### SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

| ARYSTA LifeScience South Africa (Pty) Ltd | Tel: 031 514 5600 |
| Co. Reg. No.: 2009/019713/07 | Fax: 031 514 5611 |
| 7 Sunbury Office Park, | e-mail: info@arysta.co.za |
| Off Douglas Saunders Drive, | Web address: arystalifescience.co.za |
| La Lucia Ridge, South Africa, 4019 |

**Substance:** abamectin  
**Product Name:** AGROMECTIN 18 EC  
**Product Use:** Insecticide  
**Creation Date:** May 2010  
**Revision Date:** October 13

**24 Hr Emergency Number:** 082 771 2712

**In case of Poisoning:**  
Poison Information Centre: 082 446 8946  
Tygerberg Hospital: (021) 931 6129  
Poison Emergency Enquiries: (021) 689 5227

**In case of Spillage:**  
HAZMAT: 0800 147 112

### SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

| Common Name: | abamectin |
| CAS No.: | 71751-41-2 |
| Chemical family: | Avermectins |
| Composition: | A mixture containing ≥ 80% abamectin B1a and ≤ 20% abamectin B1b. |
| Chemical Formula: |  
B1a: C48H72O14 (Mol. wt.: 873.1)  
B1b: C47H70O14 (Mol. wt.: 860.1) |
| Use: | Acts by stimulating the release of γ-aminobutyric acid, an inhibitory neurotransmitter, thus causing paralysis. Insecticide and acaricide with contact and stomach action. Has limited plant systemic activity, but exhibits translaminar movement. |
| Formulation: | abamectin 18 g/l Emulsifiable Concentrate |
| Hazardous ingredients: | abamectin |
| Symbol: | T+, N |
| Indication of danger: | Very Toxic Substance, Environmentally Hazardous Substance. |
| Risk phrases: | R20/22, R36/38, R43, R52/53, R57 |

### SECTION 3 - HAZARD IDENTIFICATION

**Likely routes of exposure:** Skin contact & vapours inhalation.  
**Skin:** Mild irritant to the skin. May cause sensitization by skin contact.  
**Eye:** Moderate irritant to the eyes.  
**Swallowed:** Harmful if swallowed. Initial signs of poisoning are large pupils, slow respiration and sedation. More serious poisoning may cause ataxia, muscle twitching and convulsions.  
**Environmental hazard:** Harmful to aquatic organisms, may cause long-term adverse effects in aquatic environment.

### SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

**Inhalation:**  
If vapours or mists have been inhaled, and irritation has developed, remove the source of contamination or move victim to fresh air. The patient should be kept under observation and obtain medical attention if irritation persists.  
**Skin contact:** Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and non-abrasive soap. Do not rub the skin. Get medical attention if necessary.  
**Eye contact:** Immediately flush eyes with a stream of clean water for at least 20 minutes, holding the eyelid(s) open. Obtain medical attention if irritation persists.
Ingestion:
Do not induce vomiting. Do not give anything by mouth. Obtain medical attention. If the person is alert, rinse mouth thoroughly with water.
Advice on treatment:
There is no specific antidote available for abamectin.
In cases of ingestion, consider gastric lavage. Treat symptomatically and supportively.

SECTION 5 - FIRE-FIGHTING MEASURES

Fire and explosion hazard:
Flash point: 71.5 °C.
This material is not flammable. Product is combustible.
Extinguishing agents:
Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.
Fire fighting:
Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.
Personal protective equipment:
Fire may produce irritating or poisonous vapours (toxic fumes of carbon dioxide, carbon monoxide, nitrogen oxides), mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions:
Avoid contact with skin and eyes. Do not breathe in spray or fumes. Do not swallow. For personal protection see Section 8.
Environmental precautions:
Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.
Occupational spill:
Remove all sources of flames and sparks. For small liquid spills, soak up with lime, damp earth or sand, or other non-combustible absorbent material and place into containers for later disposal. For large liquid spills, contain the liquid for later disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Keep spectators away.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

Handling:
Do not use near source of sparks or open flame. Harmful by skin or eye contact, inhalation or ingestion. Avoid contact with eyes and skin, and inhalation of spray and vapour. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.
Storage:
Do not store near sources of sparks, flame or heat. Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.
PERSONAL PROTECTIVE EQUIPMENT:
If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.
Respirator:
An approved respirator suitable for protection from mists of pesticides is adequate. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.
Clothing:  Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves:  Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection:  The use of safety goggles is recommended.

Emergency eye wash:  Where there is any possibility that an employee’s eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:  Yellow to red brown homogeneous liquid with alcohol odour.
Flammability:  Not flammable.
Flash point:  71.5 °C.
Solubility:  Forms an emulsion with water.
PpH:  2.8 to 3.8 (1% m/v solution).
Density:  0.96 ± 0.05 g/cm³
Corrosive:  Not corrosive.

SECTION 10 - STABILITY AND REACTIVITY

Stability:  Chemically and thermally stable. Stable under normal storage conditions in original container, tightly closed.
Incompatibility:  Avoid oxidizing agents.

Hazardous decomposition products:  Thermal decomposition generates carbon monoxide, carbon dioxide, nitro oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute oral LD₅₀:  271 to 316 mg/kg in rats (calculated for the formulation)
(technical = 10 g/kg in rats)

Acute dermal LD₅₀:
> 2150 mg/kg in rats (calculated for the formulation)
(technical = > 2000 mg/kg in rats)

Acute skin irritation:  Mild irritant, may cause skin sensations.
Acute eye irritation:  Moderate irritant.

Dermal sensitization:
May cause sensitization during over exposure.

Reproductivity:
Rats given 0.40 mg/kg/day of abamectin had increased stillbirths, decreased pup viability, decreased lactation, and decreased pup weights. These data suggest that abamectin may have the potential to cause reproductive effects at high enough doses.

Teratogenicity:
Abamectin is unlikely to cause teratogenic effects except at doses toxic to the mother.

Mutagenicity:
Abamectin does not appear to be mutagenic. Mutagenicity tests in live rats and mice were negative. Abamectin was shown to be nonmutagenic in the Ames test.

Carcinogenicity:
Abamectin is not carcinogenic in rats or mice. The rats were fed dietary doses of up to 2 mg/kg/day for 24 months, and the mice were up to 8 mg/kg/day for 22 months. These represent the maximum tolerated doses.

ADI:  0.002 mg/kg b.w.

SECTION 12 - ECOLOGICAL INFORMATION

Degradability:
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. 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. 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.
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. 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.

**ECOTOXICOLOGY:**

**Birds:** Practically non-toxic to birds.
- Oral LD₅₀:
  - Mallard ducks: 84.6 mg/kg
  - Bobwhite quail: > 2000 mg/kg

**Fish:** Highly toxic to fish.
- LC₅₀ (96 hours):
  - Rainbow trout: 3.2 µg/l
  - Bluegill sunfish: 9.6 µg/l

**Daphnia:**
- EC₅₀ (48 hours): *Daphnia magna*: 0.34 ppb

**Bees:** Highly toxic to bees.
- LD₅₀ (oral): 0.009 µg/bee
- LC₅₀ (contact, 24 hours): 0.002 µg/bee

**Earthworm:**
- LC₅₀ (28 days): 28 mg/kg soil

---

**SECTION 13 - DISPOSAL CONSIDERATION**

Pesticide and container disposal:
Open dumping or burning of this pesticide is prohibited. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. TRIPLE RINSE empty containers in the following manner. Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

---

**SECTION 14 - TRANSPORT INFORMATION**

**UN NUMBER:** 2902

**Road Transport ADR/RID:**
- Class: 6.1
- Packaging group: III
- Shipping name: Pesticide, Liquid, Toxic, N.O.S. (abamectin 18 g/ℓ)

**Maritime Transport IMDG/IMO:**
- Class: 6.1
- Packaging group: III
- Shipping name: Pesticide, Liquid, Toxic, N.O.S. (abamectin 18 g/ℓ)

Considered a marine pollutant.
SECTION 15 - REGULATORY INFORMATION

Symbol:  T+, N.
Indication of danger:  Very Toxic Substance, Environmentally Hazardous Substance.

Risk phrase(s):
R 20/22  Harmful by inhalation and if swallowed.
R 36/38  Irritating to eyes and skin.
R 43    May cause sensitisation by skin contact.
R 52/53  Harmful to aquatic organisms, may cause long-term adverse effects in aquatic environment.
R 57    Toxic to bees.

Safety phrases:
S 1/2  Keep locked up and out of reach children.
S 13  Keep away from food, drink and animal feedingstuffs.
S 24/25  Avoid contact with skin and eyes.
S 36/37/39  Wear suitable protective clothing, gloves and eye/face protection.
S 46  If swallowed, seek medical advice immediately and show this container or label.
S 56  Dispose of this material and its container to hazardous or special waste collection point.
S 62  If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

SECTION 16 - OTHER INFORMATION

Packaging:
Packed in 1, 5, 10, 20 and 25 litres fluorinated plastic containers and labelled according to South African regulations and guidelines.

Disclaimer:
The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.