WSD Low Volume Levamisole Oral Anthelmintic for Sheep
WSD Agribusiness Pty Ltd
Chemwatch: 32-6555
Version No: 6.1
Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

SECTION 1 Identification of the substance / mixture and of the company / undertaking

<table>
<thead>
<tr>
<th>Product Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name</strong></td>
</tr>
<tr>
<td>WSD Low Volume Levamisole Oral Anthelmintic for Sheep</td>
</tr>
<tr>
<td><strong>Chemical Name</strong></td>
</tr>
<tr>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Synonyms</strong></td>
</tr>
<tr>
<td>WSD Low Volume Levamisole Oral Anthelmintic for Sheep and Cattle.</td>
</tr>
<tr>
<td><strong>Chemical formula</strong></td>
</tr>
<tr>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Other means of identification</strong></td>
</tr>
<tr>
<td>Not Available</td>
</tr>
</tbody>
</table>

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

**Relevant identified uses**
For the treatment and control of Levamisole sensitive strains of internal parasites. DO NOT USE in female sheep or cattle which are producing or may in the future produce milk or milk products for human consumption.

Details of the supplier of the safety data sheet

**Registered company name**
WSD Agribusiness Pty Ltd

**Address**
7 Koojan Avenue South Guildford WA 6055 Australia

**Telephone**
+61 8 9321 2888

**Fax**
+61 8 9479 4088

**Website**
Not Available

**Email**
contact@wsdagribusiness.com

Emergency telephone number

**Association / Organisation**
CHEMWATCH EMERGENCY RESPONSE

**Emergency telephone numbers**
+61 1800 951 288

**Other emergency telephone numbers**
+61 3 9573 3188

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 Hazards identification

Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Poisons Schedule</th>
<th>Classification [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td>S5</td>
<td>Serious Eye Damage/Eye Irritation Category 2B</td>
</tr>
</tbody>
</table>

**Legend:**

Label elements

**Hazard pictogram(s)**
Not Applicable

**Signal word**
Warning

Hazard statement(s)
H320 Causes eye irritation.

**Precautionary statement(s) Prevention**

P264 Wash all exposed external body areas thoroughly after handling.

**Precautionary statement(s) Response**

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

**Precautionary statement(s) Storage**

Not Applicable

**Precautionary statement(s) Disposal**

Not Applicable

**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>Not Available</td>
<td></td>
<td>levamisole</td>
</tr>
<tr>
<td>Not Available</td>
<td></td>
<td>as</td>
</tr>
<tr>
<td>16595-80-5</td>
<td>8</td>
<td>levamisole hydrochloride</td>
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<tr>
<td>Not Available</td>
<td>&lt;10</td>
<td>Ingredients determined not to be hazardous</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>balance</td>
<td>water</td>
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</table>

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available

**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 contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

**Inhalation**

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

**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.
- NOTE: Wear a protective glove when inducing vomiting by mechanical means.

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):

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**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.

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**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.
- Propracaine hydrochloride should be used to assist eye irrigation.

**SECTION 5 Firefighting measures**

**Extinguishing media**

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

**Special hazards arising from the substrate or mixture**

<table>
<thead>
<tr>
<th>Fire Incompatibility</th>
<th>None known.</th>
</tr>
</thead>
</table>

**Advice for firefighters**

**Fire Fighting**

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use fire fighting procedures suitable for surrounding area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

**Fire/Explosion Hazard**

- Non combustible.
- Not considered a significant fire risk, however containers may burn.
- May emit poisonous fumes.
- May emit corrosive fumes.

**HAZCHEM**

Not Applicable
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>
<th>Moderate hazard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Clean up all spills immediately.</td>
<td>• Clear area of personnel and move upwind.</td>
</tr>
<tr>
<td>• Avoid breathing vapours and contact with skin and eyes.</td>
<td>• Alert Fire Brigade and tell them location and nature of hazard.</td>
</tr>
<tr>
<td>• Control personal contact with the substance, by using protective equipment.</td>
<td>• Wear breathing apparatus plus protective gloves.</td>
</tr>
<tr>
<td>• Contain and absorb spill with sand, earth, inert material or vermiculite.</td>
<td>• Prevent, by any means available, spillage from entering drains or water course.</td>
</tr>
<tr>
<td>• Wipe up.</td>
<td>• Stop leak if safe to do so.</td>
</tr>
<tr>
<td>• Place in a suitable, labelled container for waste disposal.</td>
<td>• Contain spill with sand, earth or vermiculite.</td>
</tr>
</tbody>
</table>

| Major Spills |
|--------------|------------------|
| Moderate hazard. | • Wear breathing apparatus plus protective gloves. |
| • Prevent, by any means available, spillage from entering drains or water course. | • Neutralise/decontaminate residue (see Section 13 for specific agent). |
| • Stop leak if safe to do so. | • Collect solid residues and seal in labelled drums for disposal. |
| • Contain spill with sand, earth or vermiculite. | • Wash area and prevent runoff into drains. |
| • Collect recoverable product into labelled containers for recycling. | • After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. |
| • Neutralise/decontaminate residue (see Section 13 for specific agent). | • If contamination of drains or waterways occurs, advise emergency services. |

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling

• DO NOT allow clothing wet with material to stay in contact with skin
• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.
• Use in a well-ventilated area.
• Avoid contact with moisture.
• Avoid contact with incompatible materials.
• When handling, DO NOT eat, drink or smoke.
• Keep containers securely sealed when not in use.
• Avoid physical damage to containers.
• Always wash hands with soap and water after handling.
• Work clothes should be laundered separately. Launder contaminated clothing before re-use.
• Use good occupational work practice.
• Observe manufacturer’s storage and handling recommendations contained within this SDS.
• Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Other information

• Store in original containers.
• Keep containers securely sealed.
• Store in a cool, dry, well-ventilated area.
• Store away from incompatible materials and foodstuff 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

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

Storage incompatibility

• Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

• Occupational Exposure Limits (OEL)

INGREDIENT DATA

Continued...
Not Available

### Emergency Limits

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TEEL-1</th>
<th>TEEL-2</th>
<th>TEEL-3</th>
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</thead>
<tbody>
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<td>WSD Low Volume Levamisole Oral Anthelmintic for Sheep</td>
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<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

### Ingredient | Original IDLH | Revised IDLH |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>levamisole hydrochloride</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>water</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

### Occupational Exposure Banding

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Occupational Exposure Band Rating</th>
<th>Occupational Exposure Band Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>levamisole hydrochloride</td>
<td>E</td>
<td>( \leq 0.01 \text{ mg/m}^3 )</td>
</tr>
</tbody>
</table>

**Notes:** Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

### MATERIAL DATA

#### Exposure controls

**For potent pharmacological agents:**

**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.

**Appropriate engineering controls**

- Safety glasses with side shields.
- Chemical goggles.
- 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]

**Personal protection**

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

**Eye and face protection**

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

**Hands/feet protection**

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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 moisturiser 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 tested 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.

As defined in ASTM F-739-96 in any application, gloves are rated as:
· Excellent when breakthrough time > 480 min
· Good when breakthrough time > 20 min
· Fair when breakthrough time < 20 min
· Poor when glove material degrades

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 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.

Body protection See Other protection below

Other protection:
· Overalls.
· P.V.C apron.
· Barrier cream.
· Skin cleansing cream.
· Eye wash unit.

Recommended material(s)

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the computer-generated selection:

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

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Clear blue acidic liquid; mixes with water to form unstable suspension.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odour</td>
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</tr>
<tr>
<td>Odour threshold</td>
<td>Not Available</td>
</tr>
</tbody>
</table>
### 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**
- Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.

Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

**Ingestion**
- Accidental ingestion of the material may be damaging to the health of the individual.

**Skin Contact**
- Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.

Skin contact with the material may be harmful; systemic effects may result following absorption.
- The material may accentuate any pre-existing dermatitis condition
- Open cuts, abraded or irritated skin should not be exposed to this material
- 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**
- Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

Continued...
Chronic

Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. There exists limited evidence that shows that skin contact with the material is capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals. Sensitisation may result in allergic dermatitis responses including rash, itching, hives or swelling of extremities.

### WSD Low Volume Levamisole Oral Anthelmintic for Sheep

<table>
<thead>
<tr>
<th></th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>levamisole hydrochloride</td>
<td>TOXICITY Oral (Rat) LD50; 180 mg/kg[2]</td>
<td>IRRITATION Not Available</td>
</tr>
<tr>
<td>water</td>
<td>TOXICITY Oral (Rat) LD50; &gt;90000 mg/kg[2]</td>
<td>IRRITATION Not Available</td>
</tr>
</tbody>
</table>

**Legend:**

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

### LEVAMISOLE HYDROCHLORIDE

for tetramisole hydrochloride Intravenous (rabbit) LD50: 15-20 mg/kg Flaccid paralysis, convulsions, dermatitis after systemic exposure recorded. Non-mutagenic in mammals.

**WATER**

No significant acute toxicological data identified in literature search.

**Acute Toxicity**

- Water

**Skin Irritation/Corrosion**

- Water

**Serious Eye Damage/Irritation**

- Water

**Respiratory or Skin sensitisation**

- Water

**Mutagenicity**

- Water

**Carcinogenicity**

- Water

**Reproductivity**

- Water

**STOT - Single Exposure**

- Water

**STOT - Repeated Exposure**

- Water

**Aspiration Hazard**

- Water

**Legend:**

- Data either not available or does not fill the criteria for classification
- Data available to make classification

### SECTION 12 Ecological information

#### Toxicity

<table>
<thead>
<tr>
<th>WSD Low Volume Levamisole Oral Anthelmintic for Sheep</th>
<th>Endpoint</th>
<th>Test Duration (hr)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
</tr>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>levamisole hydrochloride</th>
<th>Endpoint</th>
<th>Test Duration (hr)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
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<table>
<thead>
<tr>
<th>water</th>
<th>Endpoint</th>
<th>Test Duration (hr)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
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<td>Not Available</td>
<td>Not Available</td>
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</tbody>
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**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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>levamisole hydrochloride</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>water</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>levamisole hydrochloride</td>
<td>LOW (LogKOW = 1.84)</td>
</tr>
</tbody>
</table>

Mobility in soil

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>levamisole hydrochloride</td>
<td>LOW (KOC = 8652)</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 cannot 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.
  - Recycle wherever possible.
  - Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
  - Dispose of by: burial in a land-fill specifically licensed to accept chemical and/or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material).
  - Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

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

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

<table>
<thead>
<tr>
<th>Product name</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>levamisole hydrochloride</td>
<td>Not Available</td>
</tr>
<tr>
<td>water</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Transport in bulk in accordance with the ICG Code

<table>
<thead>
<tr>
<th>Product name</th>
<th>Ship Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>levamisole hydrochloride</td>
<td>Not Available</td>
</tr>
<tr>
<td>water</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 15 Regulatory information

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

levamisole hydrochloride is found on the following regulatory lists
**Australia Chemicals with non-industrial uses removed from the Australian Inventory of Chemical Substances (old Inventory)**

- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

**Australian Inventory of Industrial Chemicals (AIIC)**

**International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs**

- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

**International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)**

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### National Inventory Status

<table>
<thead>
<tr>
<th>National Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia - AIIC / Australia Non-Industrial Use</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada - DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada - NDSL</td>
<td>No (levamisole hydrochloride; water)</td>
</tr>
<tr>
<td>China - IECSC</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe - EINEC / ELINCS / NLP</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan - ENCS</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea - KECI</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand - NZIoC</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines - PICCS</td>
<td>Yes</td>
</tr>
<tr>
<td>USA - TSCA</td>
<td>No (levamisole hydrochloride)</td>
</tr>
<tr>
<td>Taiwan - TCSI</td>
<td>Yes</td>
</tr>
<tr>
<td>Mexico - INSQ</td>
<td>Yes</td>
</tr>
<tr>
<td>Vietnam - NCI</td>
<td>Yes</td>
</tr>
<tr>
<td>Russia - FBEPH</td>
<td>No (levamisole hydrochloride)</td>
</tr>
</tbody>
</table>

**Legend:**
- Yes = All CAS declared ingredients are on the inventory
- No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

### SECTION 16 Other information

**Revision Date:** 01/11/2019  
**Initial Date:** 06/08/2012

### SDS Version Summary

<table>
<thead>
<tr>
<th>Version</th>
<th>Date of Update</th>
<th>Sections Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>08/04/2016</td>
<td>Ingredients</td>
</tr>
<tr>
<td>6.1</td>
<td>01/11/2019</td>
<td>One-off system update. NOTE: This may or may not change the GHS classification</td>
</tr>
</tbody>
</table>

### 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

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Continued...