

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

GHS Product identifier: Shield 40 mg/mL Pour-On Solution For Horses
Other means of identification: Shield
Recommended use of the product and restrictions on use: Aids in the control of synthetic pyrethroid susceptible nuisance flies and biting insects and an aid in the control of Queensland Itch on horses.
Supplier's Details: Pharmachem
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Eagle Farm QLD 4009
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Contact Person: Mr Gray Boston
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SECTION 2 HAZARDS IDENTIFICATION

Classification of Product:
This product is classified as Dangerous Goods under the Australian Dangerous Goods Code, and as a health hazard and an aquatic hazard in accordance with the following classification criteria of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Third Revised Edition.

GHS Hazard Statements:

Permethrin 80:20 cis:trans

Health hazard: Skin sensitisation Category 1

GHS label elements, including precautionary statements:

Pictogram:



Signal word: Warning

Hazard statement: May cause an allergic skin reaction

Precautionary statement

Prevention: Wear protective gloves and clothing.

Response: If on skin wash with plenty of soap and water.
If skin irritation or rash occurs get medical advice.
Wash contaminated clothing before re-use.

Aquatic hazard: Acute aquatic toxicity Category 2
Chronic aquatic toxicity Category 2

GHS label elements, including precautionary statements:

Pictogram: No symbol

Signal word: No signal word

Hazard statements: Acute: Toxic to aquatic life
Chronic: Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention: Read label before use.
Avoid release to the environment.

Response: No response statement

2-(2-butoxyethoxy) ethanol

Physical Hazard: Flammable liquid - Category 4

GHS label elements, including precautionary statements:

Pictogram: Not required

Signal word: Warning

Hazard statements: Combustible liquid

Precautionary statement

Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep cool

Response: In case of fire use carbon dioxide, dry chemical, foam or water fog to extinguish

Health Hazards:

Serious eye irritation: Category 2A

GHS label elements, including precautionary statements:

Pictogram:



Signal word: Warning

Hazard statements: Causes serious eye irritation

Precautionary statements:

Prevention: Read label before use.
Wear protective gloves, clothing, eye/and/or face protection
Avoid release to the environment.

Response: 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 or attention.

Specific target organ toxicity,
single exposure:

Narcotic effects - Category 3

GHS label elements, including precautionary statements:

Pictogram:



Signal word: Warning

Hazard statements: May cause drowsiness or dizziness

Precautionary statements:

Prevention: Do not breathe fumes or vapour.
Wash exposed parts of the body thoroughly after handling.
Do not eat drink or smoke when using this product.
Use only outdoors or in a well-ventilated area

Response: If inhaled, remove person to fresh air and keep comfortable for breathing
If exposed or concerned, contact a Poisons Information Centre or doctor

Storage: Store locked up

Specific target organ toxicity, repeated exposure - Category 1

GHS label elements, including precautionary statements:

Pictogram:



Signal word: Danger
Hazard statements: Causes damage to organs through prolonged or repeated exposure

Precautionary statements:

Prevention: Do not breathe fumes or vapour.
Wash exposed parts of the body thoroughly after handling.
Do not eat drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.

Response: If inhaled, remove person to fresh air and keep comfortable for breathing
If exposed or concerned, contact a Poisons Information Centre or doctor

Storage: Store locked up

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Cas No.	Proportion (%)
Permethrin cis:trans 80:20	52645-53-1	4
2-(2-butoxyethoxy) ethanol	112-34-5	>95

SECTION 4 FIRST AID MEASURES

The following First Aid directions have been set by the Office of Chemical Safety and Environmental Health (OCSEH) of the Commonwealth Department of Health and Aging:

If poisoning occurs, contact a doctor or Poisons Information Centre. *Phone Australia 131126, New Zealand 0800 764 766. (FAISD Handbook, Handbook of First Aid Instructions, Safety Directions, Warning Statements, and General Safety Precautions for, Agricultural and Veterinary Chemicals)*

Advice to doctor: Treat symptomatically.

Additional information: Safety deluge showers should be provided where this product is being used.

SECTION 5 FIRE FIGHTING MEASURES

Suitable extinguishing media:
Carbon dioxide, dry chemical, foam, water fog

Hazards from combustion products:

Fire decomposition products from this product may form toxic mixtures in confined spaces. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Special protective precautions and equipment for fire fighters:

If a significant quantity of this product is involved in a fire, call the fire brigade. Immediately evacuate the area of unnecessary personnel. When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and respirator. All skin areas should be covered.

Additional information:

This is a C1 combustible liquid. There is a moderate risk of an explosion if it is involved in a fire.

Hazchem Code: 2Z

SECTION 6 ACCIDENTAL RELEASE MEASURES

Emergency procedures:

Wear protective clothing and equipment when attending to emergency situations involving this product. Keep all ignition sources away from any spilled product. Contain spill and prevent spilled material from entering drains or water courses.

Methods and materials for containment and clean up:

Absorb onto sand, vermiculite or other suitable absorbent material. Sweep up and shovel or collect recoverable product into labelled containers for disposal.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling:

The following Safety Directions have been set by the Office of Chemical Safety and Environmental Health (OCSEH) of the Commonwealth Department of Health and Aging:

Harmful if swallowed. Will damage eyes. Will irritate skin. Avoid contact with eyes and skin. When using the product use rubber gloves. If product in eyes, wash it out immediately with water. Wash hands after use. After each days' use, wash gloves. (*FAISD Handbook, Handbook of First Aid Instructions, Safety Directions, Warning Statements, and General Safety Precautions for Agricultural and Veterinary Chemicals*)

Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames, and make sure that the product does not come into contact with strong oxidising agents.

Conditions for safe storage, including any incompatibilities:

Store below 30°C (Room Temperature) in the original container, tightly closed, in a dry place out of direct sunlight.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

National exposure standards:	None set
Biological limit values:	None set
Engineering controls:	Use in a well-ventilated area.
Personal protective equipment:	Clean overalls or protective clothing should be worn together with impermeable (rubber or PVC) protective gloves. Eye protection in the form of goggles or full face shield is advisable. Wash contaminated clothing and other protective equipment before storing or re-using.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colourless, mobile liquid.
Odour:	Odourless.
Melting/Softening Point:	No specific data. Liquid at normal temperatures.
Boiling Point:	231°C
Volatile Materials:	No specific data
Flashpoint:	78°C (closed cup)
Specific Gravity:	0.98
Solubility In Water:	Insoluble
Corrosiveness:	Not corrosive

SECTION 10 STABILITY AND REACTIVITY

Chemical stability: Stable

Conditions to avoid:	None known
Incompatible materials:	Strong oxidising agents, strong bases.
Hazardous decomposition products:	Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke.
Hazardous reactions:	Hazardous polymerisation has not been reported

SECTION 11 TOXICOLOGICAL INFORMATION

Routes of Exposure:

Exposure to Shield can occur through ingestion and eye or skin contact. The major routes of exposure are expected to be eye and skin contact. There are no toxicology data available for Shield. Information has been provided for permethrin and 2-(2-butoxyethoxy) ethanol).

Signs and symptoms of exposure:

Oral:	Not known
Eyes:	Causes irritation
Skin:	Not known
Inhalation:	Not known
Sensitizing:	May cause an allergic skin reaction

Acute toxicity:

Permethrin (LD ₅₀)	
Oral (Rat)	430 - 4000 mg kg ⁻¹
Oral (Mouse)	540 - 2700 mg kg ⁻¹
Skin (Rat)	> 4000 mg kg ⁻¹
Skin (Rabbit)	> 2000 mg kg ⁻¹

Note: Toxicity depends on cis-trans ratio of the product.

The ADI (Acceptable Daily Intake) for permethrin is set at 0.05 mg/kg/day. The corresponding NOEL (No-observable-effect-level) is set at 5 mg/kg/day. Values taken from Australian ADI List, as updated.

2-(2-butoxyethoxy) ethanol (LD₅₀)

Oral (Rat)	6560 mg kg ⁻¹
Oral (Mouse)	850 mg kg ⁻¹
Oral (Guinea Pig)	2000 mg kg ⁻¹
Skin (Rabbit)	4120 mg kg ⁻¹

A study carried out by the Naval Medical Research Institute demonstrated renal toxicity of 2-(2-butoxyethoxy) ethanol when administered by gavage at 65, 327 or 1630 mg/kg/BW/day (males) or 51, 254, or 1270 mg/kg/BW/day (females).¹

Summary of Toxicology:

Permethrin can induce skin sensations and paraesthesia in exposed workers, which develop after a latent period of approximately 30 min, peak by 8 h and disappear within 24 h. Numbness, itching, tingling, and burning are symptoms frequently reported. No poisoning cases have been reported. The likelihood of oncogenic effects in human beings is extremely low or non-existent. There are no indications that permethrin has an adverse effect on human beings when used as recommended.

2-(2-butoxyethoxy) ethanol can cause eye irritation. In a sub-chronic animal study, it caused renal toxicity at relatively high doses by direct exposure.

Shield is a pour-on product that is supplied in a measure pack, the nature of which minimises the exposure of the user to the product. Similarly, the measured dose is then poured directly onto the back line of the animal being treated without further involvement of the operator. The exposure of the operator is minimal

¹ Hobson DW, Wyman JF, Lee LH, Bruner RH, Uddin DE, The subchronic toxicity of diethylene glycol monobutylether administered orally to rats, Naval Medical Research Institute, NMRI 87-45, Aug 1987 (IUCLID 2000)

and the amounts of product to which the operator may be exposed are minimal under the use pattern approved by the Australian Pesticides and Veterinary Medicines Authority.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity:

Permethrin is highly toxic to fish and aquatic arthropods and the APVMA has approved the following label statement for the protection of livestock, wildlife and others as part of the registration process:

Do not contaminate ponds, waterways or drains with the chemical or used containers.

2-(2-butoxyethoxy) ethanol is not expected to have any adverse ecological affects.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods and containers:

Triple rinse container with water before disposal. Add the rinsings to the tank mix or dispose of rinsate in a disposal pit specifically marked and set up for this purpose away from desirable plants and their roots, and watercourses. Do not dispose of undiluted product on-site. Break, crush or puncture the container to prevent reuse. Dispose of in a local authority landfill site. If there is no local authority landfill readily available in your area, bury the containers under at least 500 mm of soil in a disposal pit as above.

Special precautions for landfill or incineration:

Contact local authority before disposing product or empty containers in local authority landfill. Do not burn waste material or containers.

SECTION 14 TRANSPORT INFORMATION

UN Number:	3082
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (CONTAINS PERMETHRIN) MARINE POLLUTANT
Packaging Group:	PG III
Hazchem Code:	2Z

This material is dangerous goods under the Australian Dangerous Goods Code and is therefore regulated under transport legislation in Australia. However, the limited quantity provisions apply to labelling, signage and mixed loads because the largest pack size in which this material is presented is 1L and the limited quantity nominated for this material in the Code is 5L.

SECTION 15 REGULATORY INFORMATION

This product has been registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA). In granting registration to any product, the APVMA has exercised its legislative responsibility to ensure that the product is suitably formulated and properly labelled and, when used according to instructions is:

- safe to the host, the user, consumers and the environment;
- efficacious (that is, the product does the job it claims it shall do); and
- not unduly prejudicial to trade.

The APVMA uses the services of a number of Australian and State government agencies as advisers to help with some of these evaluations of applications for registration of agricultural and veterinary chemical products. These include:

- the Office of Chemical Safety (OCS) of the Commonwealth Department of Health and Ageing which:
 - evaluates and reports on toxicology and metabolism studies; proposes first aid and safety directions; determines poison schedule classifications; and establishes acceptable daily intakes (ADIs) and acute reference doses (ARfD); and
 - evaluates the occupational health and safety aspects of an application and recommends safety directions and occupational controls on use and advises on a Material Safety Data Sheet (MSDS);

- the Commonwealth Department of the Environment and Heritage (DEH) which evaluates environmental data and recommends appropriate use controls and instructions for the product that will protect the environment; and
- State and Territory departments responsible for agricultural and primary industries which evaluate and reports on efficacy and target crop or animal safety data for new agricultural chemicals and new uses of registered products. In some cases, the APVMA contracts this work out to other agencies such as universities, the CSIRO or to other experts.

Although all ingredients appear in the Australian Inventory of Chemical Substances (AICS), they have not been assessed by NICNAS (National Industrial Chemicals Notification and Assessment Scheme)

This material has been included in Schedule 5 of the Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) by the Commonwealth Department of Health and Aging.

SECTION 16 OTHER INFORMATION

SDS version:	3
Date of Revision:	February 2017
Update of sections:	Update to GHS

CONTACT POINT

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References:

1. FAISD Handbook, Handbook of First Aid Instructions, Safety Directions, Warning Statements, and General Safety Precautions for, Agricultural and Veterinary Chemicals, (as updated)
2. Approved Criteria For Classifying Hazardous Substances, NOHSC:1008 (2004)
3. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011 (2003)]
4. AICS (Australian Inventory of Chemical Substances), Safework Australia
5. APVMA Manual of Requirements and Guidelines for Agricultural Chemicals, Version 4.1, (as updated)
6. ADI [Acceptable Daily Intake] List, Commonwealth Department of Health & Aged Care, TGA, (as updated)
7. The Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) 7th Edition
8. The Poisons Standard (as updated), Commonwealth Department of Health
9. Hazardous Chemicals Information System (HCIS), Safework Australia (as updated)
10. Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Third Revised Edition, United Nations, New York and Geneva, 2009
11. International Programme On Chemical Safety, Environmental Health Criteria 94, Permethrin, UNEP, ILO, WHO, Geneva, 1990

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