

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Emamectin-benzoate 10% + Lufenuron 40% WG

SUPPLIER NAME:	Shandong Weifang Rainbow Chemical Co., Ltd.
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CHEMICAL NAME	Emamectin-benzoate, Lufenuron
MOLECULAR FORMULA	$C_{56}H_{81}NO_{15}$ (B _{1a}); $C_{55}H_{79}NO_{15}$ (B _{1b}), $C_{17}H_8Cl_2F_8N_2O_3$
CAS NUMBER	155569-91-8, 103055-07-8
USE:	Insecticides

2.COMPOSITION / INFORMATION ON INGREDIENTS

Emamectin-benzoate	10%
Lufenuron	40%
Other ingredients	Up to 100%

3. HAZARDS IDENTIFICATION

Eye: Causes eye irritation.

Skin: Causes skin irritation. Harmful if absorbed through the skin.

Ingestion: May cause irritation of the digestive tract. Toxic if swallowed.

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation

4. FIRST - AID MEASURES

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Note to physician:

Symptoms: The most important known symptoms and effects are described in section 3, Further important symptoms and effects are so far not known.

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

MATERIAL SAFETY DATA SHEET

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions:

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Methods for cleaning up or taking up:

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

7. HANDLING AND STORAGE

Handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

Storage

Store securely out of reach of children. Store in a cool, dry area, out of direct sunlight (storage temperature should not exceed 38°C). When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture. Contact your supplier for further information about the use of the product that is older than this.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

No special controls needed. Product is used outdoors

Personal Protection:

Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. When opening the container and preparing the spray wear

- cotton overalls buttoned to the neck and wrist (or equivalent clothing),
- elbow length PVC gloves,
- goggles or face shield.

Wash hands after use. After each day's use, wash gloves, goggles or face shield and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Granules
ODOUR:	no odour.
PH:	5.0 – 8.0.
MELTING POINT:	No data
BOILING POINT:	No data
CORROSIVENESS:	Not corrosive
VISCOSITY	No data

10. STABILITY AND REACTIVITY

Thermal decomposition: not determined

Substances to avoid: strong bases, strong acids, strong oxidizing agents

Hazardous reactions: No hazardous reactions if stored and handled as prescribed/indicated.

MATERIAL SAFETY DATA SHEET

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY: 500 mg/kg (rats).

ACUTE DERMAL TOXICITY: > 2,000 mg/kg (rats).

ACUTE INHALATION TOXICITY: 3.11 mg/l 4 h (rats).

SKIN IRRITATION: Not irritating to the skin.

EYE INHALATION: No irritant to the eyes.

SENSITIZATION: Not a sensitizer.

12. ECOLOGICAL INFORMATION

Emamectin-benzoate:

Toxicity to fish:

Moderately toxic to fish *Cyprinus carpio* (common carp): LC50 = 6.8 mg/L, 96h

Toxicity to daphnia and other aquatic invertebrates:

Very highly toxic to aquatic invertebrates *Daphnia magna* (Water flea): EC50 = 0.08 mg/L, 48 h

Toxicity to algae:

Slightly toxic to algae *Selenastrum capricornutum* (green algae): EbC50 = 28.4 mg/L; ErC50 = 157 mg/L, 72 h

Toxicity to soil dwelling organisms:

Practically non-toxic to earthworms *Eisenia foetida* (earthworm): LC50 >1000 mg/kg (14 d)

Bees:

Highly toxic to bees *Apis mellifera* (honey bee) LD50 (24 h) oral = 0.0036 µg/bee

Lufenuron:

Mobility, Degradability & Accumulation:

Plants: No metabolites occurred in significant amounts in the investigated target crops (cotton, tomatoes).

Soil/Environment: Lufenuron was rapidly degraded in biologically active soils under aerobic conditions. DT50 13-20 d. Lufenuron showed a very strong adsorption onto soil particles: Koc (mean value) 38 mg/g o.c.

Birds: Practically non-toxic to birds

Acute oral LD50 for mallard ducks >2000 mg/kg bw. Dietary LC50(8 d)for mallard ducks >5000 mg/kg

Bees: Practically non-toxic to bees, Acute LD50 (contact) >100 µg/bee, (oral) >200 µg/bee

Earthworms: Practically non-toxic to earthworm, LC50 (14 d) 1000 ppm

13. DISPOSAL CONSIDERATIONS

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. TRANSPORT INFORMATION

UN number:

3077

UN proper shipping name:

Environmentally Hazardous Substance, Solid, N.O.S.

Transport hazard class(es):

MATERIAL SAFETY DATA SHEET

9

Packing group, if applicable:

III

Marine pollutant (Yes/No):

Yes

15. OTHER INFORMATION

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.