SAFETY DATA SHEET

according to Regulation (EC) No 1272/2008 (CLP)

Emamectin benzoate 5% WG

Shanghai Bosman Industrial Co., Limited

Product name	**Emamectin benzoate 5% WG**	SDS number	**BM-SDS-9249**
Version	**1.0**	Revision date	**04 November 2026**
Supersedes	**Not applicable - new document**	Print date	**04 November 2026**
Language	**EN**	Format	**GHS / CLP - 16 sections**

1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name	Emamectin benzoate 5% WG
Product type	Water-dispersible granule (WDG) - plant protection product
Active substance	Emamectin benzoate (CAS 155569-91-8)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use	Insecticide (glutamate-gated chloride channel agonist) for the control of Lepidoptera and other chewing insects on vegetables, fruit trees, tea and cotton, in accordance with the label. For professional users only.
Uses advised against	Any use other than the identified use. Not for domestic or residential use. Do not use on crops or sites not stated on the label.

1.3 Details of the supplier of the safety data sheet

Supplier	Shanghai Bosman Industrial Co., Limited
Address	No. 1611, North Sichuan Road, Hongkou District, Shanghai 200080, P.R. China
Telephone	+86 21 6306 5878
Fax	+86 21 6091 1557
E-mail	info@bosmangroup.com
Website	www.bosmangroup.com

1.4 Emergency telephone number

24-hour emergency line	+86 21 6356 6528 (Shanghai Bosman Industrial Co., Limited, 24 h)
Poison centre	Contact your local poisons information centre or emergency services (e.g. 120 in mainland China) in case of poisoning.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP), Annex I.

H302	Acute Tox. 4 (oral) — Harmful if swallowed.
H312	Acute Tox. 4 (dermal) — Harmful in contact with skin.
H332	Acute Tox. 4 (inhalation) — Harmful if inhaled.

H319	Eye Irrit. 2 — Causes serious eye irritation.
H370	STOT SE 1 — Causes damage to organs.
H372	STOT RE 1 — Causes damage to organs through prolonged or repeated exposure.
H400	Aquatic Acute 1 — Very toxic to aquatic life.
H410	Aquatic Chronic 1 — Very toxic to aquatic life with long lasting effects.

2.2 Label elements



SIGNAL WORD
DANGER

H302 H312 H332 H319 H370 H372 H400 H410	Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes serious eye irritation. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Supplemental hazard statements: EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements - Prevention

P264	Wash hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P273	Avoid release to the environment.

Precautionary statements - Response

P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311	Call a POISON CENTER or doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice or attention.
P308+P313	IF exposed or concerned: Get medical advice or attention.
P314	Get medical advice or attention if you feel unwell.
P313	Get medical advice or attention.
P391	Collect spillage.

Precautionary statements - Storage

P405	Store locked up.
P402+P404	Store in a dry place. Store in a closed container.
P410+P403	Protect from sunlight. Store in a well-ventilated place.

Precautionary statements - Disposal

P501	Dispose of contents and container to a licensed hazardous-waste contractor.

2.3 Other hazards

This mixture contains substances classified as hazardous to the aquatic environment. See Section 12 for the supporting ecotoxicity data.

This mixture does not contain any substance that is identified as having endocrine-disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100, at a concentration of 0.1 % (w/w) or higher.

3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable - this product is a mixture.

3.2 Mixtures

Component	CAS No.	EC No.	Concentration	Classification (CLP)
Emamectin benzoate	155569-91-8	-	5%	Acute Tox. 3 (H301, H311, H331); Eye Dam. 1 (H318); STOT SE 1 (H370, nervous system); STOT RE 1 (H372, nervous system); Aquatic Acute 1 (H400, M = 10 000); Aquatic Chronic 1 (H410, M = 10 000)
Formulants (dispersant, binder, filler)	-	-	Balance	Not classified

The substance classification follows the harmonised classification of emamectin benzoate in Annex VI to Regulation (EC) No 1272/2008 (index 614-030-00-2; Delegated Regulation (EU) 2021/849).

Mixture classification applies the concentration limits of Regulation (EC) No 1272/2008: acute toxicity Category 4 for all routes (sum of Category 3 routes >= 1 %); STOT SE 1 (generic concentration limit 1 %). STOT RE 1 applies at C >= 5 %: confirm the exact w/w content of the active substance on the product specification.

4 FIRST AID MEASURES

4.1 Description of first aid measures

General advice — Move the person out of the contaminated area. Show this safety data sheet to the doctor in attendance. Never give anything by mouth to an unconscious person.

After inhalation — Move the person into fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

After skin contact — Take off all contaminated clothing immediately. Wash the skin thoroughly with soap and plenty of water. If skin irritation or a rash develops, seek medical advice.

After eye contact — Rinse cautiously with water for at least 15 minutes, holding the eyelids open. Remove contact lenses if present and easy to do. Continue rinsing. Get medical advice if irritation develops.

After ingestion — Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Toxic if swallowed, in contact with skin and if inhaled. Emamectin acts on the nervous system (glutamate-gated chloride channels): poisoning may cause tremor, incoordination, dilated pupils, muscle weakness, vomiting and, in severe cases, convulsions, respiratory depression and coma. Effects on the nervous system may also occur after prolonged or repeated exposure. Seek immediate medical attention in any case of suspected exposure.

4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote. Treat symptomatically and supportively; monitor neurological status and respiratory function. Consider activated charcoal after recent ingestion on medical advice. In all cases of doubt, or if symptoms persist, seek medical advice and show this safety data sheet to the attending physician.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable media — Water spray, foam, dry powder or carbon dioxide.

Unsuitable media — Do not use a solid water stream - it may scatter and spread the fire.

5.2 Special hazards arising from the substance or mixture

The product is a solid granule and is not flammable; dust clouds may form explosive mixtures with air. Thermal decomposition may release toxic and irritant gases (carbon oxides, nitrogen oxides, hydrogen chloride, sulfur oxides).

5.3 Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing. Contain fire water run-off; do not allow it to enter drains or watercourses. Cool closed containers with water spray. Collect contaminated fire-fighting water separately.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear the personal protective equipment specified in Section 8. Avoid breathing vapour, mist or spray. Avoid contact with skin and eyes. Ensure adequate ventilation. Remove all sources of ignition where the product is flammable.

6.2 Environmental precautions

Do not allow the product to enter drains, sewers, watercourses or groundwater. Prevent the material from spreading. Notify the relevant authorities if the product has entered a watercourse or sewer, or has contaminated soil or vegetation.

6.3 Methods and material for containment and cleaning up

Sweep up the granules without raising dust and place them in a labelled, closed container for disposal. Do not allow the product to enter drains, sewers or watercourses. Wash the contaminated area with water and detergent.

6.4 Reference to other sections

See Section 8 for personal protection and Section 13 for disposal.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

- Avoid generating and breathing dust; handle in well-ventilated areas.
- Avoid contact with skin and eyes; wear the personal protective equipment in Section 8.
- Do not eat, drink or smoke while handling; wash hands and face thoroughly afterwards.
- Keep containers closed when not in use and use dedicated measuring equipment.

7.2 Conditions for safe storage, including any incompatibilities

- Store in the original, tightly closed container in a cool, dry, well-ventilated place.
- Protect from moisture, direct sunlight and frost; keep away from food, feed, seed and drinking water.
- Keep locked up and out of the reach of children and unauthorised persons.
- Observe the product label and any national storage restrictions for plant protection products.

7.3 Specific end use(s)

Insecticide (glutamate-gated chloride channel agonist) for the control of Lepidoptera and other chewing insects on vegetables, fruit trees, tea and cotton, in accordance with the label. For professional users only.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Component	Limit value	Type	Basis
Emamectin benzoate (CAS 155569-91-8)	No OEL established	-	No binding occupational exposure limit is listed; apply good occupational hygiene practice.

No occupational exposure limit has been established for the active substance or for the formulated product. Apply the general hygiene standards of good occupational practice and the precautionary measures in Section 8.

8.2 Exposure controls

Use only in well-ventilated areas. Where granules are weighed or dissolved, provide local exhaust ventilation and avoid generating dust.

Protective equipment	Requirement
Eye protection	Tight-fitting protective goggles (EN 166).
Skin protection - hands	Chemical-resistant gloves (e.g. nitrile rubber, EN 374).
Skin protection - body	Long-sleeved protective clothing and closed footwear.
Respiratory protection	Where dust, mist or vapour is generated or ventilation is inadequate, wear a suitable respirator (EN 149 FFP2 or EN 143).

Do not eat, drink or smoke in work areas. Wash hands and face thoroughly after handling and before eating, drinking or smoking. Remove contaminated clothing and wash it before reuse.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Value
Physical state	Solid, free-flowing granule
Appearance	Free-flowing granule
Colour	White to off-white
Odour	Faint, characteristic
pH	6.0 - 9.0 (1 % dispersion)
Flash point	Not applicable (solid formulation)
Bulk density	No data available
Solubility	Dispersible in water
Explosive properties	Not classified as explosive; dust clouds may be explosive
Oxidising properties	Not classified as oxidising

9.2 Other information - no additional information available.

10 STABILITY AND REACTIVITY

10.1 Reactivity

Stable and unreactive under normal conditions of handling and storage.

10.2 Chemical stability

Stable under the recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions are expected under normal handling and storage.

10.4 Conditions to avoid

High temperatures, direct sunlight and moisture.

10.5 Incompatible materials

Strong oxidising agents; strong acids and bases.

10.6 Hazardous decomposition products

Thermal decomposition may release toxic and irritant gases (carbon oxides, nitrogen oxides, hydrogen chloride, sulfur oxides).

11 TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Endpoint	Result	Species / basis
Acute toxicity, oral	ATE (oral) 60 mg/kg bw	Harmonised Annex VI entry; Acute Tox. 3
Acute toxicity, dermal	ATE (dermal) 300 mg/kg bw	Harmonised Annex VI entry; Acute Tox. 3
Acute toxicity, inhalation	ATE (inhalation, dust/mist) 0.663 mg/L	Harmonised Annex VI entry; Acute Tox. 3
Skin corrosion / irritation	Slightly irritating	Rabbit
Serious eye damage / irritation	Serious eye damage (active substance)	Rabbit
Respiratory / skin sensitisation	Not a sensitiser	Guinea pig
Germ cell mutagenicity	Not classified	In vitro and in vivo data
Carcinogenicity	Not classified	No evidence of carcinogenic potential
Reproductive toxicity	Not classified	No evidence of reproductive toxicity
STOT - single exposure	Causes damage to organs (nervous system)	Harmonised Annex VI entry
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure (nervous system)	Harmonised Annex VI entry

11.2 Symptoms and effects

Toxic if swallowed, in contact with skin and if inhaled. Emamectin acts on the nervous system (glutamate-gated chloride channels): poisoning may cause tremor, incoordination, dilated pupils, muscle weakness, vomiting and, in severe cases, convulsions, respiratory depression and coma. Effects on the nervous system may also occur after prolonged or repeated exposure. Seek immediate medical attention in any case of suspected exposure.

11.3 Other information

The classification is based on the harmonised classification of the active substance (Annex VI to Regulation (EC) No 1272/2008), applied to the concentration present in this formulation. The formulation itself has not been tested as a whole unless stated.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Organism	Result	Test condition
Fish (acute)	LC50 (96 h) < 1 mg/L	Active substance
Aquatic invertebrates (acute)	EC50 (48 h) < 0.001 mg/L - extremely toxic	Active substance; basis of the M factor of 10 000
Algae / aquatic plants	EC50 < 1 mg/L	Active substance

12.2 Persistence and degradability

Not persistent; degradation half-lives in soil are typically of the order of weeks. Strongly adsorbed to soil and sediment.

12.3 Bioaccumulative potential

Moderate to high potential for bioaccumulation (log Kow approximately 5.4); strongly adsorbed, low bioavailability in water.

12.4 Mobility in soil

Low mobility in soil (strongly adsorbed). Prevent entry into watercourses.

12.5 Results of PBT and vPvB assessment

The product and its active substance do not meet the criteria for PBT or vPvB substances in Annex XIII of Regulation (EC) No 1907/2006 (REACH).

12.6 Endocrine disrupting properties

No endocrine-disrupting properties are identified in accordance with the criteria of Commission Delegated Regulation (EU) 2017/2100.

12.7 Other adverse effects

Very toxic to aquatic life with long lasting effects. This product is highly toxic to bees exposed to direct treatment or to residues on blooming crops.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of surplus product and empty packaging in accordance with national and local waste legislation. Do not contaminate water with the product or its packaging. Do not reuse empty containers for any purpose.

- Empty the container completely; do not reuse empty bags or containers for any other purpose.
- Do not burn empty containers or packaging.
- Dispose of surplus product and non-recyclable packaging through a licensed hazardous-waste contractor, in accordance with national and local regulations.
- Do not contaminate ponds, watercourses or ditches with the product or the empty container.

14 TRANSPORT INFORMATION

Parameter	ADR / RID	IMDG	IATA
UN number	Not regulated	Not regulated	Not regulated
Proper shipping name	Not regulated	Not regulated	Not regulated
Class	Not regulated	Not regulated	Not regulated
Packing group	-	-	-
Environmental hazard	Yes	Yes	Yes
Tunnel code	-	-	-
EmS / Special	-	-	-

14.6 Special precautions for user

The product is not classified as dangerous goods for transport in the packaging sizes supplied. Keep packages closed, upright and protected from moisture; do not load together with food or feed. Because the product is classified as hazardous to the aquatic environment, observe any national requirements for the transport of environmentally hazardous substances.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable - the product is transported in packaged form only.

15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture

- The product is a plant protection product and falls within the scope of Regulation (EC) No 1107/2009.
- Classification according to Regulation (EC) No 1272/2008 (CLP); the hazard statements are given in full in Section 16.
- National registration, labelling and use restrictions for plant protection products apply in the country of use.
- Where applicable, observe Directive 2009/128/EC on the sustainable use of pesticides and the national measures implementing it.

15.2 Chemical safety assessment

A chemical safety assessment is not required for this mixture. Exposure scenarios for the formulated product are covered by the label instructions and the risk assessment performed for the registration.

16 OTHER INFORMATION

16.1 Revision information

Version 1.0 - first issue. Prepared in accordance with Regulation (EC) No 1272/2008 (CLP) and the 16-section format of Annex II to Regulation (EU) 2020/878.

16.2 Full text of hazard statements referred to in Sections 2 and 3

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

16.3 Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE: Acute Toxicity Estimate. CAS: Chemical Abstracts Service. CLP: Classification, Labelling and Packaging (Regulation (EC) No 1272/2008). EC50: half maximal effective concentration. GHS: Globally Harmonised System. IMDG: International Maritime Dangerous Goods Code. LC50: lethal concentration, 50 %. LD50: lethal dose, 50 %. OEL: occupational exposure limit. PBT: persistent, bioaccumulative and toxic. PNEC: predicted no-effect concentration. STOT: specific target organ toxicity. vPvB: very persistent and very bioaccumulative.

16.4 Training advice

Users of this product must be trained in safe handling practice, in the correct use of personal protective equipment and in the first-aid measures described in Section 4. Label instructions and national training requirements apply.

16.5 Disclaimer

The information in this safety data sheet is based on the present state of knowledge and current legislation at the date of revision. It describes the product with regard to safety requirements and does not constitute a guarantee of any specific property. It remains the responsibility of the user to ensure that the product is used safely and in accordance with the label and applicable legislation. This safety data sheet is supplied for occupational health and safety purposes only.

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