

PY-SECT METERED INSECTICIDE

Chemwatch Material Safety Data Sheet
Issue Date: 1-Sep-2006
NC317ECP

CHEMWATCH 4527-7
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

PY-SECT METERED INSECTICIDE

SYNONYMS

"fly spray"

PROPER SHIPPING NAME

AEROSOLS

PRODUCT USE

Metered insecticide.

SUPPLIER

Company: Davidson Imports Pty Limited

Address:

12 Spencer Street

Five Docks

NSW, 2046

AUS

Telephone: +61 2 9744 6855

Fax: +61 2 9744 6011

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK

Extremely flammable.

Harmful in contact with skin.

Irritating to eyes.

Risk of explosion if heated under confinement.

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

SAFETY

Keep container in a well ventilated place.

Avoid exposure - obtain special instructions before use.

To clean the floor and all objects contaminated by this material, use water.

Keep container tightly closed.

This material and its container must be disposed of in a safe way.

Keep away from food, drink and animal feeding stuffs.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

If swallowed, IMMEDIATELY contact Doctor or

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Section 2 - HAZARDS IDENTIFICATION

Poisons Information Centre (show this container or label).

Use appropriate container to avoid environment contamination.

Avoid release to the environment. Refer to special instructions/ safety data sheets.

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

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
ethanol	64-17-5	20-40
piperonyl butoxide	51-03-6	<10
pyrethrum	8003-34-7	<10
perfume		<1
hydrocarbon propellant	68476-85-7.	30-60

NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

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.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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.

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Section 4 - FIRST AID MEASURES

- 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.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 100 metres in all directions.

FIRE/EXPLOSION HAZARD

- Liquid and vapour are highly flammable.
- Severe fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Severe explosion hazard, in the form of vapour, when exposed to flame or spark.
- Vapour may travel a considerable distance to source of ignition.
- Heating may cause expansion or decomposition with violent container rupture.
- Aerosol cans may explode on exposure to naked flames.
- Rupturing containers may rocket and scatter burning materials.
- Hazards may not be restricted to pressure effects.
- May emit acrid, poisonous or corrosive fumes.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

Other combustion products include:
carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

Avoid contamination with strong oxidising agents as ignition may result.

HAZCHEM: 2Y

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Section 5 - FIRE FIGHTING MEASURES

Personal Protective Equipment

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

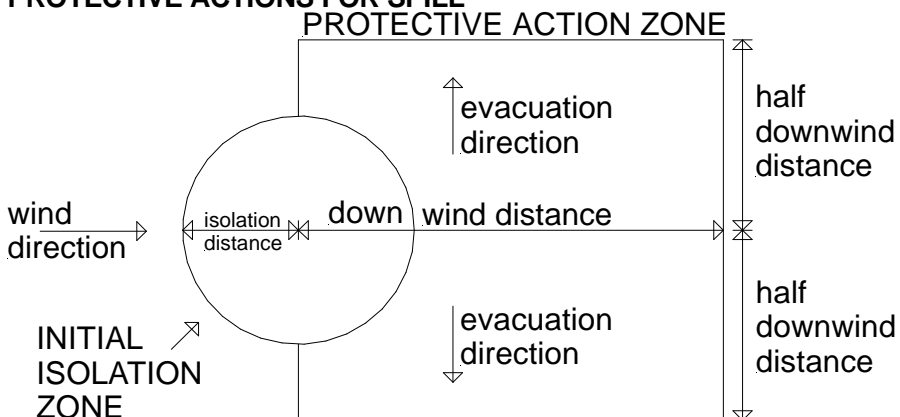
MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- Shut off all possible sources of ignition and increase ventilation.
- Wipe up.
- If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Absorb or cover spill with sand, earth, inert materials or vermiculite.
- If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.
- Collect residues and seal in labelled drums for disposal.

PROTECTIVE ACTIONS FOR SPILL



From IERG (Canada/Australia)

Isolation Distance

-

Downwind Protection Distance

8 metres

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Section 6 - ACCIDENTAL RELEASE MEASURES

IERG Number

49

FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.
- 2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.
- 3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.
- 4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".
LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.
- 5 Guide 126 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - Transport Canada.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

ethanol	3300 ppm
hydrocarbon propellant	2000 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

ethanol	3300 ppm
hydrocarbon propellant	2000 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:

ethanol	3000 ppm
hydrocarbon propellant	2000 ppm

The threshold concentration below which most people will experience no appreciable risk of health effects:

ethanol	1000 ppm
hydrocarbon propellant	1000 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

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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.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- DO NOT incinerate or puncture aerosol cans.
- DO NOT spray directly on humans, exposed food or food utensils.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Aerosol dispenser.
- Check that containers are clearly labelled.

STORAGE INCOMPATIBILITY

Avoid storage with oxidisers.

STORAGE REQUIREMENTS

- Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- Keep containers securely sealed. Contents under pressure.
- Store away from incompatible materials.
- Store in a cool, dry, well ventilated area.
- Avoid storage at temperatures higher than 40 deg C.
- Store in an upright position.
- Protect containers against physical damage.
- Check regularly for spills and leaks.
- 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
Australia Exposure Standards	ethanol (Ethyl alcohol)	1, 000	1, 880					
Australia Exposure Standards	pyrethrum (Pyrethrum)		5					
Australia Exposure	hydrocarbon	1, 000	1, 800					

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC
Standards	propellant (LPG (liquified petroleum gas))							

The following materials had no OELs on our record under the following CAS or Chemwatch (CW) numbers

- Py-Sect Metered Insecticide: No data available for CW:4527-7
- piperonyl butoxide: No data available for CAS:51-03-6
- 42: No data available for
- pyrethrum: No data available for CW:6889
- hydrocarbon propellant: No data available for CAS:68476-86-8
- 518: No data available for CW:562033 CW:621221 CW:84407

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
ethanol		3, 300 [LEL]
pyrethrum	5, 000 [Unch]	
hydrocarbon propellant		2, 000 [LEL]

NOTES

Values marked LEL indicate that the IDLH was based on 10% of the lower explosive limit for safety considerations even though the relevant toxicological data indicated that irreversible health effects or impairment of escape existed only at higher concentrations.

None assigned. Refer to individual constituents.

ODOUR SAFETY FACTOR (OSF)

OSF=0.16 (hydrocarbon propellant)

Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A " for 50- 90% of persons being distracted
C	1- 26	As " A " for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

E	<0.18	that the Exposure Standard is being reached As " D" for less than 10% of persons aware of being tested
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REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for the reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated.

Ingredient	ORG	UF	Endpoint	CR	TLV Adeq
ethanol	1880 mg/m ³	NA	NA	NA	Yes
piperonyl butoxide	0.90 mg/m ³	1000	R	NA	-

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996).

INGREDIENT DATA

ETHANOL:

Odour Threshold Value: 49-716 ppm (detection), 101 ppm (recognition)

Eye and respiratory tract irritation do not appear to occur at exposure levels of less than 5000 ppm and the TLV-TWA is thought to provide an adequate margin of safety against such effects.

Experiments in man show that inhalation of 1000 ppm caused slight symptoms of poisoning and 5000 ppm caused strong stupor and morbid sleepiness.

Subjects exposed to 5000 ppm to 10000 ppm experienced smarting of the eyes and nose and coughing. Symptoms disappeared within minutes.

Inhalation also causes local irritating effects to the eyes and upper respiratory tract, headaches, sensation of heat intraocular tension, stupor, fatigue and a need to sleep.

At 15000 ppm there was continuous lachrymation and coughing.

PIPERONYL BUTOXIDE:

No exposure limits set by NOHSC or ACGIH.

PYRETHRUM:

Pyrethrum and/or its active components, pyrethrins cause dermatitis and sensitisation. Ingestion of massive doses can induce convulsions, vomiting and bradycardia. Animals exhibit liver damage and death through respiratory failure. The recommended TLV-TWA is equivalent to an occupational dose of 0.7 mg/kg/day and is thought to minimise the potential for systemic

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

effects. The TLV may NOT prevent the development of hypersensitisation, particularly among those with pre-existing allergies to pollen and related agents.

HYDROCARBON PROPELLANT:

PERSONAL PROTECTION

EYE

No special equipment for minor exposure i.e. when handling small quantities.

· OTHERWISE:

· Safety glasses with side shields.

· 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].

HANDS/FEET

No special equipment needed when handling small quantities.

OTHERWISE: Wear chemical protective gloves, eg. PVC.

OTHER

No special equipment needed when handling small quantities.

OTHERWISE:

· Overalls.

· Barrier cream.

· Eyewash unit.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	A- AUS P	-
1000	50	-	A- AUS P
5000	50	Airline *	-
5000	100	-	A- 2 P
10000	100	-	A- 3 P
	100+		Airline**

* - Continuous Flow

** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

None required when handling small quantities.

OTHERWISE:

Use in a well-ventilated area.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Supplied as an aerosol pack. Contents under PRESSURE. Contains highly flammable hydrocarbon propellant. Clear golden liquid with pine and alcoholic fragrance; mixes with water. Aerosol pack has a metered valve.

PHYSICAL PROPERTIES

Liquid.

Gas.

Mixes with water.

Molecular Weight: Not Applicable

Melting Range (°C): Not Available

Solubility in water (g/L): Miscible

pH (1% solution): Not Applicable

Volatile Component (%vol): Not Available

Relative Vapour Density (air=1): Not Available

Lower Explosive Limit (%): Not Available

Autoignition Temp (°C): Not Available

State: Liquid

Boiling Range (°C): Not Available

Specific Gravity (water= 1): 0.835-0.840 bulk

pH (as supplied): Not Applicable

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): -81 propellant

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): Not Available

Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Elevated temperatures.
 - Presence of open flame.
 - Product is considered stable.
 - Hazardous polymerisation will not occur.
-

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Overexposure is unlikely in this form.

Ingestion may result in nausea, abdominal irritation, pain and vomiting.

The liquid is highly discomforting to the gastro-intestinal tract and may cause dizziness, disorientation, mental confusion, slurred speech.

EYE

The material may produce severe irritation to the eye causing pronounced inflammation.

Repeated or prolonged exposure to irritants may produce conjunctivitis.

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Section 11 - TOXICOLOGICAL INFORMATION

SKIN

Toxic effects may result from skin absorption.

Bare unprotected skin should not be exposed to this material.

The material may accentuate any pre-existing skin condition.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

INHALED

Inhalation hazard is increased at higher temperatures.

Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.

WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.

Not considered an irritant through normal use.

CHRONIC HEALTH EFFECTS

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

WARNING: Aerosol containers may present pressure related hazards.

Principal routes of exposure are usually by skin contact and inhalation of vapour/spray mist.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

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

ETHANOL:

TOXICITY

Oral (rat) LD50: 7060 mg/kg

Oral (human) LDLo: 1400 mg/kg

Oral (man) TDLo: 50 mg/kg

Oral (man) TDLo: 1.40 mg/kg

Oral (woman) TDLo: 256 mg/kg/12 wks

Inhalation (rat) LC50: 20,000 ppm/10h

Inhalation (rat) LC50: 64000 ppm/4h

IRRITATION

Skin (rabbit): 20 mg/24hr- Moderate

Skin (rabbit): 400 mg (open)- Mild

Eye (rabbit): 100mg/24hr- Moderate

Eye (rabbit): 500 mg SEVERE

PIPERONYL BUTOXIDE:

TOXICITY

Oral (rat) LD50: 6150 mg/kg

Dermal (rat) LD50: >7950 mg/kg

Dermal (Rat) LD50: *200 mg/kg

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.

Dermal (rabbit) LD50: >1880 mg/kg [Handbook of Toxicology]

*Published value - probably not peer-reviewed

ADI: 0.03 mg/kg

IRRITATION

Nil Reported

PYRETHRUM:

TOXICITY

Oral (rat) LD50: 200 mg/kg

Dermal (rabbit) LD50: 300 mg/kg

IRRITATION

Nil Reported

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Section 11 - TOXICOLOGICAL INFORMATION

Oral (Human) LDLo: 1000 mg/kg

ADI: 0.04 mg/kg/day

HYDROCARBON PROPELLANT:

Not available. Refer to individual constituents.

MATERIAL	CARCINOGEN	REPROTOXIN	SENSITISER	SKIN
ethanol		ILOM		
piperonyl butoxide	IARC:Group 3: Not classifiable as to carcinogenicity to humans			
pyrethrum			AUOEL	

REPROTOXIN

ILOM: ILO Agents toxic to the male reproductive system: ethanol

CARCINOGEN

IARC: International Agency for Research on Cancer (IARC) Carcinogens: piperonyl butoxide Category: Group 3: Not classifiable as to carcinogenicity to humans

SENSITISER

AUOEL: Australia Exposure Standards - Sensitisers: pyrethrum

Section 12 - ECOLOGICAL INFORMATION

Marine Pollutant:Not Determined

No data for Py-Sect Metered Insecticide.

Refer to data for ingredients, which follows:

ETHANOL:

Fish LC50 (96hr.) (mg/l):	13480
Algae IC50 (72hr.) (mg/l):	1450
log Kow (Sangster 1997):	- 0.3
BOD5:	63%
ThOD:	2.1
Half- life Soil - High (hours):	24
Half- life Soil - Low (hours):	2.6
Half- life Air - High (hours):	122
Half- life Air - Low (hours):	12.2
Half- life Surface water - High (hours):	26
Half- life Surface water - Low (hours):	6.5
Half- life Ground water - High (hours):	52
Half- life Ground water - Low (hours):	13
Aqueous biodegradation - Aerobic - High (hours):	26
Aqueous biodegradation - Aerobic - Low (hours):	6.5
Aqueous biodegradation - Anaerobic - High (hours):	104
Aqueous biodegradation - Anaerobic - Low (hours):	26
Aqueous biodegradation - Removal secondary treatment - High (hours):	67%
Photooxidation half- life water - High (hours):	3.20E+05
Photooxidation half- life water - Low (hours):	8020
Photooxidation half- life air - High (hours):	122
Photooxidation half- life air - Low (hours):	12.2

DO NOT discharge into sewer or waterways.

log Kow: -0.31- -0.32

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Section 12 - ECOLOGICAL INFORMATION

Half-life (hr) air: 144

Half-life (hr) H₂O surface water: 144

Henry's atm m³/mol: 6.29E-06

BOD 5 if unstated: 0.93-1.67,63%

COD: 1.99-2.11,97%

ThOD: 2.1

When ethanol is released into the soil it readily and quickly biodegrades but may leach into ground water; most is lost by evaporation. When released into water the material readily evaporates and is biodegradable.

Ethanol does not bioaccumulate to an appreciable extent.

The material is readily degraded by reaction with photochemically produced hydroxy radicals; release into air will result in photodegradation and wet deposition.

PIPERONYL BUTOXIDE:

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

DO NOT discharge into sewer or waterways.

The material is classified as an ecotoxin* because the Fish LC₅₀ (96 hours) is less than or equal to 0.1 mg/l

* Classification of Substances as Ecotoxic (Dangerous to the Environment)

Appendix 8, Table 1

Compiler's Guide for the Preparation of International Chemical Safety Cards: 1993

Commission of the European Communities.

Designated as a marine pollutant in the International Marine Dangerous Goods Code (IMDG).

Fish Toxicity: 3.4 ug/l 96 hour LC₅₀ (mortality): Rainbow trout, donaldson

trout (*Oncorhynchus mykiss*)

(carp) 24h LC₅₀: 5.3 mg/L *

Bird toxicity (starlings) LD₅₀: >100 mg/kg *

[*Aventis]

Invertebrate Toxicity: 1600 ug/l 24 hour LC₅₀ (mortality) Kuruma shrimp

(*Penaeus japonicus*).

Other toxicity: 1000 ug/l 96 day LC₅₀ (mortality): Western chorus frog

(*Pseudacris triseriata triseria*)

Not toxic to bees.

Toxicity Class EPA: IV

PYRETHRUM:

Fish LC₅₀ (96hr.) (mg/l): 52.2

Daphnia magna EC₅₀ (48hr.) (mg/l): 0.025

The material is classified as an ecotoxin* because the Fish LC₅₀ (96 hours) is less than or equal to 0.1 mg/l

* Classification of Substances as Ecotoxic (Dangerous to the Environment)

Appendix 8, Table 1

Compiler's Guide for the Preparation of International Chemical Safety Cards: 1993

Commission of the European Communities.

Toxicity Fish: TLm(96)0.0026mg/L[24-27]

Bioaccumulation: low

Anaerobic effects: slow degrad.

processes Abiotic: no hydrol, some photol & oxid

continued...

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Section 13 - DISPOSAL CONSIDERATIONS

- Consult State Land Waste Management Authority for disposal.
- Discharge contents of damaged aerosol cans at an approved site.
- Allow small quantities to evaporate.
- DO NOT incinerate or puncture aerosol cans.
- Bury residues and emptied aerosol cans at an approved site.

Section 14 - TRANSPORTATION INFORMATION



Labels Required: FLAMMABLE GAS
HAZCHEM: 2Y

UNDG:

Dangerous Goods Class:	2.1	Subrisk:	None
UN Number:	1950	Packing Group:	None
Shipping Name:	AEROSOLS		

Air Transport IATA:

ICAO/IATA Class:	2.1	ICAO/IATA Subrisk:	None
UN/ID Number:	1950	Packing Group:	None
ERG Code:	10L		
Shipping Name:	Aerosols, flammable		

Maritime Transport IMDG:

IMDG Class:	2	IMDG Subrisk:	SP63
UN Number:	1950	Packing Group:	None
EMS Number:	F- D, S- U	Marine Pollutant:	Not Determined
Shipping Name:	AEROSOLS		

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

ethanol (CAS: 64-17-5) is found on the following regulatory lists;

- Australia - Australia New Zealand Food Standards Code - Food Additives - Schedule 1 Permitted uses of food additives by food type
- Australia - Australia New Zealand Food Standards Code - Processing Aids - Generally permitted
- Australia - Australia New Zealand Food Standards Code - Processing Aids - Permitted carriers, solvents and diluents
- Australia Exposure Standards

continued...

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Section 15 - REGULATORY INFORMATION

Australia High Volume Industrial Chemical List (HVICL)
Australia Inventory of Chemical Substances (AICS)
Australia National Pollutant Inventory
Australia Poisons Schedule
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
International Air Transport Association (IATA) Dangerous Goods Regulations
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

piperonyl butoxide (CAS: 51-03-6) is found on the following regulatory lists;

Australia - Australian Capital Territory Environment Protection Regulation
water quality standards - Pesticides
Australia - Australian Capital Territory Environment Protection Regulation
Pollutants entering waterways - Domestic water quality
Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) Carcinogens

Domestic

pyrethrum (CAS: 8003-34-7) is found on the following regulatory lists;

Australia Exposure Standards
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule

hydrocarbon propellant (CAS: 68476-85-7) is found on the following regulatory lists;

Australia Exposure Standards
Australia High Volume Industrial Chemical List (HVICL)
Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals

hydrocarbon propellant (CAS: 68476-86-8) is found on the following regulatory lists;

Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
piperonyl butoxide	51- 03- 6	N; R50/53

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
hydrocarbon	68476- 85- 7, 68476- 86- 8
propellant	

REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for the reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated. Established occupational exposure limits frequently do not take into consideration

continued...

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Section 16 - OTHER INFORMATION

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:

Ingredient	ORG	UF	Endpoint	CR	Adeq	TLV
ethanol	1880 mg/m3	NA	NA	NA	Yes	
piperonyl butoxide	0.90 mg/m3	1000	R	NA	-	

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Issue Date: 1-Sep-2006

Print Date: 1-Sep-2006