



MATERIAL SAFETY DATA SHEET

PRODUCT : Emamectin Benzoate 5% SG

PRODUCT DESIGNATION : Insecticide

TRADE NAME : BENZO MECTINE

Section 1. Product & Company Identification

Common Name : Emamectin Benzoate 5% SG

Grade : Formulation

Active Ingredient : Emamectin Benzoate

Chemical Name of Active Ingredient (IUPAC) : 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,5S,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[15.6.1.14,8.020,24]pentacos-10,14,16,22-tetraene]-2'-one

Chemical Family of A. I. : Avermectin, Insecticide

Molecular Formula of A. I. : C₅₆H₈₁NO₁₅

Molecular Mass of A. I. : 1008.3 g/mol

Manufacturer & Supplier : **M/S PERFECT SOLUTIONS**
Office Add: B-371, Paschim Vihar, New Delhi - 110063 (India)
Factory Add: 15/1, 15/2, 15/3 Industrial Estate, Vidisha - 464001 (M.P)

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Section 2. Composition / Information on Ingredients

Chemical Name	Cas #	Percent Or Content(W/W)
Emamectin Benzoate	91465-08-6	5.00% W/W

Other Ingredients	----	Q.S. to 100%



3. HAZARDS IDENTIFICATION

Eyes: Thoroughly wash the eyes with water for at least 15 minutes.

Skin: Wash the contaminated skin with Soap and water. If irritation persists seek medical attention.

Inhalation: Remove the victim from the source of exposure. If the person is affected by the products of Sulphur decomposition, give the fresh air immediately and seek the medical attention. If breathing is irregular, administer artificial respiration and the Oxygen if necessary.

Ingestion: Amount swallowed incidental to normal handling procedures and use are not expected to cause injury, Burning sensation and diarrhea may occur.

Other information: Non Toxic in general

4. FIRST-AID MEASURES

FIRST-AID:

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

If on skin:

Wash thoroughly with soap and water.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:

Rinse mouth and then drink plenty of water.

Note to physician

Antidote:

No known specific antidote.

Treatment:

Treat symptomatically.

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 instruction: 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

Personal precautions: Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions: Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/fire fighting water.

Cleanup: Avoid raising dust. Sweep/shovel up. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. HANDLING AND STORAGE

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 CONTROLS/ PERSONAL PROTECTION

Engineering controlled: Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personnel protective equipment (PPE):

Eye/Protection: Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

9. PHYSICAL AND CHEMICAL PROPERTIES

ITEM	SPECIFICATIONS
Appearance	: White to Tan Granules
Pesticide type	: Insecticide
Odour	: Faint specific odour
Bulk Density	: NA
Melting point	: NA
Vapour pressure	: 3×10^{-8} mmHg @ 70°F (21°C)
Solubility	: 30-50 ppm at PH 7
pH	: 8 at 4-1 % w/v

10. STABILITY AND REACTIVITY

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to avoid: High temperatures, sparks, flame and other sources of ignition, and dust generation.

Material to avoid: Strong bases, strong acids, strong oxidizing agents.



Incompatible materials: Avoid contact with strong oxidizing agents.

Hazardous decomposition

products: Will not occur

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity- LD ₅₀	rat: 1516 mg/kg b.w.
Acute Dermal Toxicity- LD ₅₀	rat: >2000 mg/kg b.w
Acute Inhalation - LD ₅₀	rat: >6.28 mg/l Air
Eye irritation	Moderately irritating to eyes
Skin Irritation	Moderately irritating to skin
Skin Sensitization	Not sensitizer

12. ECOLOGICAL INFORMATION

Toxicity to Fishes	174 ppb (Raibow trout)
Toxicity to daphnia	EC50 1.0 ppb
Toxicity to Bees	8.0 µg/bee
Toxicity to Birds	46 mg/kg b.w (Mallard Duck)

13. DISPOSAL CONSIDERATIONS

Pesticide disposal:	Burn in high temperature incinerator with effluent scrubbing or bury in a specially designated landfill. Always dispose of in accordance with local regulations.
Container disposal:	Contaminated packaging material should be treated as the product.

14. TRANSPORT INFORMATION

UN Number	3077
Proper shipping name	ENVIRONMENTALYSUBSTANCE, SOLID, N.O.S. (Emamectin benzoate)
Packaging Group	III
Class	9



15. REGULATORY INFORMATION

Hazards Symbol	Xn, N
Risk phrases	R22, R48/22, R50/53 and R68/20/21/22
Safety phrases	S2, S13, S20/21, S35, S36/37, S57

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 PEREFECT SOLUTIONS, as to the results to be obtained based upon the user's use of the information, nor does PEREFECT SOLUTIONS, assume any liability arising out of user's use of the information.

Safety Division: PEREFECT SOLUTIONS, SAFETY DIVISION