

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER

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| Product name: | Switch Hi Mineral |
| Product code: | A009970 |
| Recommended use: | For the treatment and control of internal parasites in sheep |
| Company details: | Boehringer Ingelheim Animal Health New Zealand Limited |
| Address: | Level 3, Boehringer Ingelheim Building 2 Osterley Way Manukau City Auckland 2104 New Zealand |
| Telephone number: | Phone: +64 9 980 1600 Fax: +64 9 980 1601 |
| Emergency telephone number: | Boehringer Ingelheim Freephone: 0800 800 822 National Poisons Centre : 0800 764 766 (0800 POISON) Fire Service, Ambulance : Dial 111 |
| Date of preparation: | 2 August 2007 |

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Liquid

Product components:

| <u>Name</u> | <u>CAS</u> | <u>Proportion</u> |
|---|------------|-------------------|
| Abamectin | 71751-41-2 | 1.0 |
| Levamisole HCl | 16595-80-5 | 40 |
| Silane, dichlorodimethyl-, reaction products with silica* | 68611-44-9 | 10-20 |
| Disodium cobalt EDTA | 15137-09-4 | 15.7 |
| Other | | to 1L |

SECTION 3: HAZARDS IDENTIFICATION

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| Hazard classifications: | 6.1E 6.5B 6.6B 6.8B 6.8C 6.9B 9.1A 9.4A |
| Priority and secondary identifiers: | WARNING KEEP OUT OF REACH OF CHILDREN WARNING Dangerous to the environment |
| Risk and safety phrases: | 6.1E May be harmful if swallowed. Handle with care. 6.5B Repeated exposure may cause skin allergy. Avoid skin contact. 6.6B Levamisole HCl may possibly cause damage to genetic material. Handle with care. 6.8B Abamectin and cobalt may affect development and/or reproduction. Handle with care. 6.8C Abamectin may have effects on or via lactation. Handle with care. 6.9B Levamisole HCl (blood and haematopoietic system), cobalt (respiratory and cardiovascular systems) and silane, dichlorodimethyl-, reaction products with silica* (respiratory tract and lungs) may possibly cause organ damage. Handle with care. 9.1A Very toxic to aquatic organisms. Avoid contamination of any water supply with product or empty container. 9.4A Very toxic to terrestrial invertebrates. Avoid release to the environment. |

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SECTION 4: FIRST AID MEASURES

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| Necessary first aid measures: | For advice contact the National Poisons Centre on 0800 POISON (0800 764 766), or a doctor immediately. <u>Ingestion:</u> If swallowed seek medical attention. Do NOT induce vomiting. <u>Eyes:</u> If splashed in eyes wash out immediately with water. <u>Skin:</u> If skin or hair contact occurs remove contaminated clothing and flush skin and hair with running water. <u>Inhalation:</u> Remove to fresh air. |
| Workplace facilities: | No special facilities required. |
| Required instructions: | Observe good work practices and avoid skin contact. Wash hands and exposed skin before meals and after use. Do not eat or drink while using. Launder protective clothing separately from other clothing, and before each reuse. |
| Notes for medical personnel: | Apply symptomatic therapy (no specific antidote). Note the nature of the product (possible mutagen, reproductive/developmental toxin and sensitiser). |

SECTION 5: FIRE FIGHTING MEASURES

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| Type of hazard: | Non flammable, Non combustible, Non explosive |
| Fire hazard properties: | Switch Hi Mineral is not classified as flammable, and will not support combustion. Hazardous fumes when heated to decomposition. |
| Regulatory requirements: | Not applicable |
| Extinguishing media and methods: | Treat the fire as for the other materials present. |
| Hazchem code: | 2X |
| Recommended protective clothing: | When fighting a major fire wear full protective clothing including breathing apparatus. |

SECTION 6: ACCIDENTAL RELEASE MEASURES

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| Emergency procedures: | Wear suitable protective clothing. Restrict access to contaminated area. Contain the spill and prevent further dispersion. Retrieve intact containers from site. Place damaged containers into containment devices. Absorb spills with inert material and place in waste containers. Wash the area with water and absorb with further inert material. Collect spilled material and place in sealable containers for subsequent disposal. Avoid contamination of water courses or sewers. Dispose of waste safely. |
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SECTION 7: HANDLING AND STORAGE

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| Precautions for safe handling: | Apply with well-maintained and calibrated equipment. Handle with care. |
| Regulatory requirements: | N/A |
| Handling practices: | N/A |
| Approved handlers: | Not required |
| Conditions for safe storage: | Store at or below 25°C. Protect from light. Keep out of reach of children. |
| Store site requirements: | This substance is subject to a requirement for an emergency management plan and secondary containment, whenever it is held in quantities of 100L or more. See Hazardous Substances (Emergency management) regulations 25 to 42. |

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Packaging: Packaging Schedule 3 (UN Packing Group III) for quantities >5L (Hazardous Substances Packaging Regulations 2001). Packs of less than or equal to 2.5L must be in child resistant packaging.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Workplace exposure standards: Dusts 10mg/m³

Application in the workplace: Prevent exposure by using engineering controls, personal protective equipment and work practices that prevent skin contact.

Exposure standards outside the workplace: TELs and EELs are not set at this time.

Engineering controls: Ensure that ventilation maintains dust levels below WES.

Personal protection: Clothing should consist of overalls with long sleeves and impervious gloves.

References: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specify product data: Formulation type: Suspension
Appearance: Pink liquid
Specific gravity: ~0.9 – 1.1 g/mL

Boiling Point: ca. 100° C
Vapour Pressure: NA

Solubility in Water: Abamectin is soluble

pH: 3.5 – 4.5

Required specifications: N/A

Further specifications: N/A

Specific advice: N/A

SECTION 10: STABILITY AND REACTIVITY

Stability of the substance: Stable under normal conditions of use and storage.

Conditions to avoid: No specific conditions to avoid.

Material to avoid: No specific materials to avoid.

Hazardous decomposition products: No hazardous products are expected, except when heated to decomposition.

Hazardous polymerization: Components are not expected to form hazardous polymers.

Specific data: N/A

SECTION 11: TOXICOLOGICAL INFORMATION

Data and interpretation: May be harmful if swallowed. Repeated exposure may cause skin allergy. Levamisole HCl may possibly cause damage to genetic material. Abamectin and cobalt may affect development and/or reproduction. Abamectin may have effects on or via lactation. Levamisole HCl (blood and haematopoietic system) and silane, dichlorodimethyl-, reaction products with silica* (respiratory tract and lungs) may possibly cause organ damage.

Summaries data: Abamectin
Abamectin is an acute oral toxin [LD₅₀ (oral) 8.7-12.8mg/kg]. Ingestion of a single large dose of abamectin by humans (~100mg/kg) was associated with coma, hypotension and respiratory failure. Clinical signs in repeated-dose laboratory animal studies included ataxia, tremor, mydriasis, emesis, pupil dilation

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and coma. High doses produced respiratory failure and deaths. The critical adverse effects in multigenerational reproductive studies were mortality and reduced weight gain of pups in early lactation (NOAEL 0.12mg/kg/d).

Silane, dichlorodimethyl-, reaction products with silica*

Aerosil R972 is not an oral toxin [LD₅₀ (oral, Brachydanio rerio) >10000 mg/kg]. Repeated inhalation exposure may cause lung damage and respiratory inflammation.

Levamisole HCL

Levamisole is a broad-spectrum anthelmintic with a long history of use in cattle and sheep. It has moderate to high acute toxicity [LD₅₀ (oral, rats & mice) = 200-500 mg/kg]. A potential mutagen [levamisole] induced chromosome gaps and breaks in human lymphocytes in vitro and in vivo and levamisole hydrochloride 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 non-specific effects (nausea, vomiting, rashes). Levamisole has induced leucopenia and agranulocytosis (idiosyncratic) at low doses.

Disodium cobalt EDTA

Cobalt and cobalt compounds are possible carcinogens. In repeated dose studies, cobalt salts have been implicated in cardiac disease (oral doses, LOAEL 0.02mg/kg/d) and cobalt metal dust caused pulmonary toxicity when inhaled (LOAEL 0.02mg/L/d). Cobalt is a known skin and respiratory sensitiser. Cobalt metal fume and dust irritates the respiratory tract. Cobalt metal is irritant to eyes and skin. In a reproductive study in rats, cobalt was embryotoxic when fed at 0.05mg/kg/d throughout the gestation (decreased foetal weight).

SECTION 12: ENVIRONMENTAL INFORMATION

Potential environmental interactions:

Very toxic to aquatic organisms. Very toxic to terrestrial invertebrates.

Data organisation :

Abamectin

Abamectin is a highly effective insecticide and acaricide produced by the soil microbe *Streptomyces avermitilis*. It acts by stimulating the release of gamma-aminobutyric acid, an inhibitory neurotransmitter, causing paralysis of the parasite. It is highly toxic to invertebrates in the aquatic, soil and terrestrial environments. Aquatic organisms: Abamectin is highly toxic to fish and extremely toxic to aquatic invertebrates [LC₅₀ Rainbow trout is 3.6ppb (96hrs); EC₅₀ *Daphnia magna* 0.34ppb (48hrs)]. Persist: yes. Soil organisms: Dung beetle Terrestrial fate value 20-40. Abamectin is toxic to mammals [LD₅₀ (oral, rats) 8.7mg/kg], but is less toxic to birds [LC₅₀ Bobwhite quail >2000mg/kg]. Abamectin is highly toxic to bees [LD₅₀ (oral) 0.0094µg/bee; LD₅₀ (contact) 0.002µg/bee].

Levamisole HCL

Levamisole is potentially toxic to terrestrial vertebrates based on LD₅₀ data [LD₅₀ (oral, rats & mice) = 200-500 mg/kg]. Not toxic to fish or honey bees. Levamisole does not bioaccumulate in biological systems. In soil, levamisole has a half-life of five to seventy five days depending on sunlight, soil type and climatic conditions. Levamisole binds strongly to soil particles and organic matter. It does not leach in soils and is readily degraded by hydrolysis and microbial action.

Disodium cobalt EDTA

Cobalt is toxic to fish and other aquatic life [LC₅₀ (96hr, Trout) 1.406mg/L; EC₅₀ (48hr, *Daphnia magna*) 1.11mg/L]. Not readily biodegradable, cobalt persists.

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Environmental risk and safety phrases:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Abamectin 0.1%)

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal information :

Preferably dispose of the product by use. Otherwise dispose of product and packaging at an approved landfill or other approved facility. Burn empty container in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill. Do NOT use container for any other purpose.

SECTION 14: TRANSPORT INFORMATION

Relevant information:

Dangerous Goods for transport.
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Abamectin 0.1%)
UN Number: 3082
Dangerous Goods Class: 9

Other requirements:

The maximum quantity per package of this substance allowed for carriage on public transport is 1L.
N/A

SECTION 15: REGULATORY INFORMATION

Regulatory status:

Registered pursuant to the ACVM Act 1997, No. A009970
See www.foodsafety.govt.nz for registration conditions

Approved pursuant to the HSNO Act, Approval Code HSR007820
See www.epa.govt.nz for approval conditions

HSNO and ACVM controls:

SDS is required for quantities greater than or equal to 1L
Refer to Section 3

List exposure limits:

None set

SECTION 16: OTHER INFORMATION

Additional information:

For product information visit the Boehringer Ingelheim website
www.boehringer-ingelheim.co.nz

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