

Product name: Fenamite™**Issue Date: 13.07.2016**

DOW AGROSCIENCES (NZ) LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Fenamite™
Identified uses: End use miticide**COMPANY IDENTIFICATION**
DOW AGROSCIENCES (NZ) LIMITED
89 PARITUTU ROAD
4342 NEW PLYMOUTH
NEW ZEALAND**Customer Information Number:** 0800-803-939
fnpcust@dow.com**EMERGENCY TELEPHONE NUMBER**
24-Hour Emergency Contact: +64 6 751 2407
Local Emergency Contact: 0800 844 455**For medical advice, contact the New Zealand Poisons Information Centre:**
0800 POISON (0800 764 766)
Transport Emergency Only Dial: 111

This SDS may not provide exhaustive guidance for all the HSNO controls assigned to this substance. The NZ EPA website www.epa.govt.nz should be consulted for a full list of triggered controls and cited regulations

2. HAZARDS IDENTIFICATION

Hazard classification
NEW ZEALAND HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous according to criteria in the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001. Refer to section 15 for HSNO Approval number.**HSNO classifications: 6.1D, 6.4A, 6.9B, 9.1A****Hazards**

Harmful if inhaled.
Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure.
May be harmful in contact with skin.
Very toxic to aquatic life with long lasting effects.

Prevention

Do not breathe fumes/ vapours/ spray.
Use only outdoors or in a well-ventilated area.
Wash skin thoroughly after handling.
Wear protective gloves/ eye protection/ face protection.
Avoid release to the environment.

Response

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
Collect spillage.

Storage

Store locked up.

Disposal

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CASRN	Concentration
Fenpyroximate (ISO)	134098-61-6	5.0 %
Propylene glycol	57-55-6	10.0 %
Balance	Not available	85 %

4. FIRST AID MEASURES

Consult the National Poisons Information Centre (0800 POISON (0800 764 766)) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control

centre or doctor for treatment advice. Suitable emergency eye wash facility should be immediately available.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: No data available

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7: Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8: Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12: Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13: Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapour or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100 L or more, either alone or in aggregate with other hazardous substances. See Hazardous Substances Emergency Management and Identification Regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist:

Component	Regulation	Type of listing	Value/Notation
Fenpyroximate	Manufacturers recommendation		0.07 mg/m ³
Propylene glycol	US WEEL	TWA	10 mg/m ³
	NZ OEL	WES-TWA particulate	10 mg/m ³
	NZ OEL	WES-TWA Vapour and particles	474 mg/m ³ 150 ppm

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

Hand protection: Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to AS/NZS 2161.10) is recommended.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face-shield, boots, apron, or full-body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Other Information: Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:
 AS/NZS 1336: Eye and Face protection - Guidelines.
 AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.
 AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.
 AS/NZS 2161: Occupational protective gloves.
 AS/NZS 2210: Occupational protective footwear.
 AS/NZS 4501: Occupational protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance - Physical state	Liquid.
- Color	White
Odour	No information available
Odour Threshold	No data available
pH	5.0 – 8.5 1% aqueous suspension. <i>Vendor</i>
Melting point/range	Not applicable to liquids
Freezing point	No data available
Boiling point (760 mmHg)	No data available
Flash point - closed cup	None
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.01 - 1.05 at 20 °C <i>Vendor</i>
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	None
Decomposition temperature	No data available
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Liquid density	1.018 g/cm ³ at 23 °C <i>Vendor</i>
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical stability: Stable.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Product can oxidize at elevated temperatures.

Incompatible materials: None known.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: LD50, Rat, female 6,789 mg/kg.

As product: LD50, Rat, male 7,193 mg/kg.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: LD50, Rat, male and female > 2,000 mg/kg.

Acute inhalation toxicity

Prolonged excessive exposure to mist may cause serious adverse effects, even death. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

As product: LC50, Rat, female, 4 Hour, dust/mist, 3.4 mg/l.

As product: LC50, Rat, male, 4 Hour, dust/mist, 5.1 mg/l.

Skin corrosion/irritation

Brief contact may cause skin irritation with local redness.

Serious eye damage/eye irritation

May cause eye irritation. May cause corneal injury.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization: No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the active ingredient: In animals, effects have been reported on the following organs:

Ovaries. Heart.

May cause abdominal discomfort or diarrhea.

In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Carcinogenicity

For the active ingredient: Did not cause cancer in laboratory animals.

Teratogenicity

For the active ingredient: Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the foetus in laboratory animals at doses toxic to the mother

Reproductive toxicity

For the active ingredient: In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity

For the active ingredient: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity**Acute toxicity to fish**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

As product: LC50, *Oncorhynchus mykiss* (rainbow trout), 96 Hour, 0.041 mg/l

Acute toxicity to aquatic invertebrates

As product: EC50, *Daphnia* (water flea), 48 Hour, 0.0217 mg/l

Acute toxicity to algae/aquatic plants

As product: EbC50, Algae, 72 Hour, 0.11 mg/l

Toxicity to other organisms

Fenpyroximate is practically non-toxic to birds and bees.

Acute LD50, *Anas platyrhynchos* (mallard duck) > 2,000 mg/kg

Persistence and degradability**Fenpyroximate (ISO)**

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Propylene glycol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

Biodegradation: 81 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

Biodegradation: 96 %

Exposure time: 64 d

Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.68 mg/mg

Chemical Oxygen Demand: 1.53 mg/mg

Biological oxygen demand (BOD):

Incubation Time	BOD
5 d	69.0 %
10 d	70.0 %
20 d	86.0 %

Photodegradation

Atmospheric half-life: 10 Hour

Method: Estimated.

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential

Fenpyroximate (ISO)

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3,000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water (log Pow): 5.01 at 20 °C

Bioconcentration factor (BCF): 1,601 Fish

Propylene glycol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water (log Pow): -1.07 Measured

Bioconcentration factor (BCF): 0.09 Estimated.

Balance

Bioaccumulation: No relevant data found.

Mobility in Soil

Fenpyroximate (ISO)

Expected to be relatively immobile in soil (Koc > 5,000).

Partition coefficient (Koc): 40,000 – 79,500

Propylene glycol

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): < 1 Estimated.

Balance

No relevant data found.

Results of PBT and vPvB assessment

Fenpyroximate (ISO)

This substance is not considered to be persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB).

Propylene glycol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB).

Balance

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Other adverse effects

Fenpyroximate (ISO)

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Propylene glycol

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Balance

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

Waste handling, treatment and disposal practices must be in compliance with the New Zealand Hazardous Substances (Disposal) Regulations 2001. Additional local requirements may be applicable in accordance with planning controls under the Resource Management Act. Regulations concerning waste management may vary in different locations.

This product when disposed of in its unused and uncontaminated state should be treated as a hazardous waste.

14. TRANSPORT INFORMATION

PUBLIC PASSENGER VEHICLE TRANSPORT: To be transported ONLY in the sealed original container. Maximum volume permitted to be transported in a passenger service vehicle: 1 Litre.

Classification for ROAD and Rail transport:

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Fenpyroximate)
UN number	UN 3082
Class	9
Packing group	III
Environmental hazards	Fenpyroximate

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Fenpyroximate)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Fenpyroximate
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Fenpyroximate)
UN number	UN 3082
Class	9
Packing group	III

This information is not intended to convey all specific regulatory or operational requirements/ information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Compliance with the above land, rail, marine and air requirements is deemed to comply with the applicable requirements of the Hazardous substances Identification and Emergency Management Regulations.

15. REGULATORY INFORMATION

ACVMG APPROVAL NUMBER: P004337

HSNO Approval Code: HSR000749

ADVICE TO PRODUCT USERS REGARDING HSNO CONTROLS: Users of this product should make reference to the New Zealand Hazardous Substances and New Organisms Act and Regulations for relevant risk management controls. Additional local requirements may be applicable in accordance with planning controls under the Resource Management Act. Refer to Environment Protection Authority publication; User Guide to the HSNO Controls Regulations. <http://www.epa.govt.nz>

16. OTHER INFORMATION

Revision

Identification Number: 101202127/ A157 / Issue Date: 13.07.2016 / Version: Replaces 13.07.2011

Sections amended: None

Legend

NZ OEL	New Zealand Occupational Exposure Limits
TWA	Time Weighted Average
US WEEL	Workplace Environment Exposure Level
WES-TWA	Workplace Exposure Standard. Time Weighted Average.

DOW AGROSCIENCES (NZ) LIMITED urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDS's, we are not and cannot be responsible for (M)SDS's obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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