1.0 Identification

Product identifier	**Dermcare PERMOXIN Insecticidal Spray and Rinse Concentrate for Dogs and Horses**
Other means of identification	APVMA approval number: 36713
Recommended use & restrictions on use	**This SDS applies to handling, storage and use of this substance in workplace environments.** Other uses, including consumer use, will have different requirements not addressed herein. VETERINARY APPLICATIONS: For the control of Pyrethroid sensitive flies and biting insects on horses by topical application. For the control of fleas and ticks on dogs by topical application. An aid in the treatment of Flea Allergy Dermatitis on dogs and Queensland Itch on horses. Dilute as directed; pour or trigger spray on.
Details of manufacturer / importer	**DERMCARE-VET PTY LTD** 7 Centenary Road, Slacks Creek, QLD, 4127, AUSTRALIA Phone: (07) 3387 9700 Email: dermcare@dermcare.com.au Website: http://www.dermcare.com.au
Emergency phone number	(07) 3387 9700 (Monday – Friday, 9:00am – 5:00pm AEST) After Hours Poisons Information 13 11 26

2.0 GHS Hazard Identification

Classification of the hazardous chemical	Acute toxicity, oral Category 4 Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2A Acute toxicity, inhalation Category 4 Sensitisation, respiratory Category 1 Carcinogenicity Category 2
Signal word	**DANGER**
Hazard statement	H302 Harmful if swallowed H315 Causes skin irritation H319 Causes serious eye irritation H332 Harmful if inhaled H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled H351 Suspected of causing cancer
Precautionary statements	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing mist/ vapours/spray. P264 Wash all exposed areas of body thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear eye protection/face protection. P281 Use personal protective equipment as required. P285 In case of inadequate ventilation wear respiratory protection.
GHS pictograms	

3.0 Ingredients / Composition %w/w

Ingredient Name / Nature	0<1	1<10	>10	>20	>30	>40	>50	>60	>70	>80	>90
Diethylene Glycol Monobutyl Ether CAS 112-34-5 (DGBE, DEGBE)											
Nonylphenol ethoxylate CAS 127087-87-0 (NPE, Nonoxinol 9)											
Permethrin CAS 52645-53-1 (Perm)											

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4.0 First Aid Measures (Concentrate)

First aid instructions	Consider your own safety first.
Swallowed	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth and spit. *If the patient can swallow, has a strong gag reflex, and does not drool* administer 5mL/kg up to 200mL of water for dilution.
Eye	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.
Skin	IF ON SKIN: Remove contaminated clothing and jewellery (and place them in plastic bags). Rinse skin of excess material with copious volumes of running water, then wash exposed areas with soap and water for 10 to 15 minutes with gentle sponging to avoid skin breakdown. If skin irritation occurs get medical advice/attention. A physician may need to examine the area if irritation or pain persists. Wash contaminated clothing (and jewellery) before reuse.
Inhaled	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms call a POISON CENTER or doctor/ physician. Call a POISON CENTER or doctor/physician if you feel unwell.
Symptoms caused by exposure	Eyes: Serious eye irritation, itch, redness (detergent / surfactant) Swallowed: Central nervous depression, nausea, vomiting & sometimes diarrhoea, headache. Inhalation: May cause breathing difficulty, respiratory distress and/or allergic response. Skin: Defatting, redness, irritation.
Medical attention / special treatment	Gastrointestinal decontamination is **not recommended** after ingestion because of the risk of CNS and respiratory depression and aspiration. Acid-base balance should be assessed after significant ingestion or in symptomatic patients. Monitor and support renal function. Monitor for respiratory distress after inhalation. Evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer 100% humidified supplemental oxygen, perform endotracheal intubation and provide assisted ventilation as required. Administer inhaled beta-2 adrenergic agonists and systemic corticosteroids if bronchospasm develops.

5.0 Fire Fighting Measures

Extinguishing media	Dry agent, carbon dioxide or foam. Prevent contamination of drains or waterways. Absorb runoff with sand or similar.
Specific hazards arising from the chemical	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not use high pressure water.
Special protective equipment & precautions for fire fighters HAZCHEM	Wear self-contained breathing apparatus for firefighting if necessary. HAZCHEM – no data.

6.0 Accidental Release Measures

Personal precautions, protective equipment & emergency procedures	Do not panic. Avoid standing in or dispersing this material, hard surfaces will become slippery especially when wet. **Ensure that area is free from ignition sources, electrical and other hazards.** Plan the clean up according to the circumstances; avoid generating aerosols. For bulk spills (>10L), contact emergency services. Ventilate and clear area of all unprotected personnel. Select appropriate PPE, for example: wear full length nitrile or viton gloves, a Type A (Organic vapour) respirator, coveralls, apron and boots.
Environmental precautions	Collect contaminated and fire extinguishing water separately.
Methods & materials for containment & cleaning up	Absorb with sand or similar and place in sealable containers for disposal. Prevent spill entering drains or waterways. Only trained emergency personnel should undertake large spill clean-up procedures.

7.0 Storage & Handling

Precautions for safe handling	Read full label instructions and SDS before use. Development and implement safe workplace practices appropriate to your circumstances and intended use/handling of this product. Risk and likely severity of adverse reaction increases with repeated/prolonged exposures. Limit unnecessary exposure. Where repeat or frequent exposure is anticipated, adopt stringent work practices
Safe storage practice	Keep out of reach of children. Substances suspected of causing cancer should be kept locked up. Maintain tightly closed in original container. Label and store diluted materials according to workplace requirements.
- Avoid	Generation of aerosols; use cool water to dilute, use only in a well-ventilated areas, preferably outside.
- Control	No data.
- Maintain	Do not mix with other substances.
- Other	Use only as much as needed, excess materials may enter drains/waterways and can contribute to adverse environmental effects in aquatic environments.

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8.0 Exposure Controls / Personal Protection

National exposure standards	**DGBE:** TWA 10ppm, 67.5mg/m^3; STEL 15ppm, 101.2mg/m^3 as (EU 2006). Equivalence 1ppm = 6.75m^3/1mg/m^3 = 0.148ppm. **Permethrin:** 10mg/m^3 TWA.				
Biological monitoring	If symptoms of breathing difficulty, eye irritation or skin irritation after exposure, discontinue use and seek medical advice, show this SDS.				
Control banding	Band Zero – Household or Consumer Use	Band 1 – good industrial hygiene practice	Band 2 – use local exhaust ventilation	Band 3 – enclose the process	Other
Engineering controls	Ensure adequate ventilation.				
PPE	Choose body protection according to the amount and concentration of the dangerous substance at the workplace. If this product is used regularly/frequently use Type A (Organic vapour) respirator. Always wear tightly fitting safety goggles. Refer to Australian/New Zealand Standard AS/NZS 1337:1992 for guidance on selection and use of protective eyewear. Wear face-shield and protective suit for handling the concentrate or large volume/frequent use. Wear impervious sleeves, apron and gloves. Disinfect and clean after every use. Refer to Australian/New Zealand Standard AS/NZS 2161.1: 2000 for guidance on selection and use of protective gloves.				

9.0 Physical & Chemical Properties

Appearance	Colourless to light brown coloured, thin fluid.	**Partition co-efficient: n-octonol/water**	log Pow: 0.3.
Odour	Moderate.	**Solubility**	Water soluble.
pH	4.5 – 6.0	**Vapour pressure**	Approx 0.027hPa (20^{o}C).
Melting / freezing point	~Minus 60^{o}C.	**Vapour density**	No data.
Boiling point	~220^{o}C.	**Relative density**	0.97 – 0.99g/mL.
Flash point	110^{o}C.	**Auto-ignition temperature**	No data.
Evaporation rate	No data.	**Decomposition temperature**	No data.
Flammability	Combustible (C1).	**Viscosity**	No data.
Explosive limits	0.8 – 9.4% volume in air.	**Other**	No data.

10.0 Stability & Reactivity

Reactivity	Reacts with strong oxidants.
Chemical stability	Stable under recommended conditions of storage.
Possibility of hazardous reactions	The substance can presumably form explosive peroxides.
Conditions to avoid	Heat and ignition sources.
Incompatible materials	Incompatible with oxidizing agents (eg. hyphochlorites, peroxides), acids (eg. sulphuric acid).
Hazardous decomposition products	May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

11.0 Toxicological Information

Ingredient name / type	Diethylene Glycol Monobutyl Ether CAS 112-34-5 (DGBE) **contained at ~70%** (Conflicting data exists)
Acute toxicity	It has been estimated that the single oral dose of diethylene glycols lethal for humans is approximately 1ml/kg. Low in acute oral toxicity in animals (LD_{50} >2,400mg/kg bw) and also by single inhalation. No rats died when exposed for 7 hr to the maximum attainable vapour concentration of DGBE, estimated to be 18ppm (120mg/m^3).
Skin corrosion / irritation	The chemical produced slight to moderate skin erythema and slight to marked oedema in New Zealand White rabbits when tested for four hours under semi-occlusive conditions according to OECD Test Guideline 404. The skin reactions (erythema and oedema) were reversible in all animals eight days after removal of the patch. The effects were not sufficient to warrant a hazard classification. Prolonged exposure defats the skin.
Serious eye damage / irritation	DGBE (0.1mL) was moderately irritant to the rabbit eye. Effects were most severe within the first 24 hr, the eye returned to normal within 14 days. In an eye irritation study in rabbits, the chemical was found to cause moderately severe conjunctivitis and mild corneal injury observed at 24, 48 and 72 hr. Effects were reversible within 14 days. In a similar study conducted in rabbits, application of the chemical caused lesions, notably in the iris and cornea, which persisted until the end of the 21-day study. Conjunctival redness and oedema were reversible within 14 days. It is noted that washing the eyes was delayed in this study (washed at 72 hr), which may have resulted in the persistence of the effects. In a third study, involving two animals, reversible effects in the conjunctivae and no effects on the cornea and iris were reported.

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Respiratory or skin sensitisation	Results of limited repeated dose oral work reported suggests that material may be rather toxic when inhaled or absorbed through skin in repeated small doses. DGBE F344 rats, groups of 15 males and 15 females received 0, 13, 39, and 117mg/m^3 DGBE 6 hr/day, 5 day/wk for 5 wk. In males of the mid and high dose group the relative liver weight had a dose-related decrease. Hepatocyte vacuolisation consistent with fatty change and increased relative liver weight was observed in females of the high dose group. This effect was also observed in the females of the control and other treatment groups, but it was less intense. In the high dose group 3/10 females had a pale liver. The chemical was not found to induce dermal sensitisation when tested using the guinea pig maximisation test (EU RAR, 1999).
Germ cell mutagenicity	Although a weak positive response was observed in an in vitro mouse lymphoma assay, this was in the absence of metabolic activation. Overall, the weight of the evidence indicates that the chemical has no mutagenic or genotoxic potential.
Carcinogenicity	Limited evidence of carcinogenic effect.
Reproductive toxicity	Results of developmental toxicity studies conducted in rabbits and rats through oral and dermal exposure indicate that the chemical does not show specific reproductive or developmental toxicity (EU RAR, 1999). In a one-generation oral gavage study with rats, no effects on fertility were observed (NOAEL 1,000mg/kg bw/d). The only effect on offspring was reduced bodyweight gain (NOAEL 500mg/kg bw/d). In a one-generation dermal study with rats, no effects were observed (NOAEL 2,000mg/kg bw/d).
Specific Target Organ Toxicity (STOT) – single exposure	No data.
Specific Target Organ Toxicity (STOT) – repeated exposure	Studies show that DGBE can cause kidney and liver damage, skin and eye irritation as well as blood changes but do not cause damage to the reproductive, genetic and developmental abnormalities, sensitisation or respiratory systems.
Aspiration hazard	**Represents a specific hazard as route of entry for localised and systemic effects.**
Skin - acute	The results of a skin irritation study according to EC guidelines indicate that the substance should not be classified as irritating to the skin. No treatment-related effects were found in a subacute study in the rabbit (4 wk, 5 day/wk, 7 hr/day, without occlusion; 30mg/kg/day). Also in a semichronic study, rat (13 wk, 5 day/wk, 6 hr/day, occlusion; 200, 600 and 2,000mg/kg bw/day) neurotoxicity study.
Inhaled - acute	LC_{50} (Rat, 2 h) : >29ppm.
Swallowed - acute	It has been estimated that the single oral dose of diethylene glycols lethal for humans is approximately 1ml/kg.
Eye - acute	Causes serious eye irritation - Category 2A (H319).
Early onset symptoms	Central nervous depression (no hypocalcemic tetany or metabolic acidosis), nausea, vomiting, sometimes diarrhoea & headache.
Delayed health effects from exposure	Abdominal & lumbar pain & costovertebral angle tenderness; transient polyuria & then oliguria, progressing to anuria; acute renal failure; pathological lesions may appear in brain, lung, liver, meninges & heart. (Observations in animals suggest remote possibility of pulmonary edema, intravascular hemolysis & bone marrow depression).
Exposure level & health effects	**See:** https://toxnet.nlm.nih.gov/cgi-bin/sis/search2/f?./temp/~gN0xjH:3
Interactive effects	No data.
Other	A harmful contamination of the air will be reached slowly on evaporation of this substance at 20°C; the air contamination rate is accelerated when spraying or dispersing takes place.
Ingredient name / type	Ingredient Nonylphenol ethoxylate CAS 127087-87-0 (NPE) is **contained at ~20%**
Acute toxicity / serious eye damage / irritation	In a 4 hr acute inhalation study, Sprague Dawley rats were exposed to aerosolised detergent NPE at 0.50, 0.90, or 1.41g/m^3. Sub-lethal effects included eye and respiratory irritation, hypoactivity, laboured and audible breathing, unkempt fur, and distended abdomens. At two weeks post-exposure, the animals showed body weight loss or decreased weight gain and perinasal encrustation. The LC_{50} was reported as 1.60g/m^3 (CalEPA, 2010).
Skin corrosion / irritation	Skin irritation study: a gel containing 4% NPE (with 9 EO units) was applied 11 times (occlusively) on human 212 subjects. 11 subjects out of 804 showed some effect and the authors concluded that the product was not irritating or sensitising to the skin. Nonoxynol-9 has a deleterious effect on the uterine epithelium.
Respiratory or skin sensitisation	Strong sensitisation reactions were observed in 12 contact dermatitis patients patch tested with a 2.0% aqueous solution of Nonoxynol-9.
Germ cell mutagenicity	The genotoxicity of 3 OTC spermicidal gels (3% Nonoxynol-9) was evaluated in an Ames test using *Salmonella typhimurium* strains TA1535 and TA1538 with and without metabolic activation. All 3 spermicides were classified as strongly genotoxic.
Carcinogenicity	No evidence of carcinogenicity; formulations and doses of spermicides containing Nonoxynol-9 for 30 weeks is unlikely to influence cervical cytology.

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Reproductive toxicity	The oral administration of a product containing 14% nonylphenoxy polyethoxy ethanol Nonoxynol) on days 7 to 16 of gestation did not result in any significant differences in fetal malformations between experimental and control groups.
Specific Target Organ Toxicity (STOT) – single exposure	No relevant data.
Specific Target Organ Toxicity (STOT) – repeated exposure	No relevant data.
Aspiration hazard	**Represents a specific hazard as route of entry for localised and systemic effects.**
Skin - acute	4% Nonoxynol-9 serves as a positive control for skin irritation in animal trials.
Inhaled - acute	Aerosol sprays represent an inhalation hazard for respiratory distress, lung irritation and (likely) reversible corrosive effects. Some data indicates "most droplets/particles incidentally inhaled from trigger sprays would be deposited in the nasopharyngeal and bronchial regions and would not be respirable (i.e., they would not enter the lungs) to any appreciable amount". (CIR).
Swallowed - acute	LD_{50} ~2g/kg (guinea pig) to 4g/kg (mice/rabbits) (slightly toxic).
Eye - acute	A 20% solution of Nonoxynol-9 (0.1mL) at pH 6.1 was applied directly onto the cornea of one eye of each of 10 rabbits, 14 guinea pigs, 8 rats and 11 mice. Corneal changes and lesions were evaluated at 1, 4, 7, and 30 hr; scores were 34.4, 41.4, 30.8, and 70.7 (maximum score = 100) for rabbits, guinea pigs, rats and mice, respectively. In rabbits, the effect of rinsing the treated eye with 20mL of water 4 seconds after instillation of the sample was also studied. The results of this study indicated that Nonoxynol-9 is a moderate to severe eye irritant. Washing the eye lowered the average irritation index by 36.8%.
Early onset symptoms	The most common effects are skin, mucosal and eye irritation. Vomiting and diarrhoea may occur, but are usually self-limited. Aspiration can cause upper airway irritation and respiratory distress, most often in young children. Rarely, ingestion can cause caustic injury to the GI tract. Significant corneal injury is rare, but has been reported after ocular exposure.
Delayed health effects from exposure	No data.
Exposure level & health effects	In *in vitro* skin penetration studies using cadaver skin (rinse off and leave-on protocols), the total skin penetration of Nonoxynol-9 was less than 1% over a period of 48 hrs. **See:** https://toxnet.nlm.nih.gov/cgi-bin/sis/search2/f?./temp/~oRzFWr:2
Interactive effects	No data.
Other	Concern has centred around environmental contaminants that exert estrogenic effects. A class of nonionic surfactants, the nonylphenol ethoxylates (such as the compound nonoxynol), are an example of one such group of contaminants. A 2001 Environment Canada and Health Canada Priority Substances List and Assessment Report on Nonylphenol and its Ethoxylates is available. According to this report, Nonoxynol-9 has lower estrogenic activity when compared to Nonoxynol-1 and Nonoxynol-2. EU restrictions on nonylphenol and nonylphenol ethoxylates in industrial products is based on the premise that European water bodies are at risk from the combined effects of nonylphenol ethoxylate (NPEO) degradation products, i.e., nonylphenol, short-chain NPEOs, and nonylphenol ethoxycarboxylates (NPECs), *including effects arising from their potential endocrine disrupting properties.*
Ingredient name / type	Permethrin CAS 52645-53-1 (Perm) is contained at **~4%**
Acute toxicity	Dermal application for 21 days elicited no toxicity. The oral and intravenous LD_{50} values in rats are 1,500 and >270mg/kg, respectively. Other studies indicate oral LD_{50} values of 3,800 and 410mg/kg in female rats for the undiluted compound and for the active ingredient dissolved in an unsaturated oil, respectively. Acute exposure in feeding experiments in dogs, the 90-day no-effect level was 200ppm.
Skin corrosion / irritation	Application results in Itching and burning of the skin (undiluted).
Serious eye damage / irritation	Mildly irritant to eyes and skin.
Respiratory or skin sensitisation	Skin sensitiser causes burning and tingling (Paraesthesia) with a latency period of approximately 30 min, peak by 8 hr, and deterioration within 24 hr. For a 1% solution applied in shampoo, 3 out of 10 volunteers developed mild, patchy erythema, which faded between days 4-7. The allergenic properties of pyrethroids with early pyrethrum preparations are marked in comparison with other pesticides. Many cases of contact dermatitis and respiratory allergy have been reported. Persons sensitive to ragweed pollen are particularly prone to such reactions.
Germ cell mutagenicity	Studies in animals have found no evidence of birth defects or reduced fertility and there is no evidence of these effects in humans.
Carcinogenicity	US Environmental Protection Agency classified as "Likely to be Carcinogenic to Humans" by the oral route. This classification was based on two reproducible benign tumour types (lung and liver) in the mouse, equivocal evidence of carcinogenicity in Long-Evans rats, and supporting structural activity relationships (SAR) information.

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Reproductive toxicity	Classified by US FDA pregnancy category B. There are no adequate and well-controlled studies in pregnant women to determine the teratogenicity of Permethrin. It is not known if affects the quantity or composition of breast milk.
Specific Target Organ Toxicity (STOT) – single exposure	Pyrethroids act by interfering with the transmission of nerve impulses along the neurons. Breathing of the spray mist or vapors of permethrin by workers should be avoided.
Specific Target Organ Toxicity (STOT) – repeated exposure	Long-term feeding of pyrethroids resulted in an increase in liver size and excessive formation of bile duct tissue. The 90-day No-Observable Effect Level was 5mg/kg/day in dogs fed permethrin.
Aspiration hazard	**Represents a specific hazard as route of entry for localised and systemic effects.**
Skin - acute	Can cause redness and irritation. Dermal application (Rats) for 21 days elicited no toxicity.
Inhaled - acute	Irritation symptoms in the skin and upper respiratory tract were reported in 63% of workers who were exposed to (trans:cis=75:25) and 33% who were exposed to with a different isomer composition (trans:cis=60:40). The frequency of each symptom was about 10% in each case.
Swallowed - acute	Low oral toxicity.
Eye - acute	Acute exposure: Undiluted applied to the eyes of female rabbits caused minimal pain, redness, chemosis of the conjunctiva, and a slight discharge.
Early onset symptoms	Mild and transient burning and stinging are the most common adverse effects reported following topical application.
Delayed health effects from exposure	Considered not to have delayed neurotoxic potential typically associated with organophosphates. Pyrethroids interfere with brain and nerve tissues. Dizziness, headache, nausea and muscle twitching are effects from exposure to very high levels of these pesticides. Reduced energy, changes in awareness, convulsions and loss of consciousness may also be symptoms of high exposure. Changes in mental state may last several days after exposure to high levels of has ended. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Permethrin may persist in fatty tissues, with half-lives of 4 to 5 days in brain and body fat. "Likely to be Carcinogenic to Humans" by the oral route.
Exposure level & health effects	**See:** https://toxnet.nlm.nih.gov/cgi-bin/sis/search2/f?./temp/~jWPDKE:1 Subchronic or Prechronic Exposure: Rats fed 3,000ppm in their diet for 6 months showed typical motor symptoms in the early stages of the study but no other changes except for a slight increase in liver weight associated with an increase in smooth endoplasmic reticulum. Rats fed 5,000ppm or more for 14 days developed acute poisoning & deaths occurred. Animals showing severe symptoms showed axonal swelling & myelin degeneration in the sciatic nerve.
Interactive effects	No data.
Other	No data.

12.0 Ecological Information

Ecotoxicity (concentrate as supplied)	Toxicity to fish LC_{50} estimated 2mg/L. Toxicity to daphnia and other aquatic invertebrates EC_{50} Daphnia magna estimated 30mg/L. Toxicity to algae ErC_{50} (Desmodesmus subspicatus) estimated 100mg/L. Toxicity to aquatic plants LC_{50} estimated 200mg/mL. Toxicity to bacteria LC_{50} estimated 300mg/mL.
Persistence & biodegradability	NPE: Not readily biodegradable (NPE at 50mg/mL) 25 – 30% over 28 days. Permethrin: Not readily biodegradable.
Bioaccumulative potential	Permethrin: Bioconcentration factor (BCF) 300.
Mobility in soil	Permethrin: Immobile in soil.
Other adverse effects	**Very toxic to cats,** as little as 1mL topically applied can be lethal. **Highly toxic** to bees and other beneficial insects.

13.0 Disposal Considerations

Disposal containers & methods	Triple rinse containers before disposal. DO NOT re-use contaminated containers. Dispose of empty containers by wrapping in paper and putting in garbage for disposal at an approved landfill, or other approved facility in accordance with relevant local, regional and national regulations.
Physical/chemical properties that may affect disposal options	No data.
Effects of sewage disposal	Preferably dispose of product by use.
Special precautions for incineration or land fill	Dispose of excess product to an approved landfill site. Prevent contamination of drains or waterways as aquatic life may be threatened and environmental damage may result.

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14.0 Transport Information

UN number	Proper shipping name / technical name	Transport hazard class	Packing group
None allocated.	None allocated.	No data.	No data.
Environmental hazards for transport purposes		**Special precautions for user**	
None allocated.		Do not transport or store with foods.	

15.0 Regulatory Information

Montreal Protocol	Stockholm Convention	Rotterdam Convention	Basel Convention	MARPOL
Not applicable.	Not included.	Not included.	Not included.	Not included.
SUSMP	S5 Caution DIETHYLENE GLYCOL MONOBUTYL ETHER S5 Caution PERMETHRIN			
Prohibitions / licensing restrictions	Not for distribution or supply in Europe. NOT TO BE USED FOR ANY PURPOSE OR IN ANY MATTER CONTRARY TO THE LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.			
APVMA	APVMA approval number: 36713			
NICNAS	All constituents are included in the Australian Inventory of Chemical Substances (AICS); IMAP assessments have been considered and applied as relevant for this product.			

16.0 Other Information

16.1 Consumer & General Usage Information

Directions for use	Use appropriate workplace practices. Dilute as directed. Dispense with care into suitably labelled trigger pack. Avoid generating aerosols. If use is regular or exposure is likely adopt appropriately stringent controls. Wash all exposed skin, surfaces and PPE after use.
Directions for removal	Use running water to rinse away excess. Then use plain soap and running water to remove residues.
Nano materials	None identified.
Animal derived ingredients	None identified.

16.2 SDS Preparation

Date prepared	20 December 2016.
Changes made	GHS, full review.
Reference standards	Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice February 2016. ISBN 978-0-642-33311-7. GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) Fourth revised edition.
Resources relied upon include	Hazardous Substances Data Bank (HSDB) https://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB Suppliers' SDS; RTECS Toxicity Database; IRAC; CDC NIOSH, HSIS, Safe Work Australia GHS Hazardous Chemical Information List.

Disclaimer: This SDS provides safety data only for the product and circumstances of use nominated. The SDS summarises our best knowledge of the specific, well known and equivocally demonstrated health and safety hazard information pertaining to workplace use of the nominated substance(s) however the author expressly disclaims that the SDS is complete, is a representation or is a guarantee. Published and other resources have been relied upon, and in some cases conflicting information has been identified. Each user should read the SDS and consider the information in the context of their specific conditions and circumstances, and in conjunction with other products.

16.3 Key Abbreviations or Acronyms Used

%	percent (parts per hundred)
***C or ^{o}C**	degrees Celsius
<	less than
>	greater than
ACCC	Australian Competition and Consumer Commission
ADG	Australian Dangerous Goods
AICS	Australian Inventory of Chemical Substances
APVMA	Australian Pesticides and Veterinary Medicines Authority
AS	Australian Standard
ASCC	Australian Society of Cosmetic Chemists
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (Registry Number)
cc	cubic centimetres (equivalent to mL)
COD	Chemical Oxygen Demand
COSING	The European Commission database with information on Cosmetic Ingredients & Substances Dangerous Goods

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DGBE	Diethylene Glycol Monobutyl Ether
EINECS	European Inventory of Existing Commercial Chemical Substances (Identifying Number)
EU	Europe / European
g	gram
GHS	Globally Harmonised System (safety symbols and labelling)
GMO	Genetically Modified Organism
h or hr	hour
HAZCHEM	Emergency action code of numbers and letters that provide information to emergency services especially fire fighters
HSIS	The Safe Work Australia Hazardous Substances Information System
IATA	The International Air Transport Association
ICAO	The International Civil Aviation Organization
kg	kilogram
L	litre
LC_{50}	LC_{50} is the average concentration of a material (by a defined route) that causes the death of 50% (one half) of a group of (defined) test animals. Normally quoted in mg/kg body weight.
LD_{50}	LD_{50} is the average dose of a material, given all at once, which causes the death of 50% of a group of (defined) test animals. Normally quoted in mg/kg body weight. Products with a LD_{50} of less than 5,000mg/kg are scheduled poisons in Australia (see SUSMP).
LD_{LO}	Lethal Dose Low is the minimum amount of a material shown to be lethal to a specified type of animal. Typically quoted in mg/kg body weight.
m or min	minute
m^3	cubic metre
Max or max	maximum
mg	milligram
Min or min	minimum
mL	millilitre
mm	millimetre
mm Hg	millimetre of Mercury
MOS	Margin of Safety
MRL	Maximum Residue Limit
MSDS	Material Safety Data Sheet (see also SDS)
NICNAS	The National Industrial Chemicals Notification and Assessment Scheme (AUSTRALIA)
NIOSH	The National Institute for Occupational Safety and Health (USA)
NOAEL	No Observed Adverse Effects Limit
NOHSC	National Occupational Health and Safety Commission (AUSTRALIA)
NOS	Not Otherwise Specified
NPE	Nonylphenol ethoxylate (NPE, also referred to as nonoxynols)
NZS	New Zealand Standard
OECD	Organization for Economic Co-operation and Development (Test Method number)
OSHA	The Occupational Safety and Health Administration (USA)
Perm.	Permethrin (Active ingredient of this formulation)
PEL	Permissible Exposure Limit
pH	(pH) A measure of acidic (less than 7) or alkalinity (above 7); extreme values represent extreme acidic or alkaline conditions. Typically products with a pH less than three or greater than 11 are scheduled poisons (SUSMP).
ppb	parts per billion
PPE	Personal Protective Equipment
ppm	parts per million
RTECS	The Registry of Toxic Effects of Chemical Substances
S5	Schedule 5, SUSMP CAUTION
SCCP	Scientific Committee on Cosmetic Products and Non-Food Products (EUROPE)
SDS	Safety Data Sheet, (previously called MSDS) now SDS under GHS
STEL	Short Term Exposure Limit
SUSMP	Standard for the Uniform Scheduling of Medicine & Poisons (AUSTRALIA) also Poisons Standard
TLV	Threshold Limit Value
TWA	Time Weighted Average
ug	microgram
uL	microlitre
UN	United Nations (number)
US or USA	The United States of America

End of SDS