

# MATERIAL SAFETY DATA SHEET

## Emma



### 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** Emma  
Insecticide  
**UN No.:** 3077  
**Supplier:** Arysta LifeScience SA (Pty) Ltd  
Co. Reg. No./Mpy. Reg. Nr.: 2009/019713/07  
7 Sunbury Office Park, off Douglas Saunders  
Drive, La Lucia Ridge, South Africa, 4019  
**Telephone:** 031 514 5600  
**Fax:** 031 514 5611

#### 24 Hr Emergency Number:

**In case of Poisoning:**  
Poisons Helpline 0861 555 777

**In case of Spillage:**  
Spill Tech Oil & Chemical Pollution Control 086 100 0366 /  
083 253 6618

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Common name:** Emamectin benzoate  
**CAS No.:** 155569-91-8  
**Chemical Family:** Avermectin  
**Chemical Formula:** C<sub>56</sub>H<sub>81</sub>NO<sub>15</sub>(B<sub>1a</sub>); C<sub>55</sub>H<sub>79</sub>NO<sub>15</sub>(B<sub>1b</sub>)  
**Molecular weight:** 1008.3 (B<sub>1a</sub>); 994.2 (B<sub>1b</sub>)  
**Use:** Non-systemic insecticide which penetrates leaf tissues by translaminar movement. Paralysis the Lepidoptera, which stop feeding within hours of ingestion, and die 204 dat.  
**Formulation:** 50 g/kg  
Water soluble granule

#### Hazardous ingredients of toxicological concern:

<u>Inert:</u>	<u>% present:</u>
emamectin	± 5 %

**Symbol:** T, N  
**Risk-Phrases:** R23/25, R39/23/24/25, R41, R48/25, R50/53

### 3. HAZARD IDENTIFICATION

Harmful if swallowed. Possible risk of irreversible effects through inhalation, in contact with skin and if swallowed. Danger of serious damage to health by prolonged exposure if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 4. FIRST AID MEASURES AND PRECAUTIONS

**Inhalation:**  
Remove to fresh air. If breathing is irregular or has stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.  
**Skin contact:**  
Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with clean, cold water and non-abrasive soap. Obtain medical attention if irritation persists.

**Eye contact:**

Immediately flush eyes with copious amounts clean, cold water for at least 15 to 20 minutes, holding the eyelid(s) open. Remove contact lenses if present. Obtain medical attention immediately.

#### Ingestion:

**Do not induce vomiting.** Do not give anything by mouth to an unconscious person. Obtain medical attention immediately. If the person is alert, rinse mouth thoroughly with water and give one or two glasses of water to drink.

#### Advice on treatment:

This material is believed to enhance GABA activity in animals. It is wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic mectin exposure.

Toxicity can be minimized by early administration of chemical absorbents (e.g. activated charcoal).

If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged.

Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measure as indicated by clinical signs. Symptoms and measurements.

### 5. FIRE FIGHTING MEASURES

#### Extinguishing agents:

Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Large fires: Alcohol-resistant foam or water spray.

Do not use a solid water stream as it may scatter and spread fire.

#### Fire fighting:

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

#### Personal protective equipment:

Fire may produce irritating or toxic fumes such as oxides of carbon, and nitrogen, hydrogen chloride and other mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

#### Personal precautions:

Avoid contact with skin and eyes. Do not inhale spray or fumes.

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:**

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Do not touch spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals. Prevent dust cloud. Prevent product from entering sewers, water systems, basements or confined areas. Thoroughly wash body areas, which come into contact with the product.

**For spills:** Use a clean shovel and place the material into a clean, dry container and cover for subsequent disposal. For large spills, cover powder spill with plastic sheet or tarpaulin to minimize spreading. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

### 7. HANDLING AND STORAGE REQUIREMENTS

#### Handling:

Harmful if swallowed. Avoid contact with eyes and skin, and inhalation of dust, 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 pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Water used to clean equipment must be disposed of correctly to avoid contamination.

#### Storage:

Keep 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.

### 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.

#### Respirator:

A particulate filter respirator may be necessary if effective engineering controls are not in place. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

#### 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 protective gloves to prevent contact with this substance. Nitrile rubber is suitable.

#### Eye protection:

Eye protection is not usually required. Any safety policies for a specific site should be followed.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Cream coloured granules with no visual extraneous matter and a mild characteristic odour.

**Flammability:** Not flammable.

**Flash point:** Not applicable.

**Solubility:** Soluble in water.

**pH:** 6.25

**Wettability:** less than 5 seconds.

### 10. STABILITY AND REACTIVITY

#### Stability:

The product is stable for 2 years, when stored under normal storage conditions at normal temperatures. Avoid extreme heating conditions, as vapours can be released which can be ignited.

#### Conditions and Materials to Avoid:

Keep the product in a cool, dry place, at below 30 °C. Protect from sunlight, open flame and sources of heat. Avoid contact with oxidizing agents, strong acids and bases. Not corrosive.

#### Hazardous decomposition products:

Fire may produce irritating or toxic fumes such as oxides of carbon, and nitrogen, hydrogen chloride and other mists or other products of combustion.

### 11. TOXICOLOGICAL INFORMATION

#### Acute oral LD<sub>50</sub> rats:

*Emamectin technical:* 56-63 mg/kg

Formulation calculated: 1120 – 1260 mg/kg

#### Acute dermal LD<sub>50</sub> rats:

*Emamectin technical:* > 2000 mg/kg

#### Inhalation:

*Emamectin technical:* LC<sub>50</sub> (4hours): > 1.05 - 0.66 mg/l

Formulation: CAUTION

**Acute skin irritation:** *Emamectin technical is a non-irritant.*

**Acute eye irritation:** *Emamectin technical is a severe eye-irritant.*

**Dermal sensitization:** Not a skin sensitizer.

**Carcinogenicity:** Not tumorigenic.

**ADI:** 0.0025 mg/kg

### 12. ECOLOGICAL INFORMATION

#### Mobility, Degradability & Accumulation:

Emamectin is rapidly degraded in the soil and environment. Metabolism has been investigated in lettuce, cabbage and sweet corn. It is non-systemic, and rapidly degrades in sunlight to various complex residues in which undegraded parent is the only significant residue. The residues were very low.

#### ECOTOXICOLOGY:

##### Birds:

Oral LD<sub>50</sub>: Bobwhite quail: 264 mg/kg

Mallard ducks: 76 mg/kg

**Fish:** Low acute risk to fish.

LC<sub>50</sub> (96 hours): rainbow trout: 174 µg/l

Sheepshead minnow: 1430 µg/l

##### Daphnia:

LC<sub>50</sub> (48 hours): 0,99 µg/l

**Bees:** Toxic to bees.

**Worms:** LC<sub>50</sub>: >1000 mg/kg dry soil

### 13. DISPOSAL CONSIDERATION

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### Pesticide disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. 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.

Comply with local legislation applying to waste disposal.

### Container disposal:

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

Containers and packages must be completely emptied before being disposed of. Shake out thoroughly into the mixing tank and destroy the empty container thereafter. Destroy the empty container by perforation and burying it.

Never re-use the empty container for any other purpose. Do not burn the empty container. Refer to label attached.

Comply with any local legislation applying to disposal.

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.

## 14. TRANSPORT INFORMATION

**UN NUMBER:** 3077  
**CLASS:** 9  
**PACKAGING GROUP:** III  
**Proper shipping name:** Environmentally Hazardous Substance, Solid, N.O.S.  
**Road Transport ADR/RID:** 3077  
**Maritime Transport IMDG/IMO:** 3077  
**Emamectin is considered a marine pollutant**

## 15. REGULATORY INFORMATION

**Symbol :** Xn Harmful  
N Dangerous for the environment

### Risk phrase(s):

**R 22** Harmful if swallowed.  
**R 48/22** Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
**R50/53** Very toxic to aquatic organisms, may cause long-term adverse  
**R68/20/21/22** Harmful, possible risk of irreversible effects through inhalation, in contact with skin and if swallowed

### Safety phrases:

**S 2** Keep out of reach children.  
**S 13** Keep away from food, drink and animal feedingstuffs.  
**S 20/21** When using do not eat, drink or smoke.  
**S 35** This material and its container must be disposed of in a safe way.  
**S 36/37** Wear suitable protective clothing and gloves  
**S 57** Use appropriate container to avoid environmental contamination

## 16. OTHER INFORMATION

### Packaging:

Packed in 500 g, 1 kg, 5 kg, 10 kg, 20 and 25 kg foil bags or paper bags or plastic containers and shipper paper boxes 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