz:

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

Diisopropyl-1,1'-biphenyl:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Bifenthrin:

Acute oral toxicity : LD50 (Mouse, female): 42.5 mg/kg
Method: US EPA Test Guideline OPP 81-1

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

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

Cypermethrin cis/trans +/- 40/60:

Acute oral toxicity : Acute toxicity estimate: 500 mg/kg
Method: Expert judgment

Acute inhalation toxicity : LC50 (Rat): 2.5 mg/l

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Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): 4,920 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Result : Skin irritation

Components:

Bentonite:

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

2-Methylpentane-2,4-diol:

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

Diisopropyl-1,1'-biphenyl:

Species : Rabbit
Result : Skin irritation
Remarks : Based on data from similar materials

Bifenthrin:

Species : Rabbit
Result : No skin irritation

Cypermethrin cis/trans +/- 40/60:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Result : Irritation to eyes, reversing within 21 days

Components:

Bentonite:

Species : Rabbit
Result : No eye irritation

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Method : OECD Test Guideline 405

2-Methylpentane-2,4-diol:

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

Diisopropyl-1,1'-biphenyl:

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

Bifenthrin:

Species : Rabbit
Result : No eye irritation

Cypermethrin cis/trans +/- 40/60:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Product:

Assessment : Probability or evidence of low to moderate skin sensitization rate in humans

Components:

Bentonite:

Routes of exposure : Skin contact
Species : Mouse
Result : negative

2-Methylpentane-2,4-diol:

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

Diisopropyl-1,1'-biphenyl:

Test Type : Maximization Test
Routes of exposure : Skin contact

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Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

Bifenthrin:

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

Assessment : Probability or evidence of low to moderate skin sensitization rate in humans

Cypermethrin cis/trans +/- 40/60:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Bentonite:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

2-Methylpentane-2,4-diol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Diisopropyl-1,1'-biphenyl:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

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Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Bifenthrin:

Genotoxicity in vitro

: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: Regulation (EC) No. 440/2008, Annex, B.17
Result: positive

Test Type: Chromosome aberration test in vitro
Method: Directive 67/548/EEC, Annex V, B.10.
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Method: OECD Test Guideline 479
Result: negative

Genotoxicity in vivo

: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Ingestion
Method: Regulation (EC) No. 440/2008, Annex, B.11
Result: negative

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 486
Result: negative

Cypermethrin cis/trans +/- 40/60:

Genotoxicity in vitro

: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

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Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Suspected of causing cancer.

Components:

Bifenthrin:

Species : Mouse
Application Route : Ingestion
Exposure time : 104 weeks
Result : positive

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Cypermethrin cis/trans +/- 40/60:

Species : Rat
Application Route : Ingestion
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

Not classified based on available information.

Components:

Bentonite:

Effects on fertility : Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

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2-Methylpentane-2,4-diol:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 443
Result: negative

Bifenthrin:

Effects on fertility : Test Type: Four-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Ingestion
Result: negative

Cypermethrin cis/trans +/- 40/60:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: Regulation (EC) No. 440/2008, Annex, B.35
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Method: Regulation (EC) No. 440/2008, Annex, B.31
Result: negative

STOT-single exposure

Not classified based on available information.

Components:

Cypermethrin cis/trans +/- 40/60:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs (Liver, Thyroid) through prolonged or repeated exposure.

Components:

Diisopropyl-1,1'-biphenyl:

Routes of exposure : Ingestion
Target Organs : Liver, Thyroid
Assessment : Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

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Bifenthrin:

Routes of exposure	:	Ingestion
Target Organs	:	Nervous system
Assessment	:	Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

Cypermethrin cis/trans +/- 40/60:

Routes of exposure	:	Ingestion
Target Organs	:	Nervous system
Assessment	:	Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Repeated dose toxicity

Components:

Bentonite:

Species	:	Mouse
NOAEL	:	500 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

2-Methylpentane-2,4-diol:

Species	:	Rat
NOAEL	:	>= 450 mg/kg
Application Route	:	Ingestion
Exposure time	:	13 Weeks
Method	:	OECD Test Guideline 408

Diisopropyl-1,1'-biphenyl:

Species	:	Rat
LOAEL	:	35 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Method	:	OECD Test Guideline 407

Bifenthrin:

Species	:	Rat, male
NOAEL	:	3.4 mg/kg
LOAEL	:	7.5 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Cypermethrin cis/trans +/- 40/60:

Species	:	Rat
NOAEL	:	20 mg/kg
LOAEL	:	80 mg/kg
Application Route	:	Ingestion

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Exposure time : 90 Days
Method : OECD Test Guideline 409

Aspiration toxicity

Not classified based on available information.

Components:

Diisopropyl-1,1'-biphenyl:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

2-Methylpentane-2,4-diol:

Eye contact : Target Organs: Eyes
Symptoms: Irritation

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Bentonite:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 16,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : ErC50: > 100 mg/l
plants Exposure time: 72 h

2-Methylpentane-2,4-diol:

Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 8,510 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Ceriodaphnia dubia (water flea)): 2,800 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Raphidocelis subcapitata (freshwater green alga)): >
plants 429 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EC10 (Raphidocelis subcapitata (freshwater green alga)): >
429 mg/l
Exposure time: 72 h

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Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 25 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : NOEC (Bacteria): 200 mg/l
Exposure time: 10 d

Quartz:

Ecotoxicology Assessment

Acute aquatic toxicity : No toxicity at the limit of solubility.

Chronic aquatic toxicity : No toxicity at the limit of solubility.

Diisopropyl-1,1'-biphenyl:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.01 mg/l
Exposure time: 96 h
Method: Directive 67/548/EEC, Annex V, C.1.
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Raphidocelis subcapitata (freshwater green alga)): > 0.01 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Raphidocelis subcapitata (freshwater green alga)): > 0.01 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Bifenthrin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.1 µg/l
Exposure time: 96 h

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

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.012 µg/l
Exposure time: 76 d
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic) : NOEC (Daphnia magna (Water flea)): 0.00095 µg/l
Exposure time: 21 d

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ic toxicity)

Toxicity to microorganisms : NOEC (activated sludge): > 1,929 mg/l
Exposure time: 3 h
Remarks: No toxicity at the limit of solubility.

Cypermethrin cis/trans +/- 40/60:

Toxicity to fish : EC50 (Oncorhynchus mykiss (rainbow trout)): 0.00283 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Hyalella azteca (Amphipod)): 0.000005 mg/l
aquatic invertebrates
Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (microalgae)): >
plants
0.033 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): >
0.033 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic tox- : NOEC (Pimephales promelas (fathead minnow)): 0.000077
icity)
mg/l
Exposure time: 300 d
Method: OECD Test Guideline 210

Toxicity to microorganisms : EC50 (activated sludge): 163 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Persistence and degradability

Components:

2-Methylpentane-2,4-diol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bifenthrin:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 11 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Cypermethrin cis/trans +/- 40/60:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 1.4 %

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Exposure time: 33 d
Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

2-Methylpentane-2,4-diol:

Partition coefficient: n-octanol/water : log Pow: < 4
Remarks: Calculation

Diisopropyl-1,1'-biphenyl:

Partition coefficient: n-octanol/water : log Pow: 6.67
Remarks: Calculation

Bifenthrin:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 1,082

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

Cypermethrin cis/trans +/- 40/60:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 373.4

Partition coefficient: n-octanol/water : log Pow: 5.3 - 5.6

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	: It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines. Do not dispose of waste into sewer.
Contaminated packaging	: Follow advice on product label and/or leaflet. Empty containers retain residue and can be dangerous. Do not re-use empty containers.

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SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	: UN 3077
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bifenthrin, Cypermethrin cis/trans +/- 40/60)
Class	: 9
Packing group	: III
Labels	: 9
Environmentally hazardous	: yes

IATA-DGR

UN/ID No.	: UN 3077
Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Cypermethrin cis/trans +/- 40/60)
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, Cypermethrin cis/trans +/- 40/60)
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	: UN 3077
Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Cypermethrin cis/trans +/- 40/60)
Class	: 9
Packing group	: III
Labels	: CLASS 9
ERG Code	: 171
Marine pollutant	: yes(Bifenthrin, Cypermethrin cis/trans +/- 40/60)
Remarks	: Above applies only to containers over 119 gallons or 450 liters. Shipment by ground under DOT is non-regulated; however it

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may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

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 : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

Bentonite	1302-78-9
2-Methylpentane-2,4-diol	107-41-5
Quartz	14808-60-7

California List of Hazardous Substances

2-Methylpentane-2,4-diol	107-41-5
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California Permissible Exposure Limits for Chemical Contaminants

2-Methylpentane-2,4-diol	107-41-5
Quartz	14808-60-7

Product Type : Insecticides, acaricides and products to control other arthropods

Active substance : 0.2 %
Bifenthrin

0.05 %
Cypermethrin cis/trans +/- 40/60

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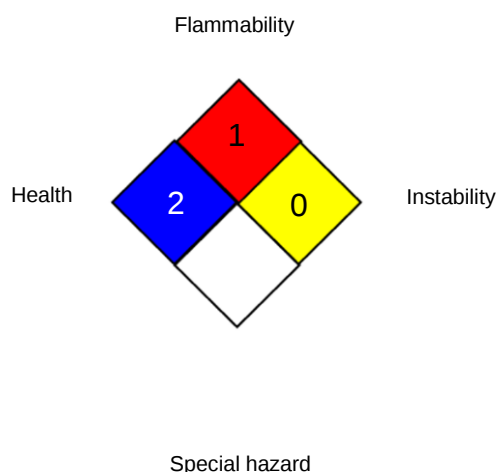
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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

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

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	: USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
NIOSH REL / C	: Ceiling value not be exceeded at any time.
OSHA Z-1 / TWA	: 8-hour time weighted average
OSHA Z-3 / TWA	: 8-hour time weighted average

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

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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

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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