

Permethrin

sc-201319



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

Permethrin

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

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

C21-H20-Cl2-O3, "cyclopropanecarboxylic acid, 3-(2, 2-dichlorovinyl)-2, 2-dimethyl, ", "3-phenoxybenzyl ester, (+-)-, (cis, trans)-", "3-phenoxybenzyl (+-)-3-(2, 2-dichlorovinyl)-2, 2-", dimethylcyclopropanecarboxylate, "3-phenoxybenzyl dl-cis/trans-3-(2, 2-dichlorovinyl)-2, 2-dimethyl-1-", cyclopropane, -carboxylate, "(3-phenoxyphenyl)methyl-3-(2, 2-dichloroethenyl)-2, 2-dimethylcyclopropane", -carboxylate, Ambush, *Kestrel, *Talcord, Ambushfos, *Outflank, *Tornade, Coopex, *Peregin, *Perigen, Corsair, *Picket, Dragnet, *Pounce, Ectoban, *Pramex, Exmin, *Qamlin, Exsmin, *Stockade, Kafil, *Stomoxin, pyrethrum/pyrethroid /pyrethrin

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

| | Min | Max |
|---------------|-----|-----|
| Flammability: | 1 | |
| Toxicity: | 2 | |
| Body Contact: | 2 | |
| Reactivity: | 1 | |
| Chronic: | 2 | |

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4



CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

May cause SENSITISATION by skin contact.

Harmful by inhalation, in contact with skin and if swallowed.

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

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized 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 using animal models). Abrasive damage however, may result from prolonged exposures.

■ 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.

INHALED

■ Inhalation of vapors, aerosols (mists, fumes) or dusts, generated by the material during the course of normal handling, may be harmful.

■ The material is not thought to produce respiratory irritation (as classified using animal models). Nevertheless inhalation of dusts, or fume, 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.

■ This material, like natural pyrethrins, may cause central stimulation with nausea, vomiting, stomach upset, diarrhea, hypersensitivity, inco-ordination, tremors, muscle paralysis, convulsion, coma and respiratory failure. There may be aggressive behavior, tremor and weakness.

■ Inhalation of pyrethrins may produce nausea, vomiting, sneezing, serious nasal discharge, nasal stuffiness and asthma. High concentrations may produce hyperexcitability, inco-ordination, tremors, muscular paralysis and death (due to respiratory failure).

There have been some reports of transient facial tingling (paraesthesia) which lasts a few hours after exposure.

CHRONIC HEALTH EFFECTS

■ Skin contact with the material is more likely to cause a sensitization reaction in some persons compared to the general population.

There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

There is some evidence that inhaling this product is more likely to cause a sensitization 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.

Chronic poisoning by natural pyrethrins may result in convulsion, tetanic paralysis, rapid and uneven heart beat, liver and kidney damage, or death.

The natural pyrethrins may produce hypersensitivity, especially following previous sensitising exposure. In general, repeated exposures over 2 or 3 years are required to elicit a response and involve exposure to pyrethrum rather than its individual components (including pyrethrins). The sesquiterpene lactone (pyrethrosin) and the pyrethrum glycoproteins account for the immediate and delayed hypersensitivity seen in guinea pigs following a single injection of ground chrysanthemum in Freud's adjuvant. Mild erythematic vesicular dermatitis (with papules), pruritus, localized oedema (particularly of the face, lips and eyelids), rhinitis, tachycardia, pallor and sweating are the most common syndromes. An initial skin sensitisation can progress to marked dermal oedema and skin cracking. Pyrethrum dermatitis appears to increase in hot weather or under conditions where heavy perspiration is produced. The active ingredients of pyrethrum (except pyrethrin II) are inactive in patch tests. Those patients allergic to ragweed pollen are particularly sensitive to pyrethrin. Rats fed on a diet of pyrethrins for 5000 ppm for 2 years showed some signs of tissue damage including liver lesions, bile duct proliferation and focal necrosis of the liver cells. A no-effect level of 1000 ppm found in animal experiments correspond to a daily dose of 3600 mg/man.

One long-term mouse study provided evidence of oncogenicity in the lungs at high dose levels. Toxicological evidence from mutagenicity studies and from long-term mouse and rat studies suggest that permethrins oncogenic potential is low, is limited to female mice and is

probably epigenetic.

Oral administration in rats produced a marginal increase in pulmonary adenomas in males.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|--|------------|-----|
| permethrin | 52645-53-1 | 100 |
| being a mixture of trans and cis-isomers (typically 60:40) as trans-permethrin | 51877-74-8 | |
| cis-permethrin | 61949-76-6 | |

Section 4 - FIRST AID MEASURES

SWALLOWED

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. · Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

EYE

■ If this product comes in contact with the eyes: · Wash out immediately with fresh 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.

SKIN

■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

INHALED

· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested.

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 sensitizing effects of pyrethrins.

Section 5 - FIRE FIGHTING MEASURES

| | |
|-----------------------------|---------------|
| Vapour Pressure (mmHG): | Negligible. |
| Upper Explosive Limit (%): | Not available |
| Specific Gravity (water=1): | 1.190-1.272 |
| Lower Explosive Limit (%): | Not available |

EXTINGUISHING MEDIA

· Foam.
· Dry chemical powder.

FIRE FIGHTING

· Alert Emergency Responders and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves.
When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 100 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

· Combustible solid which burns but propagates flame with difficulty.
· 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 may burn rapidly and fiercely if ignited.
Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), hydrogen chloride, phosgene, other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

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

PERSONAL PROTECTION

Glasses:
Chemical goggles.
Gloves:
Respirator:

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

Environmental hazard - contain spillage.

MAJOR SPILLS

- Environmental hazard - contain spillage.
- Moderate hazard.
- CAUTION: Advise personnel in area.
- Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
 - Wear protective clothing when risk of exposure occurs.
- 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

- Glass container.
- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE REQUIREMENTS

- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

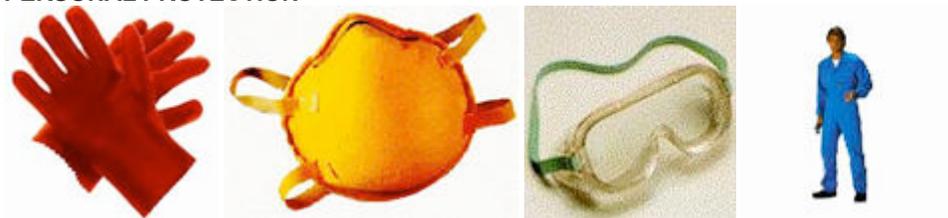
| Source | Material | TWA ppm | TWA mg/m ³ | STEL ppm | STEL mg/m ³ | Peak ppm | Peak mg/m ³ | TWA F/CC | Notes |
|--|------------------------|---------|-----------------------|----------|------------------------|----------|------------------------|----------|--|
| Canada - Alberta Occupational Exposure Limits | permethrin (Pyrethrum) | | 5 | | | | | | |
| Canada - British Columbia Occupational Exposure Limits | permethrin (Pyrethrum) | | 5 | | | | | | S |
| US NIOSH Recommended Exposure Limits (RELs) | permethrin (Pyrethrum) | | 5 | | | | | | |
| US OSHA Permissible Exposure Levels (PELs) - Table Z1 | permethrin (Pyrethrum) | | 5 | | | | | | |
| US ACGIH Threshold Limit Values (TLV) | permethrin (Pyrethrum) | | 5 | | | | | | TLV Basis: liver damage; lower respiratory |

| | | | | | tract irritation |
|---|---------------------------|---|---|---|---------------------|
| US - Minnesota Permissible Exposure Limits (PELs) | permethrin (Pyrethrum) | | 5 | | |
| US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants | permethrin (Pyrethrum) | | 5 | | |
| US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants | permethrin (Pyrethrum) | | 5 | | |
| US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants | permethrin (Pyrethrum) | | 5 | | |
| US - California Permissible Exposure Limits for Chemical Contaminants | permethrin (Pyrethrum) | | 5 | | |
| US - Idaho - Limits for Air Contaminants | permethrin (Pyrethrum) | | 5 | | |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English) | permethrin (Pyrethrum) | | 5 | | |
| US - Hawaii Air Contaminant Limits | permethrin (Pyrethrum) | | 5 | | 10 |
| US - Alaska Limits for Air Contaminants | permethrin (Pyrethrum) | | 5 | | |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | permethrin (Pyrethrum) | | 5 | | 10 |
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances | permethrin (Pyrethrum) | - | 5 | - | 10 |
| US - Washington Permissible exposure limits of air contaminants | permethrin (Pyrethrum) | | 5 | | 10 |

| | | | |
|---|---------------------------|---|---|
| US - Michigan Exposure Limits for Air Contaminants | permethrin (Pyrethrum) | 5 | |
| Canada - Prince Edward Island Occupational Exposure Limits | permethrin (Pyrethrum) | 5 | TLV Basis: liver damage; lower respiratory tract irritation |
| US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants | permethrin (Pyrethrum) | 5 | |
| Canada - Nova Scotia Occupational Exposure Limits | permethrin (Pyrethrum) | 5 | TLV Basis: liver damage; lower respiratory tract irritation |
| US - Oregon Permissible Exposure Limits (Z-1) | permethrin (Pyrethrum) | 5 | |
| Canada - Northwest Territories Occupational Exposure Limits (English) | permethrin (Pyrethrum) | 5 | 10 |

ENDOELTABLE

PERSONAL PROTECTION



RESPIRATOR

Particulate

Consult your EHS staff for recommendations

EYE

- Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET

■ NOTE: The material may produce skin sensitization in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

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

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

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a

non-perfumed moisturiser is recommended.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocautchouc
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

Sinks in water.

| | | | |
|---------------------------|----------------|--------------------------------|-----------------|
| State | Divided solid | Molecular Weight | 391.31 |
| Melting Range (°F) | 95~ | Viscosity | Not Applicable |
| Boiling Range (°F) | 428 | Solubility in water (g/L) | Partly miscible |
| Flash Point (°F) | Not available | pH (1% solution) | Not applicable |
| Decomposition Temp (°F) | Not available. | pH (as supplied) | Not applicable |
| Autoignition Temp (°F) | Not available. | Vapour Pressure (mmHG) | Negligible. |
| Upper Explosive Limit (%) | Not available | Specific Gravity (water=1) | 1.190-1.272 |
| Lower Explosive Limit (%) | Not available | Relative Vapor Density (air=1) | 13.5 |
| Volatile Component (%vol) | Negligible | Evaporation Rate | Not available |

PERMETHRIN

log Kow (Sangster 1997):

6.5

APPEARANCE

Colourless crystals at temperatures below melting point, or a pale yellow viscous liquid. Soluble or miscible with organic solvents, except ethylene glycol. Exists as two isomers, the alpha cis isomer is more active against insects and arthropods. Usually transported as an emulsifiable racemic concentrate. The material is rapidly degraded in soil and biodegraded in mammals.

log Kow 3.48-6.5

| Material | Value |
|----------|-------|
|----------|-------|

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

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 strong acids, bases.

Avoid reaction with oxidizing agents.

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

Section 11 - TOXICOLOGICAL INFORMATION

PERMETHRIN

TOXICITY AND IRRITATION

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

■ The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

PERMETHRIN:

| TOXICITY | IRRITATION |
|--|----------------------------------|
| Oral (rat) LD50: 383 mg/kg | Skin (rabbit): 500 mg/24h - Mild |
| Inhalation (rat) LC50: 485 mg/m ³ | |
| Dermal (rat) LD50: 1750 mg/kg | |
| Dermal (mouse) LD50: >10000 mg/kg | |
| Oral (rabbit) LD50: 4000 mg/kg | |
| Dermal (rabbit) LD50: >2000 mg/kg | |
| Oral (g.pig) LD50: 4000 mg/kg | |
| Oral (rat) LD50: 6000 mg/kg * | |

cis/trans (None) ratio: 25 75: in corn oil

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

Oral (rat) LD50: 430-4000 mg/kg *

Oral (mouse) LD50: 540-2960 mg/kg *

cis/trans ratio: 40:60

cis/trans ratio: 20:80

ADI: 0.05 mg/kg for nominal cis-trans 40:60 and 25:75 isomers only

| TOXICITY | IRRITATION |
|----------|------------|
|----------|------------|

TRANS-PERMETHRIN:

Oral (mouse) LD50: 3100 mg/kg

Nil
Reported

Intraperitoneal (mouse) LD50: 1000 mg/kg

Subcutaneous (frog) LD50: 7.5 mg/kg

CIS-PERMETHRIN:

| | |
|--|-----------------|
| Intraperitoneal (mouse) LD50: 108 mg/kg | Nil Reported |
| Intravenous (mouse) LD50: 17 mg/kg | |

CARCINOGEN

| PERMETHRIN | US Environmental Defense Scorecard Suspected Carcinogens | Reference(s) | OPP-CAN |
|------------|--|--------------|---------|
| | | | |

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 |
| permethrin | HIGH | | HIGH | LOW |

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

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

‡ Puncture containers to prevent re-use and bury at an authorized landfill.

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.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

· Recycle wherever possible.

· Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

Section 14 - TRANSPORTATION INFORMATION



DOT:

Symbols: G Hazard class or Division: 9

Identification Numbers: UN3077 PG: III

Label Codes: 9 Special provisions: 8, 146,

335, B54,

IB8, IP3,

N20, T1,

TP33

Packaging: Exceptions: 155 Packaging: Non- bulk: 213

Packaging: Exceptions: 155 Quantity limitations: No limit

Passenger aircraft/rail:

Quantity Limitations: Cargo No limit Vessel stowage: Location: A aircraft only:

Vessel stowage: Other: None

Hazardous materials descriptions and proper shipping names:

Environmentally hazardous substance, solid, n.o.s

Air Transport IATA:

ICAO/IATA Class: 9 ICAO/IATA Subrisk: None

UN/ID Number: 3077 Packing Group: III

Special provisions: A97

Cargo Only

Packing Instructions: 911 Maximum Qty/Pack: 400 kg

Passenger and Cargo Passenger and Cargo

Packing Instructions: 911 Maximum Qty/Pack: 400 kg

Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity

Packing Instructions: Y911 Maximum Qty/Pack: 30 kg G

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. *(CONTAINS PERMETHRIN)

Maritime Transport IMDG:

IMDG Class: 9 IMDG Subrisk: None

UN Number: 3077 Packing Group: III

EMS Number: F-A, S-F Special provisions: 179 274 335 909

Limited Quantities: 5 kg Marine Pollutant: Yes
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Section 15 - REGULATORY INFORMATION

permethrin (CAS: 52645-53-1, 54774-45-7, 57608-04-5, 93388-66-0, 63364-00-1, 60018-94-2, 75497-64-2) is found on the following regulatory lists;

"Canada - Saskatchewan Environmental Persistent or Chronic Hazardous Substances", "OSPAR Substances removed from the List of Substances of Possible Concern", "US - Massachusetts Oil & Hazardous Material List", "WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established"

Regulations for ingredients

trans-permethrin (CAS: 51877-74-8) is found on the following regulatory lists;

"Canada - Saskatchewan Environmental Persistent or Chronic Hazardous Substances", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - Massachusetts Oil & Hazardous Material List", "US - Pennsylvania - Hazardous Substance List", "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 List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act"

cis-permethrin (CAS: 61949-76-6) is found on the following regulatory lists;

"Canada - Saskatchewan Environmental Persistent or Chronic Hazardous Substances", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - Massachusetts Oil & Hazardous Material List", "US - Pennsylvania - Hazardous Substance List", "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 List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act"

Section 16 - OTHER INFORMATION

ND

Substance CAS Suggested codes cis- permethrin 61949- 76- 6

Ingredients with multiple CAS Nos

Ingredient Name CAS permethrin 52645-53-1, 54774-45-7, 57608-04-5, 93388-66-0, 63364-00-1, 60018-94-2, 75497-64-2

Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.

■ 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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: Oct-22-2009

Print Date: Dec-22-2010