SAFETY DATA SHEET

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

Malathion 45% EC

Shanghai Bosman Industrial Co., Limited

Product name	**Malathion 45% EC**	SDS number	**BM-SDS-9247**
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	Malathion 45% EC
Product type	Emulsifiable concentrate (EC) - plant protection product
Active substance	Malathion (CAS 121-75-5)

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

Identified use	Non-systemic organophosphate insecticide and acaricide (cholinesterase inhibitor) for the control of chewing and sucking insects on crops, stored products and public-health sites, 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.
H317	Skin Sens. 1 — May cause an allergic skin reaction.
H400	Aquatic Acute 1 — Very toxic to aquatic life.

2.2 Label elements



SIGNAL WORD
WARNING

H302 H317 H400	Harmful if swallowed. May cause an allergic skin reaction. Very toxic to aquatic life.

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.
P261	Avoid breathing dust, fume, gas, mist, vapours or spray.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P273	Avoid release to the environment.

Precautionary statements - Response

P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice or attention.
P391	Collect spillage.

Precautionary statements - Storage

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)
Malathion	121-75-5	-	45%	Acute Tox. 4 (H302); Skin Sens. 1 (H317); Aquatic Acute 1 (H400)
Organic solvent and emulsifiers	-	-	Balance	Not classified

The classification follows the harmonised classification of malathion in Annex VI to Regulation (EC) No 1272/2008. The flash point of the formulation depends on the solvent system and must be confirmed 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

Cholinesterase inhibitor. Symptoms of poisoning include headache, dizziness, nausea, vomiting, sweating, salivation, lacrimation, blurred vision, abdominal cramps and muscle twitching; severe cases may develop convulsions, respiratory depression and unconsciousness. Seek immediate medical attention; atropine and an oxime are used by physicians as antidotes.

4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote for self-treatment. Treat symptomatically; atropine sulfate and an oxime (e.g. pralidoxime) are the specific antidotes used by physicians. Measure erythrocyte and plasma cholinesterase activity. 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	Foam, dry powder, carbon dioxide or water spray (as fog).
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 formulation contains an organic solvent; the liquid may burn under fire conditions. Thermal decomposition may release toxic and irritant gases (carbon oxides, nitrogen oxides, hydrogen chloride, sulfur oxides). Closed containers exposed to heat may rupture.

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

Absorb the liquid with an inert absorbent (sand, earth, vermiculite) and place it in a labelled, closed container for disposal. Remove all sources of ignition and ventilate the area. Do not allow the product to enter drains, sewers or watercourses.

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

- Use only in well-ventilated areas and keep away from ignition sources, hot surfaces and open flames.
- Avoid breathing vapour or mist; avoid contact with skin and eyes; wear the PPE in Section 8.
- Do not eat, drink or smoke while handling; wash hands and face thoroughly afterwards.
- Keep containers closed when not in use; ground and bond containers when transferring large volumes.

7.2 Conditions for safe storage, including any incompatibilities

- Store in the original, tightly closed container in a cool, dry, well-ventilated place away from ignition sources and direct sunlight.
- Keep away from food, feed, seed and drinking water; do not store below 0 degrees C or above 40 degrees C.
- 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)

Non-systemic organophosphate insecticide and acaricide (cholinesterase inhibitor) for the control of chewing and sucking insects on crops, stored products and public-health sites, in accordance with the label. For professional users only.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Component	Limit value	Type	Basis
Malathion (CAS 121-75-5)	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, preferably under local exhaust ventilation. Avoid generating vapour or mist; provide adequate ventilation where the solvent vapour may accumulate.

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	Liquid
Appearance	Clear liquid
Colour	Yellow to brown
Odour	Solvent-like, characteristic
pH	5.0 - 7.0 (1 % emulsion)

Property	Value
Flash point	OPEN - not stated in source
Relative density	1.00 - 1.10
Solubility	Emulsifies in water
Explosive properties	Not classified as 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; ignition sources and open flames.

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	LD50 approximately 1 000 - 2 000 mg/kg	Rat; active substance
Acute toxicity, dermal	LD50 > 2 000 mg/kg	Rabbit
Acute toxicity, inhalation	LC50 (4 h) > 5 mg/L	Rat
Skin corrosion / irritation	Slightly irritating	Rabbit
Serious eye damage / irritation	Slightly irritating	Rabbit
Respiratory / skin sensitisation	Skin sensitiser (H317)	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	Not classified	-
STOT - repeated exposure	Not classified	-

11.2 Symptoms and effects
Cholinesterase inhibitor. Symptoms of poisoning include headache, dizziness, nausea, vomiting, sweating, salivation, lacrimation, blurred vision, abdominal cramps and muscle twitching; severe cases may develop convulsions, respiratory depression and unconsciousness. Seek immediate medical attention; atropine and an oxime are used by physicians as antidotes.

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; very highly toxic
Aquatic invertebrates (acute)	EC50 (48 h) < 1 mg/L	Active substance
Algae / aquatic plants	EC50 > 10 mg/L	Active substance

12.2 Persistence and degradability

Malathion is not persistent in soil; degradation half-lives are typically of the order of days.

12.3 Bioaccumulative potential

Moderate potential for bioaccumulation (log Kow approximately 2.4).

12.4 Mobility in soil

Low to moderate mobility in soil; 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. 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.

- Do not contaminate ponds, watercourses or ditches with the product or the empty container.
- Dispose of surplus product and non-recyclable packaging through a licensed hazardous-waste contractor, in accordance with national and local regulations.
- Empty containers retain product residues and vapour; observe all label safeguards until the container has been cleaned and destroyed.
- Triple-rinse emptied containers and add the rinsings to the spray tank; then puncture or crush and offer for recycling where facilities exist.

14 TRANSPORT INFORMATION

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

Parameter	ADR / RID	IMDG	IATA
EmS / Special	-	-	-

14.6 Special precautions for user

This safety data sheet does not assign a transport classification. Determine the flash point of the formulation before consignment: an emulsifiable concentrate with a flash point of 60 degrees C or less is a flammable liquid of Class 3 (UN 1993, FLAMMABLE LIQUID, N.O.S., packing group III) and must be consigned, packed, marked and labelled accordingly. Keep packages closed, upright and protected from moisture and ignition sources; do not load together with food or feed.

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.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.

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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