

Section 1 - Identification of The Material and Supplier

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Chemical nature: Water based solution of abamectin and other ingredients.
Trade Name: **Coopers Maverick Pour-on for Sheep**
Recommended Use: Pour-on animal endectocide for use as described on the product label.
Creation Date: May, 2010
This version issued: February, 2011 and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature:

This product is classified as: Xi, Irritating. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R36, R20/22, R50/53. Irritating to eyes. Harmful by inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

Safety Phrases: S20, S23, S36, S38, S51, S61, S24/25. When using, do not eat or drink. Do not breathe vapours or mists. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only in well ventilated areas. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. 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: Clear dark blue liquid.

Odour: Mild odour.

Major Health Hazards: Symptoms of poisoning observed in laboratory animals include pupil dilation, vomiting, convulsions and/or tremors, and coma. Abamectin acts on insects by interfering with the nervous system. At very high doses, it can affect mammals, causing symptoms of nervous system depression such as incoordination, tremors, lethargy, excitation, and pupil dilation. Very high doses have caused death from respiratory failure. Abamectin is not readily absorbed through skin. Tests show this product to be an eye irritant.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data shows that this product is harmful, but symptoms are not available. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

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

Skin Contact:

MATERIAL SAFETY DATA SHEET

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be mildly irritating, but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.

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

Eye Contact:

Short Term Exposure: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

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 may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

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

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

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, % | TWA (mg/m ³) | STEL (mg/m ³) |
|---------------------------------|------------|---------|--------------------------|---------------------------|
| Abamectin | 71751-41-2 | 6g/L | not set | not set |
| Other non hazardous ingredients | various | to 100% | not set | not set |

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

The SWA 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 11 26 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: If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Skin Contact: Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. 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.

MATERIAL SAFETY DATA SHEET

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 harmful if inhaled. Take suitable protective measures.

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. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. 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 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. Protect this product from light. 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. 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**.

MATERIAL SAFETY DATA SHEET

SWA Exposure Limits TWA (mg/m³) STEL (mg/m³)

Exposure limits have not been established by SWA for this product.

The ADI for Abamectin is set at 0.0005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Taken from Australian ADI List, Dec 2008.

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: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

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.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

Section 9 - Physical and Chemical Properties

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|---|---|
| Physical Description & Colour: | Clear dark blue liquid. |
| Odour: | Mild odour. |
| Boiling Point: | Approximately 100°C at 100kPa. |
| Freezing/Melting Point: | Below 0°C. |
| Volatiles: | Water component. |
| Vapour Pressure: | 2.37 kPa at 20°C (water vapour pressure). |
| Vapour Density: | No data. |
| Specific Gravity: | 1.020 – 1.050 at 20°C. |
| Water Solubility: | Completely miscible in water. |
| pH: | 5.2 – 7.5. |
| 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: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong acids, strong bases, strong oxidising agents.

Fire Decomposition: 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. Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

MATERIAL SAFETY DATA SHEET

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Toxicity: Acute toxicity: Abamectin is highly toxic to insects and may be highly toxic to some mammals as well. Emulsifiable concentrate formulations may cause slight to moderate eye irritation and mild skin irritation. Symptoms of poisoning observed in laboratory animals include pupil dilation, vomiting, convulsions and/or tremors, and coma. Abamectin acts on insects by interfering with the nervous system. At very high doses, it can affect mammals, causing symptoms of nervous system depression such as incoordination, tremors, lethargy, excitation, and pupil dilation. Very high doses have caused death from respiratory failure. Abamectin is not readily absorbed through skin. Tests with monkeys show that less than 1% of dermally applied abamectin was absorbed into the bloodstream through the skin. Abamectin does not cause allergic skin reactions. **The oral and dermal LD₅₀ for this product in rats is >2000 mg/kg.** The dermal LD₅₀ for technical abamectin in rats and rabbits is greater than 330 mg/kg.

Chronic toxicity: In a 1-year study with dogs given oral doses of abamectin, dogs at the 0.5 and 1 mg/kg/day doses exhibited pupil dilation, weight loss, lethargy, tremors, and recumbency. Similar results were seen in a 2-year study with rats fed 0.75, 1.5, or 2 mg/kg/day. Rats at all the dosage levels exhibited body weight gains significantly higher than the controls. A few individuals in the high dose group exhibited tremors. When mice were fed 8 mg/kg/day for 94 weeks, the males developed dermatitis and changes in blood formation in the spleen, while females exhibited tremors and weight loss.

A full toxicology study for this product was conducted and the product was found to be not a sensitiser.

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

Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on birds: Abamectin is practically nontoxic to birds. The LD₅₀ for abamectin in bobwhite quail is >2000 mg/kg. The dietary LC₅₀ is 3102 ppm in bobwhite quail. There were no adverse effects on reproduction when mallard ducks were fed dietary doses of 3, 6, or 12 ppm for 18 weeks.

Effects on aquatic organisms: Abamectin is highly toxic to fish and extremely toxic to aquatic invertebrates. Its LC₅₀ (96-hour) is 0.003 mg/L in rainbow trout, 0.0096 mg/L in bluegill sunfish, 0.015 mg/L in sheepshead minnows, 0.024 mg/L in channel catfish, and 0.042 mg/L in carp. Its 48-hour LC₅₀ in *Daphnia magna*, a small freshwater crustacean, is 0.003 mg/L. The 96-hour LC₅₀ for abamectin is 0.0016 mg/L in pink shrimp, 430 mg/L in eastern oysters, and 153 mg/L in blue crab. While highly toxic to aquatic organisms, actual concentrations of abamectin in surface waters adjacent to treated areas are expected to be low. Abamectin did not bioaccumulate in bluegill sunfish exposed to 0.099 µg/L for 28 days in a flow-through tank. The levels in fish were from 52 to 69 times the ambient water concentration, indicating that abamectin does not accumulate or persist in fish.

Effects on other organisms: Abamectin is highly toxic to bees, with a 24-hour contact LC₅₀ of 0.002 µg/bee and an oral LD₅₀ of 0.009 µg/bee.

Breakdown in soil and groundwater: Abamectin is rapidly degraded in soil. At the soil surface, it is subject to rapid photodegradation, with half-lives of 8 hours to 1 day reported. When applied to the soil surface and not shaded, its soil half-life is about 1 week. Under dark, aerobic conditions, the soil half-life was 2 weeks to 2 months. Loss of abamectin from soils is thought to be due to microbial degradation. The rate of degradation was significantly decreased under anaerobic conditions. Because abamectin is nearly insoluble in water and has a strong tendency to bind to soil particles, it is immobile in soil and unlikely to leach or contaminate groundwater. Compounds produced by the degradation of abamectin are also immobile and unlikely to contaminate groundwater.

Breakdown in water: Abamectin is rapidly degraded in water. After initial distribution, its half-life in artificial pond water was 4 days. Its half-life in pond sediment was 2 to 4 weeks. It undergoes rapid photodegradation, with a half-life of 12 hours in water. When tested at pH levels common to surface and groundwater (pH 5, 7, and 9), abamectin did not hydrolyze.

MATERIAL SAFETY DATA SHEET

Breakdown in vegetation: Plants do not absorb abamectin from the soil. Abamectin is subject to rapid degradation when present as a thin film, as on treated leaf surfaces. Under laboratory conditions and in the presence of light, its half-life as a thin film was 4 to 6 hours.

Section 13 - Disposal Considerations

Disposal: 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: This product is compliant with NICNAS regulations.
The following ingredient: Abamectin, is mentioned in the SUSDP.

Section 16 - Other Information

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

Acronyms:

| | |
|---------------------|---|
| ADG Code | Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition) |
| AICS | Australian Inventory of Chemical Substances |
| SWA | Safe Work Australia, formerly ASCC and NOHSC |
| CAS number | Chemical Abstracts Service Registry Number |
| Hazchem Code | Emergency action code of numbers and letters that provide information to emergency services especially firefighters |
| IARC | International Agency for Research on Cancer |
| NOS | Not otherwise specified |
| NTP | National Toxicology Program (USA) |
| R-Phrase | Risk Phrase |
| SUSDP | Standard for the Uniform Scheduling of Drugs & Poisons |
| UN Number | 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

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2001(2003)]

MATERIAL SAFETY DATA SHEET