

**MATERIAL SAFETY DATA SHEET****1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

Product Name	: Emamectin Benzoate 1.5% + Fipronil 3.5% SC for indigenous manufacture
IUPAC Name	: (1'R,2R,3S,4'S,6S,8'R,10'E,12'S,13'S,14'E,16'E,20'R,21'R,24'S)-2-[(2S)-butan-2-yl]-21',24'-dihydroxy-12'-[(2R,4S,5S,6S)-4-methoxy-5-[(2S,4S,5R,6S)-4-methoxy-6-methyl-5-(methylamino)oxan-2-yl]oxy-6-methyloxan-2-yl]oxy-3,11',13',22'-tetramethylspiro[2,3-dihydropyran-6,6'-3,7,19-trioxatetracyclo[15.6.1.1 ^{4,8} .0 ^{20,24}]pentacosa-10,14,16,22-tetraene]-2'-one 5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-(trifluoromethylsulfinyl)pyrazole-3-carbonitrile
Chemical Abstracts Name	: (4''R)-5-O-demethyl-4''-deoxy-4''-(methyl amino) avermectin A1a + (4''R)-5-Odemethyl-25-de (1-methylpropyl)-4''-deoxy-4''-(methyl amino)-25-(1-methylethyl) =avermectin A1a (9:1); 4''-(methyl amino) avermectin B1 5-amino-1-(2, 6-dichloro-4(trifluoromethyl) phenyl)-4-((1, R, S)-(trifluoromethyl) sulfinyl)-1- H-pyrazole-3-carbonitrile
CAS No.	: 121124-29-6, <u>120068-37-3</u>
Chemical formula	: C ₄₉ H ₇₅ NO ₁₃ , C ₁₂ H ₄ Cl ₂ F ₆ N ₄ OS
Molecular weight	: 886.1, 437.1
Chemical Family	: Combination of Avermectin and Phenyl pyrazole
Use	: Insecticide
Company Name	: Solas Cropotech Private Limited.

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Content % (w/w)
Emamectin Benzoate	121124-29-6	1.5
Fipronil	120068-37-3	3.5

3. HAZARDS IDENTIFICATION

Health Hazards : When POWER-X gets on the skin, it can cause skin sensations like tingling, itching, burning, or numbness at that spot. These sensations usually go away within 48 hours. POWER-X can be mildly irritating if it gets in the eye.

Emergency : Warning! Keep out of reach of children. Toxic if swallowed and inhaled. Contact can cause eye or skin irritation.

Skin and Eyes : Avoid contact with mouth, skin and eyes.

Entry route : Ingestion, Inhalation, Contact with eye or skin.

Symptoms of poisoning : Nasal discharge, Itching, Vomiting, eyes redness, anxiety and convulsions.

4. FIRST AID MEASURES

Ingestion : Do not induce vomiting. Wash out mouth with plenty

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	of water. Rinse mouth before giving glass of water. Never give anything by mouth to an unconscious person. If breathing is difficult, give oxygen get medical attention.
Eye	: Wash off with plenty of water if pain persists, consult an eye specialist
Skin	: Remove affected clothing and wash all exposed skin area with soap and water followed by warm water rinse. Consult a doctor in the event of any complaints
Inhalation	: Remove victim to fresh air. Keep victim warm and at rest. If breathing is difficult, give oxygen obtain medical attention
Advice to Physician	: No specific Antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Specific Hazard	: There is no risk of an explosion from this product under normal circumstances if involved in a fire.
Extinguishing Media	: Extinguish fire using media suited to burning material. If containers are ruptured contain all runoff. CO ₂ , Foam or dry chemical are preferred. Soft stream water fog or fine water sprays if no alternatives. Contain all runoff.
Hazard From Combustion products	: If involved in a fire, it will emit toxic and noxious fumes of oxides of carbon, nitrogen or sulfur. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.
Protective equipment	: Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

6. ACCIDENTAL RELEASE MEASURES

In Case of Emergency	: Isolate and post spill area. Wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and eye/face protection to prevent skin and eyes being affected. Evacuate unprotected
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and unnecessary personnel from area of spill. If material is leaking from a container, stop the leak only if this can be done safely. Prevent spillage entering drains or watercourses. Contain spill and absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as per regulations.

Clean up Procedures : To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

7.

Handling : Ensure containers are kept closed until using product. Avoid contact with eyes and skin. Wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves.

Storage : DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls : Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Ingestion : DO NOT eat, drink or apply cosmetics, where there is a potential for exposure to the product.

Eye Protection : Safety goggles, chemical splash goggles or face shield for eyes protection should be used. Safety showers and eye wash should be easily available.

Skin Protection : Chemical resistant gloves, coveralls socks, apron and chemical resistant foot covering should always be used

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- while handling the product.
- Respiratory protection** : Always use NIOSH/MSHA approved respiratory protection equipment with a universal filter type including particle filter.
- General Protection** : Avoid contact with eyes and skin. While handling the product wear cotton overalls buttoned to the neck and wrist. Elbow-length PVC gloves and face shield. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES (Technical)

- Colour** : White to off-white powder, : Liquid flowable suspension
- Melting point** : 141-146 °C, 200.5 °C
- Physical state** : White to off-white powder, White Powder.
- Density** : 1.20 at 23 °C, 1.477-1.626 at 20 °C

10 STABILITY AND REACTIVITY

- Chemical Stability** : Stable under normal conditions
- Conditions to Avoid** : Heat, flames and sparks
- Hazardous decomposition products** : None under normal use conditions
- Hazardous Reactions** : None under normal processing

11. TOXICOLOGICAL INFORMATION (Technical)

- Acute Oral LD₅₀** : LD50 (rats) 1516 mg/kg, Acute Oral LD50 (Rat) :1,999mg/kg
- Acute Dermal LD₅₀** : LD50 (Rats) >2000 mg/kg, > 2,000 mg/kg
- Acute Inhalation LC₅₀** : LC50 (rats): > 6.28 mg/L, 4 h, > 1.7 mg/L/4 hr
- Skin Irritation** : Rabbit: Non irritant, Slightly irritating
- Eye Irritation** : Rabbit: Mildly irritant, Slightly irritating
- Skin Sensitization** : Guinea pig : Not a skin sensitizer in animals tests
Slightly irritating

**MATERIAL SAFETY DATA SHEET****12. ECOLOGICAL INFORMATION**

For Technical-	for mallard ducks LD50 46 mg/kg
Bird	: LD50 for mallard ducks >2150 mg/kg
Fish	: LC50 (96 h) for Carp 6.8 mg/L , LC50 (96 h) – 0.083 mg/L
Daphnia	: EC50 (48 h) 0.08 mg/L, NOEL – 9.8 µg/L; LOEL - 20 µg/L
Bees	: Dangerous to bees, Dangerous to bees.

13. DISPOSAL CONSIDERATIONS

Disposal	: This material must be disposed of as a Hazardous Waste. Disposal should be in accordance with local, nation or state rule and regulations.
Disposal of empty Containers	: Break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

14. TRANSPORT INFORMATION

Shipping Name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S
UN No.	: 3077, 3082
Class	: 9
Packing group	: III

**MATERIAL SAFETY DATA SHEET****15. REGULATORY INFORMATION****Hazard
symbol****Dangerous for the
environment (N)**

Risk Phrase **R 23/25:** toxic by inhalation and if swallowed.
 R 51/53: Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Safety phrase **S2** - Keep out of the reach of children
 S36 - Wear suitable protective clothing
 S53-Avoid exposure— obtain special instructions before use
 S60 - This material and its container must be disposed of as hazardous waste
 S64 - If swallowed, rinse mouth with water (only if the person is conscious)

16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are resented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by Solas Cropotech Private Limited, as to the results to be obtained based upon the user's use of the information, nor does Solas Cropotech Private Limited, assume any liability arising out of user's use of the information.

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