SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

- **Product name**: Cydectin Long Acting Injection for Sheep
- **Synonyms**: APVMA No.: 58532
- **Other means of identification**: Not Available

Relevant identified uses of the substance or mixture and uses advised against

- **Relevant identified uses**: Use according to manufacturer's directions.

Details of the supplier of the safety data sheet

- **Registered company name**: Virbac (Australia) Pty Limited
- **Address**: 361 Horsley Road Milperra NSW 2214 Australia
- **Telephone**: 1800 242 100
- **Fax**: +61 2 9772 9773
- **Website**: www.virbac.com.au
- **Email**: au_customerservice@virbac.com.au

Emergency telephone number

- **Association / Organisation**: Poisons Information Centre
- **Emergency telephone numbers**: 13 11 26
- **Other emergency telephone numbers**: Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

- **Poisons Schedule**: S5
- **Classification [1]**: Acute Toxicity (Oral) Category 4, Specific target organ toxicity - repeated exposure Category 2

Legend:


Label elements

- **Hazard pictogram(s)**: ![Warning](warning.png)

- **SIGNAL WORD**: WARNING

Hazard statement(s)

- **H302**: Harmful if swallowed.
- **H373**: May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s) Prevention

- **P260**: Do not breathe dust/fume/gas/mist/vapours/spray.
- **P264**: Wash all exposed external body areas thoroughly after handling.
- **P270**: Do not eat, drink or smoke when using this product.

Precautionary statement(s) Response

- **P314**: Get medical advice/attention if you feel unwell.
- **P301+P312**: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- **P330**: Rinse mouth.
Precautionary statement(s) Storage
Not Applicable

Precautionary statement(s) Disposal

| PS01 | Dispose of contents/container in accordance with local regulations. |

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances
See section below for composition of Mixtures

Mixtures

<table>
<thead>
<tr>
<th>CAS No</th>
<th>% [weight]</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>113507-06-5</td>
<td>2-3</td>
<td>moxidectin</td>
</tr>
<tr>
<td>Not Available</td>
<td>1-10</td>
<td>Ingredients determined not to be hazardous</td>
</tr>
<tr>
<td>57-55-6</td>
<td>&gt;60</td>
<td>propylene glycol</td>
</tr>
</tbody>
</table>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact
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.
- Seek medical attention without delay if pain persists or recurs, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact
If skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.
- WARNING: AVOID SELF-INJECTION. Accidental self-injection may cause a persistent inflammatory or an allergic response. Medical advice should be sought as soon as possible on the management of all instances of self-injection, especially deep injections, those near a joint or those associated with bruising. The application of gentle pressure with absorbent material, e.g. facial tissues, to the needle puncture area will swab up unabsorbed product. Strong squeezing of the site should be avoided. The damaged area should be thoroughly cleansed and a suitable antiseptic applied.

Inhalation
If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

Ingestion
- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient’s condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.
- Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:
  - INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

WHERE ADMISSION TO HOSPITAL IS UNCERTAIN OR INEVITABLE
- Monitor and treat, where necessary, for arrhythmias.
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.
- DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

Indication of any immediate medical attention and special treatment needed
As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- Monitor and treat, where necessary, for pulmonary oedema.
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.
- DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and Currance, P.L.
EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For abamectin (avermectins):
Toxicity following accidental ingestion may be minimised by emesis-induction within one half hour of exposure. Since abamectin is thought to bind to glutamate-gated chloride ion channels, it is probably wise to avoid drugs that also interact with other ligand-gated chloride channels, including those that enhance GABA activity in patients with potentially toxic abamectin exposure.
Avoid drugs that enhance GABA activity (barbiturate, benzodiazepines, valproic acid, etc.).

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

<table>
<thead>
<tr>
<th>Fire Incompatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</td>
</tr>
</tbody>
</table>

Advice for firefighters

<table>
<thead>
<tr>
<th>Fire Fighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert Fire Brigade and tell them location and nature of hazard.</td>
</tr>
<tr>
<td>Wear full body protective clothing with breathing apparatus.</td>
</tr>
<tr>
<td>Prevent, by any means available, spillage from entering drains or water course.</td>
</tr>
<tr>
<td>Use fire fighting procedures suitable for surrounding area.</td>
</tr>
<tr>
<td>Do not approach containers suspected to be hot.</td>
</tr>
<tr>
<td>Cool fire exposed containers with water spray from a protected location.</td>
</tr>
<tr>
<td>If safe to do so, remove containers from path of fire.</td>
</tr>
<tr>
<td>Equipment should be thoroughly decontaminated after use.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fire/Explosion Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combustible.</td>
</tr>
<tr>
<td>Slight fire hazard when exposed to heat or flame.</td>
</tr>
<tr>
<td>Heating may cause expansion or decomposition leading to violent rupture of containers.</td>
</tr>
<tr>
<td>On combustion, may emit toxic fumes of carbon monoxide (CO).</td>
</tr>
<tr>
<td>May emit acid smoke.</td>
</tr>
<tr>
<td>Mists containing combustible materials may be explosive.</td>
</tr>
<tr>
<td>Combustion products include: carbon dioxide (CO2).</td>
</tr>
<tr>
<td>Other pyrolysis products typical of burning organic material.</td>
</tr>
<tr>
<td>May emit poisonous fumes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HAZCHEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
See section 8

Environmental precautions
See section 12

Methods and material for containment and cleaning up

<table>
<thead>
<tr>
<th>Minor Spills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove all ignition sources.</td>
</tr>
<tr>
<td>Clean up all spills immediately.</td>
</tr>
<tr>
<td>Avoid breathing vapours and contact with skin and eyes.</td>
</tr>
<tr>
<td>Control personal contact with the substance, by using protective equipment.</td>
</tr>
<tr>
<td>Contain and absorb spill with sand, earth, inert material or vermiculite.</td>
</tr>
<tr>
<td>Wipe up.</td>
</tr>
<tr>
<td>Place in a suitable, labelled container for waste disposal.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Spills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear area of personnel and move upwind.</td>
</tr>
<tr>
<td>Alert Fire Brigade and tell them location and nature of hazard.</td>
</tr>
<tr>
<td>Wear full body protective clothing with breathing apparatus.</td>
</tr>
<tr>
<td>Prevent, by any means available, spillage from entering drains or water course.</td>
</tr>
<tr>
<td>Stop leak if safe to do so.</td>
</tr>
<tr>
<td>Contain spill with sand, earth or vermiculite.</td>
</tr>
<tr>
<td>Collect recoverable product into labelled containers for recycling.</td>
</tr>
<tr>
<td>Neutralise/decontaminate residue (see Section 13 for specific agent).</td>
</tr>
<tr>
<td>Collect solid residues and seal in labelled drums for disposal.</td>
</tr>
<tr>
<td>Wash area and prevent runoff into drains.</td>
</tr>
<tr>
<td>After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</td>
</tr>
<tr>
<td>If contamination of drains or waterways occurs, advise emergency services.</td>
</tr>
</tbody>
</table>

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

<table>
<thead>
<tr>
<th>Safe handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid all personal contact, including inhalation.</td>
</tr>
<tr>
<td>Wear protective clothing when risk of exposure occurs.</td>
</tr>
</tbody>
</table>

Continued...
### Exposure Controls / Personal Protection

#### Control Parameters

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Ingredient</th>
<th>Material name</th>
<th>TWA</th>
<th>STEL</th>
<th>Peak</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia Exposure Standards</td>
<td>propylene glycol</td>
<td>Propane-1,2-diol: particulates only</td>
<td>10 mg/m³</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Australia Exposure Standards</td>
<td>propylene glycol</td>
<td>Propane-1,2-diol total: (vapour &amp; particulates)</td>
<td>474 mg/m³ / 150 ppm</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

**EMERGENCY LIMITS**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Material name</th>
<th>TEEL-1</th>
<th>TEEL-2</th>
<th>TEEL-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>propylene glycol</td>
<td>Polypropylene glycols</td>
<td>30 mg/m³</td>
<td>330 mg/m³</td>
<td>2,000 mg/m³</td>
</tr>
<tr>
<td>propylene glycol</td>
<td>Propylene glycol; (1,2-Propanediol)</td>
<td>30 mg/m³</td>
<td>1,300 mg/m³</td>
<td>7,900 mg/m³</td>
</tr>
</tbody>
</table>

**Ingredient Data**

- **Moxidectin**: Not Available
- **Propylene glycol**: Not Available

**Suitable Container**

- Lined metal can, lined metal pail/can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

**Storage Incompatibility**

- Avoid reaction with oxidising agents.
- Avoid strong acids, acid chlorides, acid anhydrides and chlorofluoromethanes.

**Other Information**

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuffs containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storage and handling recommendations contained within this SDS.

**Conditions for Safe Storage, Including Any Incompatibilities**

**Suitable Container**

- Lined metal can, lined metal pail/can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

**Storage Incompatibility**

- Avoid reaction with oxidising agents.
- Avoid strong acids, acid chlorides, acid anhydrides and chlorofluoromethanes.

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Data**

**Appropriate Engineering Controls**

- For potent pharmacological agents:
  - Powders
  - To prevent contamination and overspillage, no open handling of powder should be allowed.
  - Powder handling operations are to be done in a powders weighing hood, a glove box, or other equivalent ventilated containment system.
  - In situations where these ventilated containment hoods have not been installed, a non-ventilated enclosed containment hood should be used.
  - Pending changes resulting from additional air monitoring data, up to 300 mg can be handled outside of an enclosure provided that no grinding, crushing or other dust-generating process occurs.
  - An air-purifying respirator should be worn by all personnel in the immediate area in cases where non-ventilated containment is used, where significant amounts of material (e.g., more than 2 grams) are used, or where the material may become airborne (as through grinding, etc.).
  - Powder should be put into solution or a closed or covered container after handling.
  - If using a ventilated enclosure that has not been validated, wear a half-mask respirator equipped with HEPA cartridges until the enclosure is validated for use.

- Solutions Handling:
  - Solutions can be handled outside a containment system or without local exhaust ventilation during procedures with no potential for aerosolisation. If the procedures have a potential for aerosolisation, an air-purifying respirator is to be worn by all personnel in the immediate area.
  - Solutions used for procedures where aerosolisation may occur (e.g., vortexing, pumping) are to be handled within a containment system or with local exhaust ventilation.
  - In situations where this is not feasible (may include animal dosing), an air-purifying respirator is to be worn by all personnel in the immediate area. If using a ventilated enclosure that has not been validated, wear a half-mask respirator equipped with HEPA cartridges until the enclosure is validated for use.
  - Ensure gloves are protective against solvents in use.

HEPA terminated local exhaust ventilation is required at points of dust, fume or vapour generation.

Barrier protection or laminar flow cabinets should be considered for laboratory scale handling.

**Material Data**

**Exposure Data**

- **Propylene glycol**: Propane-1,2-diol: particulates only
  - TWA: 10 mg/m³
  - STEL: Not Available
  - Peak: Not Available
  - Notes: Not Available

- **Propylene glycol**: Propane-1,2-diol total: (vapour & particulates)
  - TWA: 474 mg/m³ / 150 ppm
  - STEL: Not Available
  - Peak: Not Available
  - Notes: Not Available

- **Moxidectin**: Not Available
A fume hood or vented balance enclosure is recommended for weighing/ transferring quantities exceeding 500 mg.

When handling quantities up to 500 gram in either a standard laboratory with general dilution ventilation (e.g. 6-12 air changes per hour) is preferred. Quantities up to 1 kilogram may require a designated laboratory using fume hood, biological safety cabinet, or approved vented enclosures. Quantities exceeding 1 kilogram should be handled in a designated laboratory or containment laboratory using appropriate barrier/ containment technology.

Manufacturing and pilot plant operations require barrier/ containment and direct coupling technologies. Barrier containment technology and direct coupling (totally enclosed processes that create a barrier between the equipment and the room) typically use double or split butterfly valves and hybrid unidirectional airflow/ local exhaust ventilation solutions (e.g. powder containment booths). Gloves bags, isolator glove box systems are optional. HEPA filtration of exhaust from dry product handling areas is required.

Fume-hoods and other open-face containment devices are acceptable when face velocities of at least 1 m/s (200 feet/minute) are achieved. Partitions, barriers, and other partial containment technologies are required to prevent migration of the material to uncontrolled areas. For non-routine emergencies maximum local and general exhaust are necessary. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

<table>
<thead>
<tr>
<th>Type of Contaminant:</th>
<th>Air Speed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>solvent, vapours, etc. evaporating from tank (in still air)</td>
<td>0.25-0.5 m/s (50-100 f/min.)</td>
</tr>
<tr>
<td>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyor transfers (released at low velocity into zone of active generation)</td>
<td>0.5-1 m/s (100-200 f/min.)</td>
</tr>
<tr>
<td>direct spray, drum filling, conveyor loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td>
<td>1-2.5 m/s (200-500 f/min.)</td>
</tr>
</tbody>
</table>

Within each range the appropriate value depends on:

- Lower end of the range
- Upper end of the range
- 1: Room air currents minimal or favourable to capture
- 1: Disturbing room air currents
- 2: Contaminants of low toxicity or of nuisance value only
- 2: Contaminants of high toxicity
- 3: Intermittent, low production
- 3: High production, heavy use
- 4: Large hood or large air mass in motion
- 4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2.5 m/s (200-500 f/min.) for extraction of gases discharged 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

The need for respiratory protection should also be assessed where incidental or accidental exposure is anticipated: Dependent on levels of contamination, PAPR, full face air purifying devices with P2 or P3 filters or air supplied respirators should be evaluated.

The following protective devices are recommended where exposures exceed the recommended exposure control guidelines by factors of:

- 10: high efficiency particulate (HEPA) filters or cartridges
- 10-25: loose-fitting (Tyvek or helmet type) HEPA powered air purifying respirator
- 25-50: a full face-piece negative pressure respirator with HEPA filters
- 50-100: tight-fitting, full face-piece HEPA PAPR
- 100-1000: a hood-shroud HEPA PAPR or full face-piece supplied air respirator operated in pressure demand or other positive pressure mode.

### Personal protection

For laboratory, larger scale or bulk handling or where regular exposure in an occupational setting occurs:

- Chemical goggles
- Face shield. Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

### Eye and face protection

See Hand protection below

### Skin protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

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

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
dexterity
Select gloves to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- 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, AS/NZS 2161.10.1 or national equivalent) 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, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

For general applications, gloves with a thickness typically greater than 0.35 mm are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers’ technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:
- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

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.

- Rubber gloves (nitrile or low-protein, powder-free latex, latex/nitrile). Employees allergic to latex gloves should use nitrile gloves in preference.
- Double gloving should be considered.
- PVC gloves.
- Change gloves frequently and when contaminated, punctured or torn.
- Wash hands immediately after removing gloves.
- Protective shoe covers. [AS/NZS 2210]
- Head covering.

### GLOVE SELECTION INDEX

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Material</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUTYL</td>
<td>C</td>
</tr>
<tr>
<td>NATURAL RUBBER</td>
<td>C</td>
</tr>
<tr>
<td>NEOPRENE</td>
<td>C</td>
</tr>
<tr>
<td>PE/EVALPE</td>
<td>C</td>
</tr>
<tr>
<td>PVA</td>
<td>C</td>
</tr>
<tr>
<td>VITON</td>
<td>C</td>
</tr>
</tbody>
</table>

* CPI - Chemwatch Performance Index
  A: Best Selection
  B: Satisfactory; may degrade after 4 hours continuous immersion
  C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. * Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### Respiratory protection


Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

<table>
<thead>
<tr>
<th>Required Minimum Protection Factor</th>
<th>Half-Face Respirator</th>
<th>Full-Face Respirator</th>
<th>Powered Air Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 5 x ES</td>
<td>A-AUS / Class 1 P2</td>
<td>-</td>
<td>A-PAPR-AUS / Class 1 P2</td>
</tr>
<tr>
<td>up to 25 x ES</td>
<td>Air-line*</td>
<td>A-2 P2</td>
<td>A-PAPR-2 P2</td>
</tr>
<tr>
<td>up to 50 x ES</td>
<td>-</td>
<td>A-3 P2</td>
<td>-</td>
</tr>
<tr>
<td>50+ x ES</td>
<td>-</td>
<td>Air-line**</td>
<td>-</td>
</tr>
</tbody>
</table>

* - Continuous-flow; ** - Continuous-flow or positive pressure demand
  A - Full-face
  A(All classes) - Organic vapours, B, AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Relative density (Water = 1)</td>
<td>0.935-0.937</td>
</tr>
<tr>
<td>Partition coefficient n-octanol / water</td>
<td>Not Available</td>
</tr>
<tr>
<td>Auto-ignition temperature (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Continued...
SECTION 10 STABILITY AND REACTIVITY

Reactivity
- See section 7

Chemical stability
- Unstable in the presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Possibility of hazardous reactions
- See section 7

Conditions to avoid
- See section 7

Incompatible materials
- See section 7

Hazardous decomposition products
- See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

**Inhaled**
The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

**Ingestion**
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.

**Skin Contact**
Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.

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

**Chronic**
Harmful: danger of serious damage to health by prolonged exposure if swallowed.
Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. As a rule the material produces, or contains a substance which produces severe lesions. Such damage may become apparent following direct application in subchronic (90 day) toxicity studies or following sub-acute (28 day) or chronic (two-year) toxicity tests.
Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

---

Cydectin Long Acting Injection for Sheep

<table>
<thead>
<tr>
<th></th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

**moxidectin**

<table>
<thead>
<tr>
<th></th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal (rabbit) LD50: &gt;2000 mg/kg[^2]</td>
<td></td>
<td>Eye (rabbit): slight irritant *</td>
</tr>
<tr>
<td>Oral (rat) LD50: 106 mg/kg[^2]</td>
<td></td>
<td>Skin (rabbit): non-irritant *</td>
</tr>
</tbody>
</table>

**propylene glycol**

<table>
<thead>
<tr>
<th></th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal (rabbit) LD50: 11890 mg/kg[^2]</td>
<td></td>
<td>Eye (rabbit): 100 mg - mild</td>
</tr>
<tr>
<td>Oral (rat) LD50: 20000 mg/kg[^2]</td>
<td></td>
<td>Eye (rabbit): 500 mg/24h - mild</td>
</tr>
<tr>
<td></td>
<td>Skin (human): 104 mg/3d Intermittent Mod</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin (human): 500 mg/7 days mild</td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**
1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2
2. Value obtained from manufacturer’s SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances
For avermectins:

Technical avermectin B1 exhibits high mammalian acute toxicity. It is not considered to be mutagenic and does not sensitise skin. It is not readily absorbed by mammals and the majority of the residue is excreted in the faeces within 2 days. The 24-hour rat chronic feeding/ oncogenicity study and 94-week mouse chronic toxicity/oncogenicity study were negative for oncogenic potential. The results of a sensitisation study (rats, rabbit, mouse) have been evaluated and showed that avermectin B1 produces developmental toxicity (cleft palate) in the CF1 mouse. Toxicology data were also evaluated for the delta-9,11-isomer of avermectin B1 which is a plant photodegradate that can range between 5 and 20 percent of the residue on/in cottonseed. This isomer possesses avermectin-like toxicological activity. It was concluded that the delta-9,11-isomer also produces developmental toxicity (cleft palate) in mice, but not in rats. In addition to avermectin and its delta-9,11-isomer, toxicological data were evaluated for the "polymers" of avermectin, which constitute a large percentage (up to 70%) of the total residue on/ in cottonseed. Review of the toxicology data indicated that these polymer degradates do not possess avermectin-like toxicological activity and for this reason need not be included in the tolerance expression for residues on/in cottonseed.

Abamectin (a mixture of avermectin isomers) is a reproductive toxin in laboratory animals at doses which are acute toxicity to the mother. In development toxicity studies with abamectin, cleft palates were seen in mice and rabbits andclubbing of the forepaws was seen in rabbits. The no-observed-adverse-effect level (NOAEL) for maternal and developmental toxicity in rabbits was 1 mg/kg/day. In CF1 mice, a strain recognised to be particularly sensitive to avermectins, the NOAEL for maternal toxicity was 0.05 mg/kg/day and the NOAEL for malformations was 0.2 mg/kg/day. Studies show that the sensitivity of a subpopulation of CF1 mice to avermectins is due to the absence of a transmembrane P-glycoprotein, a significant component of the blood-brain interface that normally acts as a non-selective protective barrier in a wide range of species including humans. CF1 mice are therefore an unlikely candidate for assessing human risk. No evidence of developmental toxicity was seen in oral studies in rats in the absence of maternal toxicity (NOAEL = 1.6 mg/kg/day).

A multigeneration reproduction study with propylene glycol was conducted in rats at doses of 0.4, 0.8, 1.6, and 3.2 mg/kg/day for both sexes. At the highest dose, a significant decrease in reproductive performance and developmental toxicity was seen in the offspring. However, no adverse effects were observed in the maternal animals at any dose level. The NOAEL for reproductive toxicity was 0.8 mg/kg/day, and the NOAEL for developmental toxicity in the offspring was 1.6 mg/kg/day. These data suggest that propylene glycol is not a reproductive or developmental toxicant in rats.

Another study suggested that the concentrations of PGs (counted as the sum of propylene glycol and glycol ethers) in indoor air, particularly bedroom air, is linked to increased risk ranging from 50% to 180%. This concentration has been linked to use of water-based paints and water-based system cleansers. Patients with asthma have been shown to react to PGs in indoor air.

Concentrations of PGs in indoor air, particularly bedroom air, is linked to increased risk of developing numerous respiratory and immune disorders in children, including asthma, hay fever, eczema, and allergies, with increased risk ranging from 50% to 180%. This concentration has been linked to use of water-based paints and water-based system cleaners. Patients with asthma have been shown to react to PGs in indoor air.

Concentrations of PGs in indoor air, particularly bedroom air, is linked to increased risk of developing numerous respiratory and immune disorders in children, including asthma, hay fever, eczema, and allergies, with increased risk ranging from 50% to 180%. This concentration has been linked to use of water-based paints and water-based system cleaners. Patients with asthma have been shown to react to PGs in indoor air.

Concentrations of PGs in indoor air, particularly bedroom air, is linked to increased risk of developing numerous respiratory and immune disorders in children, including asthma, hay fever, eczema, and allergies, with increased risk ranging from 50% to 180%. This concentration has been linked to use of water-based paints and water-based system cleaners. Patients with asthma have been shown to react to PGs in indoor air.
SECTION 12 ECOLOGICAL INFORMATION

Toxicity

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Test Duration (HR)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cydectin Long Acting Injection for Sheep</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Moxidectin</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>LC50</td>
<td>96</td>
<td>Fish</td>
<td>710mg/L</td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>48</td>
<td>Crustacea</td>
<td>&gt;1000mg/L</td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>96</td>
<td>Algae or other aquatic plants</td>
<td>19000mg/L</td>
</tr>
<tr>
<td></td>
<td>NOEC</td>
<td>168</td>
<td>Fish</td>
<td>98mg/L</td>
</tr>
</tbody>
</table>

Legend:
- Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

Persistence and degradability

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>LOW</td>
<td>LOW</td>
</tr>
</tbody>
</table>

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>LOW (BCF = 1)</td>
</tr>
</tbody>
</table>

Mobility in soil

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>HIGH (KOC = 1)</td>
</tr>
</tbody>
</table>

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.
- Otherwise:
  - If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
  - Where possible retain label warnings and SDS and observe all notices pertaining to the product.
  - DO NOT allow wash water from cleaning or process equipment to enter drains.
  - It may be necessary to collect all wash water for treatment before disposal.
  - In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
  - Where in doubt contact the responsible authority.
  - Recycle wherever possible or consult manufacturer for recycling options.
  - Consult State Land Waste Authority for disposal.
  - Bury or incinerate residue at an approved site.
  - Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 TRANSPORT INFORMATION

Labels Required

- Marine Pollutant: NO
- HAZCHEM: Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Continued...
SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

MOXIDECTIN(113507-06-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Hazardous Substances Information System - Consolidated Lists

PROPYLENE GLYCOL(57-55-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Exposure Standards
Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

<table>
<thead>
<tr>
<th>National Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia - AICS</td>
<td>N (moxidectin)</td>
</tr>
<tr>
<td>Canada - DSL</td>
<td>N (moxidectin)</td>
</tr>
<tr>
<td>Canada - NDSL</td>
<td>N (moxidectin; propylene glycol)</td>
</tr>
<tr>
<td>China - IECSC</td>
<td>N (moxidectin)</td>
</tr>
<tr>
<td>Europe - EINEC / ELINCS / NLP</td>
<td>N (moxidectin)</td>
</tr>
<tr>
<td>Japan - ENCS</td>
<td>N (moxidectin)</td>
</tr>
<tr>
<td>Korea - KECI</td>
<td>N (moxidectin)</td>
</tr>
<tr>
<td>New Zealand - NZIoC</td>
<td>Y</td>
</tr>
<tr>
<td>Philippines - PICCS</td>
<td>N (moxidectin)</td>
</tr>
<tr>
<td>USA - TSCA</td>
<td>N (moxidectin)</td>
</tr>
</tbody>
</table>

Legend:  
Y = All ingredients are on the inventory  
N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information
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.

The 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.

Definitions and abbreviations
PC – TWA: Permissible Concentration-Time Weighted Average
PC – STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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.