MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT INDENTIFICATION

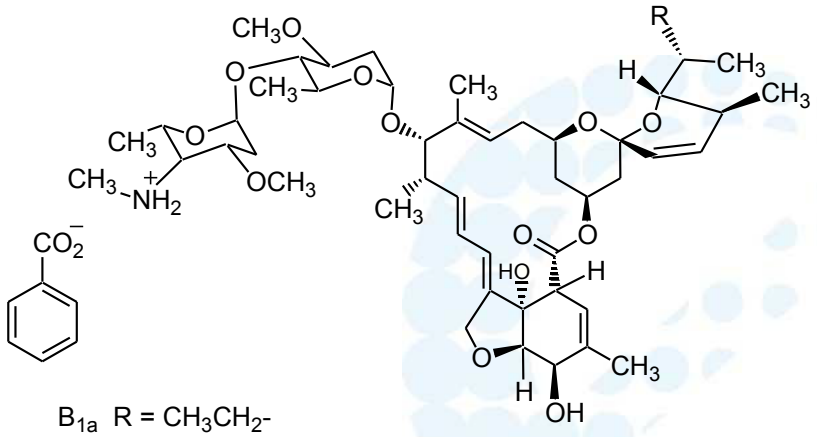
Product name: Emamectin benzoate 5%+Indoxacarb5% WDG

Chemical name:

Emamectin benzoate:(4"*R*)-5-*O*-demethyl-4"-deoxy-4"-(methylamino)avermectin A_{1a} + (4"*R*)-5-*O*-demethyl-25-de(1-methylpropyl)-4"-deoxy-4"-(methylamino)-25-(1-methylethyl) avermectin A_{1a} (9:1)

Indoxancarb:(S)-7-chloro-2, 5-dihydro-2-[[(methoxycarbonyl) [4-(trifluoromethoxy) phenyl] amino] carbonyl]-indeno[1, 2-e][1, 3, 4]oxadiazine-4a(3H)-carboxylate

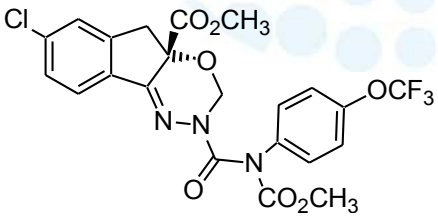
Emamection benzoate Structure:



B_{1a} R = CH_3CH_2-

B_{1b} R = CH_3-

Indoxacarb Structure:



Emamection benzoate CAS No.: [155569-91-8]; formerly [137512-74-4] and [179607-18-2]

Indoxacarb CAS No.: 144171-61-9

Use catalogue: Insecticide

SECTION 2: COMPOSITION AND INGREDIENT INFORMATION

Emamectin benzoate	5.0%
Indoxacarb	5.0%
Others	add up to 100.0%

SECTION 3: HEALTH HAZARD INFORMATION

Symptoms of acute exposure: Causes eye and skin irritation. Inhalation can cause irritation to the respiratory tract and can result in chemical pneumonitis if aspirated. Ingestion results in central nervous system effects such as muscle tremors, decreased activity, ataxia (unsteadiness or incoordination), and dilated pupils (mydriasis).

Hazardous decomposition products: Can decompose at high temperatures forming toxic gases.

SECTION 4: FIRST AID MEASURES

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling a poison control center or doctor. Do not give anything by mouth to an unconscious person.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

SECTION 5: FIRE AND EXPLOSION INFORMATION

Unusual fire, explosion and reactivity hazards: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In case of fire: Use dry chemical, foam or CO_2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

SECTION 6: ACCIDENTAL RELEASE MEASURES

In case of spill or leak: Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Sweep up material and place in a compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

SECTION 7: HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye contact: Where eye contact is likely, use chemical splash goggles.

Skin contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Inhalation: A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with any HE filter.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid

Odor: Characteristic odor

pH: 4.0- 9.0

SECTION 10: STABILITY AND REACTIVITY INFORMATION

Stability: Stable under normal use and storage conditions.

Hazardous polymerization: Will not occur.

Conditions to avoid: Heat and light.

Hazardous decomposition products: Can decompose at high temperatures forming toxic gases.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute oral toxicity: Rat LD_{50}: 1510 mg/kg bw

Acute dermal toxicity: Rat LD_{50}: > 2000 mg/kg bw

Acute inhalation toxicity: Rat LC_{50} (4 h): > 6.2 mg/L

Skin irritation: Slightly irritating (rabbit)

Eye irritation: Moderately irritating (rabbit)

Sensitization: Not a sensitizer (guinea pig)

SECTION 12: ECOLOGICAL INFORMATION

For Emamectin benzoate technical

Birds: Acute oral LD_{50} for mallard ducks 46, bobwhite quail 264 mg/kg. Dietary LC_{50} (8 d) for mallard ducks 570, bobwhite quail 1318 ppm.

Fish: LC_{50} (96 h) for rainbow trout 174, sheepshead minnow 1430 μg/l.

Daphnia: LC_{50} 0.99 μg/l.

Bees: Toxic to bees.

Worms: LC_{50} >1000 mg/kg dry soil.

For Indoxacarb technical

Birds: Acute oral LD_{50} for bobwhite quail 98 mg/kg. Dietary LC_{50} (5 d) for mallard ducks > 5620, bobwhite quail 808 ppm.

Fish: LC_{50} (96 h) for bluegill sunfish 0.9, rainbow trout 0.65 mg/l.

Daphnia: LC_{50} (48 h) 0.60 mg/l.

Bees: LD_{50} (oral) 23.33 μg/bee; (Contact) 1.34 μg/bee.

Worms: LC_{50} (14 d) >1250 mg/kg.

SECTION 13: DISPOSAL CONSIDERATIONS

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local health and environmental regulations.

SECTION 14: TRANSPORT INFORMATION

UN No.: 3077

Class: 9

Packing group: III

SECTION 15: REGULATORY INFORMATION

Hazard symbol(s)

T Toxic

N Dangerous for the environment

R-phrase(s)

R25 Toxic if swallowed.

R36 Irritating to eyes.

R50 Very toxic to aquatic organisms.

R57 Toxic to bees.

R58 May cause long-term adverse effects in the environment.

S-phrase(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S36 Wear suitable protective clothing.

S60 This material and its container must be disposed of as hazardous waste.

S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

SECTION 16: OTHER INFORMATION

The information contained in the Safety Data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.