

Fenpropathrin

sc-257526



The Power is Question

Material Safety Data Sheet

Hazard Alert Code
Key:

EXTREME

HIGH

MODERATE

LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

Fenpropathrin

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

Santa Cruz Biotechnology, Inc.
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EMERGENCY

ChemWatch

Within the US & Canada: 877-715-9305

Outside the US & Canada: +800 2436 2255

(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS

C22-H23-N-O3, "alpha-cyano-3-phenoxybenzyl-2, 2, 3, 3-tetramethylcyclopropanecarboxylate", "2, 2, 3, 3-tetramethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl", ester, "(RS)-alpha-cyano-3-phenoxybenzyl-2, 2, 3, 3-tetramethyl", cyclopropanecarboxylate, "cyano(3-phenoxyphenyl)methyl 2, 2, 3, 3-tetramethylcyclopropanecarboxylate", Amitol, Danimen, Danitol, "Danitol 10EC", "Danitol Fiori", Digital, Fenothrin, Fenpropanate, Herald, Kilumal, Meiothrin, Meothrin, Miothrin, Platino, Rody, "S 3206", "SD 41706", Smash, Tame, "WL 41706", "XE 938", "alpha-cyano-3-phenoxybenzyl 2, 2, 3, 3-tetramethylcyclopropanecarboxylate"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

| | Min | | Max |
|---------------|-----|--|----------------------|
| Flammability: | 1 | | |
| Toxicity: | 4 | | |
| Body Contact: | 2 | | Min/Nil=0 Low=1 |
| Reactivity: | 1 | | Moderate=2 High=3 |
| Chronic: | 2 | | Extreme=4 |

CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Harmful in contact with skin.

Toxic if swallowed.

Very toxic by inhalation.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Cumulative effects may result following exposure*.

Possible respiratory and skin sensitiser*.

*(limited evidence).

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.

■ Ingestion of pyrethroids may produce nausea and vomiting, abdominal pain and diarrhoea.

Large doses may produce central nervous system disturbances resulting in tremor, muscular incoordination, weakness of the limbs, convulsions, coma and death from respiratory depression.

EYE

■ Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn).

Slight abrasive damage may also result.

SKIN

■ Skin contact with the material may be harmful; systemic effects may result following absorption.

■ The material is not thought to be a skin irritant (as classified by EC Directives using animal models).

Abrasive damage however, may result from prolonged exposures.

■ Alpha-substituted synthetic pyrethroids can cause "pins and needles" of the skin with a stinging or burning sensation sometimes progressing to tingling and numbness.

Tears, sensitivity to light and swelling of the eyes can occur on direct contact.

■ Open cuts, abraded or irritated skin should not be exposed to this material.

■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

■ Skin contact with natural pyrethrins may cause severe inflammation, hayfever and asthma.

If they are absorbed through the skin, the same toxic effects as inhalation can occur; the liver and kidney may be damaged.

INHALED

■ Inhalation of vapours, aerosols (mists, fumes) or dusts, generated by the material during the course of normal handling, may produce severely toxic effects; these may be fatal.

■ The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models).

Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

■ Inhalation of pyrethrins may produce nausea, vomiting, sneezing, serious discharge from the nose, blocked nose and asthma.

High concentrations may produce excessive excitement, inco-ordination, tremors, muscle paralysis and death (due to failure of breathing).

■ This material, like natural pyrethrins, may cause central stimulation with nausea, vomiting, stomach upset, diarrhoea, hypersensitivity, inco-ordination, tremors, muscle paralysis, convulsion, coma and respiratory failure.

Type II compounds cause a "Type II syndrome" characterized by irregular jerky movements, increased saliva production without tears, upper abdominal pain, nausea and vomiting, headache, dizziness, loss of appetite, tiredness, chest tightness, blurred vision, "pins and needles", palpitations, coarse muscle jerks in limbs and altered consciousness.

CHRONIC HEALTH EFFECTS

■ Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared

to the general population.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.

Chronic poisoning by natural pyrethrins may result in convulsion, paralysis with extreme muscle tone, rapid and uneven heart beat, liver and kidney damage, or death. Natural pyrethrins may cause hypersensitivity especially if past exposure has occurred. Generally it takes 2-3 years of repeated exposure for this to develop, and it usually follows exposure to pyrethrum rather than its individual components. The most common syndrome consists of skin inflammation with blisters, itchiness, local swelling, nose inflammation, increased heart rate, pallor and sweating. Skin effects can progress to swelling and cracking. Inflammation of the skin increases in hot weather or when sweating. Patients allergic to ragweed pollen are especially sensitive to pyrethrin.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|---------------|------------|-----|
| fenpropathrin | 39515-41-8 | >98 |

Section 4 - FIRST AID MEASURES

SWALLOWED

- Give a slurry of activated charcoal in water to drink. NEVER GIVE AN UNCONSCIOUS PATIENT WATER TO DRINK.
- At least 3 tablespoons in a glass of water should be given.
- Although induction of vomiting may be recommended (IN CONSCIOUS PERSONS ONLY), such a first aid measure is dissuaded due to the risk of aspiration of stomach contents. (i) It is better to take the patient to a doctor who can decide on the necessity and method of emptying the stomach. (ii) Special circumstances may however exist; these include non- availability of charcoal and the ready availability of the doctor.

NOTE: If vomiting is induced, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN

- For chronic or short term repeated exposures to pyrethrum and synthetic pyrethroids:
 - Mammalian toxicity of pyrethrum and synthetic pyrethroids is low, in part because of poor bioavailability and a large first pass extraction by the liver.
 - The most common adverse reaction results from the potent sensitising effects of pyrethrins.
 - Clinical manifestations of exposure include contact dermatitis (erythema, vesiculation, bullae); anaphylactoid reactions (pallor, tachycardia, diaphoresis) and asthma. [Ellenhorn Barceloux]
 - In cases of skin contact, it has been reported that topical application of Vitamin E Acetate (alpha-tocopherol acetate) has been found to have high therapeutic value, eliminating almost all skin pain associated with exposure to synthetic pyrethroids. [Incitec]

Section 5 - FIRE FIGHTING MEASURES

| | |
|-----------------------------|------------------|
| Vapor Pressure (mmHg): | 5.475 mPa (20 C) |
| Upper Explosive Limit (%): | Not Available |
| Specific Gravity (water=1): | 1.15 |

Lower Explosive Limit (%): Not Available

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds.; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
- In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL).are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC)
- A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up waste regularly and abnormal spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.

- Do NOT cut, drill, grind or weld such containers.
- In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

RECOMMENDED STORAGE METHODS

- Lined metal can, lined metal pail/ can.
- Plastic pail.

- Polyliner drum.
- Packing as recommended by manufacturer.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

<. All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must be hermetically sealed.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- fenpropathrin: CAS:39515-41-8 CAS:64257-84-7

PERSONAL PROTECTION



RESPIRATOR

- Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber

NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

OTHER

- Overalls.
- Eyewash unit.
- Barrier cream.
- Skin cleansing cream.

ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Toxic or noxious vapours/gas.

| | | | |
|---------------------------|----------------|---------------------------------|------------------|
| State | Divided Solid | Molecular Weight | 349.42 |
| Melting Range (°F) | 113- 122 | Viscosity | Not Applicable |
| Boiling Range (°F) | Not Applicable | Solubility in water (g/L) | Partly Miscible |
| Flash Point (°F) | >212 | pH (1% solution) | Not Applicable |
| Decomposition Temp (°F) | Not Available | pH (as supplied) | Not Applicable |
| Autoignition Temp (°F) | Not Available | Vapor Pressure (mmHg) | 5.475 mPa (20 C) |
| Upper Explosive Limit (%) | Not Available | Specific Gravity (water=1) | 1.15 |
| Lower Explosive Limit (%) | Not Available | Relative Vapour Density (air=1) | Not Applicable |
| Volatile Component (%vol) | Negligible | Evaporation Rate | Not Applicable |

APPEARANCE

Solid; does not mix well with water (33 mg/l, 25 C). Solubilities (25 C): cyclohexanone, xylene; methanol 337 g/kg Kow 1000000

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

STORAGE INCOMPATIBILITY

- Pyrethrins and permethrins:
 - are unstable in the presence of light, heat, moisture and air
 - are hydrolysed by oxygen and/ or sunlight
 - may react with strong oxidisers to produce fire and explosions
 - are incompatible with alkalis
 - Avoid reaction with oxidising agents

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

fenpropathrin

TOXICITY AND IRRITATION

■ [* The Pesticides Manual, Incorporating The Agrochemicals Handbook, 10th Edition, Editor Clive Tomlin, 1994, British Crop Protection Council].

Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment.

Refer to special instructions/ safety data sheets.

Ecotoxicity

| Ingredient | Persistence: Water/Soil | Persistence: Air | Bioaccumulation | Mobility |
|------------|----------------------------|------------------|-----------------|----------|
|------------|----------------------------|------------------|-----------------|----------|

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. In most instances the supplier of the material should be consulted.

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material)
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION



DOT:

| | | | |
|---|--------|---|-------------------------|
| Symbols: | None | Hazard class or Division: | 6.1 |
| Identification Numbers: | UN2588 | PG: | II |
| Label Codes: | 6.1 | Special provisions: | IB8, IP2, IP4, T3, TP33 |
| Packaging: Exceptions: | 153 | Packaging: Non-bulk: | 212 |
| Packaging: Exceptions: | 153 | Quantity limitations: Passenger aircraft/rail: | 25 kg |
| Quantity Limitations: Cargo aircraft only: | 100 kg | Vessel stowage: Location: | A |
| Vessel stowage: Other: | 40 | S.M.P.: | Severe |

Hazardous materials descriptions and proper shipping names:

Pesticides, solid, toxic, n.o.s.

Air Transport IATA:

| | | | |
|------------------|------|--------------------|------|
| ICAO/IATA Class: | 6.1 | ICAO/IATA Subrisk: | None |
| UN/ID Number: | 2588 | Packing Group: | II |

| | | | |
|--------------------------------------|------|--------------------------------------|--------|
| Special provisions: | A3 | | |
| Cargo Only | | | |
| Packing Instructions: | 676 | Maximum Qty/Pack: | 100 kg |
| Passenger and Cargo | | Passenger and Cargo | |
| Packing Instructions: | 669 | Maximum Qty/Pack: | 25 kg |
| Passenger and Cargo Limited Quantity | | Passenger and Cargo Limited Quantity | |
| Packing Instructions: | Y644 | Maximum Qty/Pack: | 1 kg |

Shipping name: PESTICIDE, SOLID, TOXIC, N.O.S.(contains fenprothrin)

Maritime Transport IMDG:

| | | | |
|---------------------|---------|---------------------|--------|
| IMDG Class: | 6.1 | IMDG Subrisk: | None |
| UN Number: | 2588 | Packing Group: | II |
| EMS Number: | F-A,S-A | Special provisions: | 61 274 |
| Limited Quantities: | 500 g | Marine Pollutant: | Yes |

Shipping name: PESTICIDE, SOLID, TOXIC, N.O.S.(contains fenprothrin)

Section 15 - REGULATORY INFORMATION



fenprothrin (CAS: 39515-41-8, 64257-84-7) is found on the following regulatory lists;

"Canada - Alberta Occupational Exposure Limits", "Canada - British Columbia Occupational Exposure Limits", "Canada - Northwest Territories Occupational Exposure Limits (English)", "Canada - Nova Scotia Occupational Exposure Limits", "Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens", "Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)", "Canada - Saskatchewan Environmental Persistent or Chronic Hazardous Substances", "Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits", "Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances", "Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that are Bioaccumulative and Inherently Toxic to the Environment (BiT) (English)", "Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that are Bioaccumulative to the environment (English)", "Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that are Inherently Toxic to the Environment (English)", "Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that are Inherently Toxic to the Environment (French)", "Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that meet the ecological criteria for categorization (English)", "Canada Domestic Substances List (DSL)", "Canada National Pollutant Release Inventory (NPRI)", "Canada Substances in Products Regulated Under the Food and Drugs Act (F&DA) That Were In Commerce between January 1, 1987 and September 13, 2001 (English)", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Fragrance Association (IFRA) Survey: Transparency List", "OSPAR List of Substances of Possible Concern", "US - Alaska Limits for Air Contaminants", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - California Permissible Exposure Limits for Chemical Contaminants", "US - Connecticut Hazardous Air Pollutants", "US - Delaware Pollutant Discharge Requirements - Reportable Quantities", "US - Hawaii Air Contaminant Limits", "US - Idaho - Limits for Air Contaminants", "US - Massachusetts Oil & Hazardous Material List", "US - Michigan Exposure Limits for Air Contaminants", "US - Minnesota Hazardous Substance List", "US - Minnesota Permissible Exposure Limits (PELs)", "US - New Jersey Right to Know Hazardous Substances (English)", "US - North Dakota Air Pollutants - Guideline Concentrations", "US - Oregon Permissible Exposure Limits (Z-1)", "US - Pennsylvania - Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants", "US - Washington Permissible exposure limits of air contaminants", "US - Wisconsin Control of Hazardous Pollutants - Emission Thresholds, Standards and Control Requirements (Pesticides, Rodenticides, Insecticides, Herbicides or Fungicides)", "US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants", "US ATSDR Priority List of Hazardous Substances", "US CWA (Clean Water Act) - Reportable Quantities of Designated Hazardous Substances", "US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides", "US Department of Transportation (DOT) Marine Pollutants - Appendix B", "US EPCRA Section 313 Chemical List", "US FDA Indirect Food Additives: Adhesives and Components of Coatings - Substances for Use Only as Components of Adhesives - Pressure-sensitive adhesives", "US FDA List of "Indirect" Additives Used in Food Contact Substances", "US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act", "US NFPA 499 Combustible Dusts", "US NIOSH Recommended Exposure Limits (RELs)", "US OSHA Permissible Exposure Levels (PELs) - Table Z1", "US Toxic Substances Control Act (TSCA) - Premanufacture Notice (PMN)

Section 16 - OTHER INFORMATION

LIMITED EVIDENCE

- Cumulative effects may result following exposure*.
- Possible respiratory and skin sensitiser*.

* (limited evidence).

Ingredients with multiple CAS Nos

| Ingredient Name | CAS |
|-----------------|------------------------|
| fenpropathrin | 39515-41-8, 64257-84-7 |

- Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

- For detailed advice on Personal Protective Equipment, refer to the following U.S. Regulations and Standards:

OSHA Standards - 29 CFR:

1910.132 - Personal Protective Equipment - General requirements

1910.133 - Eye and face protection

1910.134 - Respiratory Protection

1910.136 - Occupational foot protection

1910.138 - Hand Protection

Eye and face protection - ANSI Z87.1

Foot protection - ANSI Z41

Respirators must be NIOSH approved.

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www.Chemwatch.net

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