



## MATERIAL SAFETY DATA SHEET

### Section 1 - Identification of Chemical Product and Company

**Ancare Australia Pty Limited**  
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**Substance:** Fenbendazole is andazole derivative; Levamisole is a thiazole derivative.  
**Trade Name:** **Switch with Selenium double combination drench for sheep**  
**Product Code:** APVMA no 61522  
**Product Use:** For the control of Levamisole and Fenbendazole sensitive mature and immature roundworms in sheep and lambs and as an aid in controlling selenium deficiencies in sheep and lambs  
**Creation Date:** **March, 2007**  
**Revision Date:** **February, 2008**

### Section 2 - Hazards Identification

#### Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Hazardous according to the criteria of ASCC.  
Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** R22. Harmful if swallowed.

**Safety Phrases:** S20, S24/25. When using, do not eat or drink. Avoid contact with skin and eyes.

**SUSDP Classification:** S6

**ADG Classification:** None allocated. Not a Dangerous Good under the ADG Code.

**UN Number:** None allocated

#### Emergency Overview

**Physical Description & Colour:** Milky white suspension.

**Odour:** No data; expected to be mild odour.

**Major Health Hazards:** Harmful if swallowed.

#### Potential Health Effects

This product may be a cumulative poison due to presence of selenium. Essential in small quantities for good health, continued exposures over a period of time may lead to selenium poisoning. However, given the dilute nature of the selenium in this product, it seems unlikely.

##### Inhalation:

**Short Term Exposure:** Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.

**Long Term Exposure:** No data for health effects associated with long term inhalation.

##### Skin Contact:

**Short Term Exposure:** Available data indicates that this product is not harmful. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term skin exposure.

##### Eye Contact:

**Short Term Exposure:** This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term eye exposure.

##### Ingestion:

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. This product is unlikely to cause any irritation problems in the short or long term.

**Long Term Exposure:** No data for health effects associated with long term ingestion.

**Issued by Ancare Australia Pty Ltd**

**Phone: 1800 001 973**

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### Carcinogen Status:

**ASCC:** No significant ingredient is classified as carcinogenic by ASCC.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%w/w	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Levamisole hydrochloride	5036-02-2	67.8g/L*	not set	not set
Fenbendazole	43210-67-9	50g/L	not set	not set
Sodium selenate	13410-01-0	1g/L**	not set	not set
Other non hazardous ingredients	secret	<100g/L	not set	not set
Water	7732-18-5	to 100	not set	not set

\* This is the quantity of Levamisole present as Levamisole hydrochloride

\*\* This is the quantity of Selenium present as Sodium selenate.

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The ASCC TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### Section 4 - First Aid Measures

#### General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Skin Contact:** Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

**Eye Contact:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

### Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Only small quantities of decomposition products are expected from this product at temperatures normally achieved in a fire. This will only occur after heating to dryness.

Fire decomposition products from this product are likely to be irritating if inhaled.

**Extinguishing Media:** Not Combustible. Use extinguishing media suited to burning materials.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** Does not burn.

**Upper Flammability Limit:** Does not burn.

**Lower Flammability Limit:** Does not burn.

**Autoignition temperature:** Not applicable - does not burn.

**Flammability Class:** Does not burn.

### Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours

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or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

### Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

### Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

**ASCC Exposure limits**                      **TWA (mg/m<sup>3</sup>)**                      **STEL (mg/m<sup>3</sup>)**

Exposure limits have not been established by ASCC for any of the significant ingredients in this product.

The ADI for Fenbendazole is set at 0.05mg/kg/day. The corresponding NOEL is set at 5mg/kg/day.

The ADI for Levamisole is set at 0.003mg/kg/day. The corresponding NOEL is set at 6mg/kg/day.

ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2006.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber, PVC.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

### Section 9 - Physical and Chemical Properties:

**Physical Description & colour:** Milky white suspension.

**Odour:** No data; expected to be mild odour.

**Boiling Point:** Approximately 100°C at 100kPa.

**Freezing/Melting Point:** Approximately 0°C.

**Volatiles:** Water component.

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Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	No data.
Specific Gravity:	Approx 1.0
Water Solubility:	Completely soluble in water.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	Not applicable - does not burn.

### Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** No particular Incompatibilities.

**Fire Decomposition:** Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. Hydrogen chloride gas, other compounds of chlorine. Water, sodium compounds. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

### Section 11 - Toxicological Information

#### Local Effects:

**Target Organs:** There is no data to hand indicating any particular target organs.

**Toxicity:** Toxic dose for Fenbendazole was not found. 500mg/kg was not toxic in a single dose. 250mg/kg daily for 30 days was not toxic to dogs.

A detailed report on Fenbendazole may be found at <http://www.inchem.org/documents/jecfa/jecmono/v29je04.htm>

The most significant toxicological findings with Fenbendazole were in the rat liver. However, Fenbendazole appears to be nongenotoxic.

The following data were found for Levamisole:

LD <sub>50</sub> (Oral), mouse 210mg/kg	LD <sub>50</sub> (Oral), rat 480mg/kg
LD <sub>50</sub> (IV), mouse 22mg/kg	LD <sub>50</sub> (IV), rat 24mg/kg
LD <sub>50</sub> (SC), mouse 84mg/kg	LD <sub>50</sub> (SC), rat 130mg/kg

A potential mutagen, levamisole induced chromosome gaps and breaks in human lymphocytes in vitro and in vivo and induced an increase in the mitotic index, numerical chromosomal changes (aneuploidy, polyploidy) and structural chromosomal changes]. Haemolytic anaemic was the main toxic effect demonstrated in repeated dose animal studies (LOAEL 1.25mg/kg/day). In humans, levamisole has been associated with various nonspecific effects (nausea, vomiting, rashes). Levamisole has induced leucopenia and agranulocytosis (idiosyncratic) at low doses.

**No cumulative effects are to be found with Levamisole or Fenbendazole. However, Selenium may accumulate in the body and so persistent mild exposures may lead to health problems.**

### Classification of Hazardous Ingredients

#### Ingredient

#### Risk Phrases

No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.

### Section 12 - Ecological Information

Insufficient data to be sure of status.

**Levamisole and Fenbendazole** are not toxic to birds, fish and honey bees. They do not bioaccumulate in animal systems. In soil, each has a half life of 5 to 70 days depending on sunlight, soil type and climatic conditions. Each also does not leach into soils and is readily degraded by hydrolysis and microbial action.



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### Section 13 - Disposal Considerations

**Disposal:** There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate: Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

### Section 14 - Transport Information

**ADG Code:** This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

### Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Levamisole, Fenbendazole, selenium compounds, are mentioned in the SUSDP.

### Section 16 - Other Information

**This MSDS contains only safety-related information. For other data see product literature.**

#### Acronyms:

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>ASCC</b>	Office of the Australian Safety and Compensation Council
<b>CAS Number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Number</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSDP</b>	Standard for the Uniform Scheduling of Drugs & Poisons
<b>UN Number</b>	United Nations Number

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

Please read all labels carefully before using product.

This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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