SAFETY DATA SHEET

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

Niclosamide 25% EC

Shanghai Bosman Industrial Co., Limited

Product name	**Niclosamide 25% EC**	SDS number	**BM-SDS-9513**
Version	**1.0**	Revision date	**09 November 2026**
Supersedes	**New issue (original)**	Print date	**09 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	Niclosamide 25% EC
Product type	Emulsifiable concentrate (EC) - plant protection product / molluscicide
Active substance	Niclosamide (CAS 50-65-7)

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

Identified use	Professional molluscicide for the control of aquatic and terrestrial snails and slugs, in particular the intermediate host snails of schistosomiasis, in rice fields, irrigation channels, ponds and other non-crop aquatic habitats; also used as a piscicide / lamprey control agent where authorised. For professional users only. Observe the instructions for use, the conditions of authorisation and the restrictions on use stated on the product label.
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.

H400	Hazardous to the aquatic environment, acute, Category 1 — Very toxic to aquatic life.
H410	Hazardous to the aquatic environment, chronic, Category 1 — Very toxic to aquatic life with long lasting effects.

2.2 Label elements



SIGNAL WORD

WARNING

H400 H410	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

P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statements - Response

P391	Collect spillage.
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.

Precautionary statements - Disposal

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

2.3 Other hazards

Niclosamide is very toxic to aquatic organisms, especially fish and aquatic invertebrates; this drives the environmental classification. The product is an emulsifiable concentrate and contains an organic solvent system: depending on the solvent used, additional hazards (flammability H226, aspiration H304, skin/eye irritation H315/H319 or STOT-SE H336) may apply. The solvent identity and its flash point are to be supplemented from the current production formulation before the classification is finalised. The mixture contains no component considered PBT or vPvB at 0.1 % (w/w) or above.

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)
Niclosamide	50-65-7	200-056-8	250 g/L (25.0 % w/w)	Aquatic Acute 1 (H400); Aquatic Chronic 1 (H410)
Organic solvent and emulsifiers (non-ionic / anionic surfactant blend)	Mixture	-	Balance to 100 %	Identity, concentration and classification to be supplemented from the production formulation; may add H226 / H304 / H315 / H319 / H336

Niclosamide: 5-chloro-N-(2-chloro-4-nitrophenyl)-2-hydroxybenzamide (2',5-dichloro-4'-nitrosalicylanilide); C13H8Cl2N2O4, relative molecular mass 327.12, EC 200-056-8.

IMPORTANT - identity to be confirmed: an emulsifiable concentrate may alternatively be formulated from niclosamide ethanolamine salt (CAS 1420-04-8, EC 215-811-7, C15H15Cl2N3O5). The Bosman range also includes a 97% TC and a 70% WP of the ethanolamine salt. This SDS

assumes the free-acid active substance (CAS 50-65-7). If the salt is used, replace the CAS / EC numbers, molecular formula and the composition line, and re-assess the classification.

The active-substance content is declared as 25 % w/w (250 g/L) of the emulsifiable concentrate; confirm against the current product specification and COA before release.

The full composition is available to medical personnel and to competent authorities on request, in accordance with Article 24 of Regulation (EC) No 1272/2008.

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

The active substance is of low acute toxicity to mammals. Direct contact may cause mechanical or solvent-related eye and skin irritation; the concentrate may defat the skin on prolonged contact. Ingestion may cause nausea, vomiting and abdominal discomfort. Inhalation of solvent vapour or mist may cause headache, dizziness, drowsiness and respiratory irritation. Aspiration of the solvent into the lungs during vomiting may cause chemical pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively; no specific antidote is known. After eye contact rinse cautiously with water for several minutes, remove contact lenses and continue rinsing; obtain medical advice if irritation persists. After skin contact wash with plenty of soap and water. After inhalation move the person to fresh air. After ingestion rinse the mouth, do NOT induce vomiting because of the aspiration risk of the solvent, and seek medical advice immediately. Never give anything by mouth to an unconscious person. Show this safety data sheet to the attending physician.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable media	Water spray, alcohol-resistant foam, dry chemical powder or carbon dioxide. Use water spray to cool unopened containers.
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

Combustible liquid (organic solvent system). Vapours may form explosive mixtures with air and may travel to a source of ignition. Thermal decomposition releases toxic and irritant gases including carbon oxides, nitrogen oxides, hydrogen chloride and traces of hydrogen cyanide. Containers may burst when heated. Fire water run-off is very toxic to aquatic life and must be contained.

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 spill with an inert absorbent (sand, earth, diatomaceous earth, vermiculite) and place it in a labelled, closed container for disposal. Do not use combustible absorbents such as sawdust. Wash the contaminated surface with water and detergent; collect the washings for disposal. Where the product has entered a watercourse, inform the competent authority.

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

- Read the label and this safety data sheet before use.
- Avoid release to the environment; do not contaminate water bodies outside the treated area, and follow the authorised application rate and buffer zones.
- Avoid breathing vapour, mist or spray; use adequate ventilation and avoid all contact with skin and eyes.
- Keep away from heat, sparks, open flames and other sources of ignition; use non-sparking tools and ground containers during transfer.
- Do not eat, drink or smoke during handling; wash hands and face thoroughly afterwards.
- Keep the container tightly closed when not in use; do not store in direct sunlight.
- Emulsify in water immediately before application; do not store the diluted emulsion.

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 direct sunlight, heat and sources of ignition; protect from frost.
- Store locked up and out of reach of children, unauthorised persons and animals.
- Store separately from food, drink, feed and seed, and from strong oxidising agents and strong alkalis.
- Keep the container upright and bunded; provide impervious flooring and spill containment because of the aquatic hazard.
- Shelf life is two years in the unopened, undamaged original container under the stated conditions.

7.3 Specific end use(s)

Professional molluscicide for the control of aquatic and terrestrial snails and slugs, in particular the intermediate host snails of schistosomiasis, in rice fields, irrigation channels, ponds and other non-crop aquatic habitats; also used as a piscicide / lamprey control agent where authorised. For professional users only. Observe the instructions for use, the conditions of authorisation and the restrictions on use stated on the product label.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Component	Limit value	Type	Basis
Niclosamide	No binding OEL assigned	-	No EU binding occupational exposure limit under Directive 2004/37/EC
Organic solvent	To be supplemented	-	Apply the national OEL of the specific solvent once the formulation is confirmed

No binding EU occupational exposure limit is assigned to niclosamide. Reference values from public summaries: NOEL (2 y, rat) 2 000 mg/kg diet (male) / 8 000 mg/kg diet (female); NOEL (1 y, dog) 100 mg/kg bw; ADI 3 mg/kg bw. Solvent-specific occupational exposure limits must be added

once the solvent system is confirmed; confirm all reference values against the current regulatory assessment before use in risk assessment.

8.2 Exposure controls

Provide adequate general and local exhaust ventilation, especially during opening, transfer, dilution and tank-mixing operations. Use closed transfer systems where practicable. Where engineering controls do not keep exposure below the relevant limit, use respiratory protection. Provide an eyewash station and safety shower in the immediate work area.

Protective equipment	Requirement
Respiratory protection	Where vapours, mist or aerosol may be generated and ventilation is insufficient, wear a respirator with an appropriate filter (type A / P2 or equivalent) conforming to EN 140 / EN 14387.
Hand protection	Chemical-resistant protective gloves (nitrile rubber, minimum thickness 0.4 mm, breakthrough time > 480 min). Replace at the first sign of wear.
Eye protection	Tightly fitting safety goggles (EN 166) or a full face shield where splashing is possible.
Skin and body	Long-sleeved chemical-resistant coverall, impervious apron and boots. Remove and wash contaminated clothing before reuse.
Hygiene measures	Wash hands, forearms and face thoroughly with soap and water after handling and before eating, drinking, smoking or using the toilet. Shower at the end of the shift.

Do not allow the product to come into contact with food, drink or feed. Remove contaminated clothing immediately and launder before reuse. Employees must be informed of the hazards and trained in safe handling; do not take work clothing home.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Value
Physical state	Liquid (emulsifiable concentrate)
Colour	Dark amber to brown (in-house sample photograph)
Odour	Aromatic / solvent-like (solvent system)
pH	Not applicable (non-aqueous); 5 - 8 for 1 % aqueous emulsion (emulsion)
Melting point / freezing point	Not determined for the formulation
Boiling point	Depends on solvent system; to be supplemented (data gap)
Flash point	TO BE SUPPLEMENTED (solvent-dependent) (critical for H226 / transport)
Flammability	Combustible liquid; classification pending flash-point data
Vapour pressure	Solvent-dependent; to be supplemented (data gap)
Relative density	Approx. 0.95 - 1.05 g/cm³ (20 °C) (formulation estimate)
Solubility in water	Emulsifies in water, forming a milky emulsion (EC formulation; active substance practically insoluble (< 1 mg/L))
Partition coefficient (log Pow)	log Pow approx. 4.0 - 4.5 (niclosamide) (active substance; pH-dependent)
Auto-ignition temperature	Solvent-dependent; to be supplemented (data gap)
Decomposition temperature	Niclosamide decomposes above approx. 230 °C
Viscosity	Low to moderate, free-flowing liquid
Explosive properties	Not explosive; vapour/air mixtures may be flammable
Oxidising properties	Not oxidising (assessment by composition)

9.2 Other information - no additional information available.

10 STABILITY AND REACTIVITY

10.1 Reactivity
No hazardous reaction is known under the recommended conditions of storage and use.

10.2 Chemical stability
Stable for at least two years in the unopened original container under the recommended storage conditions. Niclosamide is stable in acidic to neutral media; avoid strong alkalis and strong oxidising agents. Protect the emulsion from freezing and from prolonged storage after dilution.

10.3 Possibility of hazardous reactions
No hazardous polymerisation or other hazardous reaction occurs under normal conditions of use.

10.4 Conditions to avoid
Heat, open flames, sparks and sources of ignition, direct sunlight, frost, strong alkalis and strong oxidising agents.

10.5 Incompatible materials
Strong oxidising agents and strong alkalis. Do not tank-mix with alkaline products; perform a jar test before any tank mix and check emulsion stability.

10.6 Hazardous decomposition products
Carbon oxides, nitrogen oxides and hydrogen chloride may be formed on thermal decomposition.

11 TOXICOLOGICAL INFORMATION

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

Endpoint	Result	Species / basis
Acute oral toxicity	LD50 > 5 000 mg/kg (rat)	niclosamide technical - Rayfull
Acute dermal toxicity	LD50 2 000 mg/kg (rat)	niclosamide technical - Rayfull
Acute inhalation toxicity	LC50 (4 h) 20 mg/L (rat)	niclosamide technical - Rayfull
ATE (mixture, oral)	> 2 000 mg/kg	not classified for oral acute toxicity
Skin corrosion / irritation	Non-irritating to skin (rabbit, technical); solvent may cause defatting / irritation	formulation
Serious eye damage / irritation	Non-irritating (rabbit, technical); solvent may cause irritation	formulation
Respiratory or skin sensitisation	Not a skin sensitiser (guinea pig)	niclosamide technical
Germ cell mutagenicity	No relevant mutagenic effect	public summaries
Carcinogenicity	Not classified for niclosamide (free acid)	note: some 50 % dry formulations containing crystalline silica carry H350i; not applicable to this liquid EC
Reproductive toxicity	No embryotoxic effect reported	public summaries
STOT - single exposure	Not classified; solvent may cause drowsiness (H336)	solvent data to be supplemented
STOT - repeated exposure	Not classified for niclosamide	public summaries
Aspiration hazard	Not classified unless the solvent system warrants H304	solvent data to be supplemented

11.2 Symptoms and effects
See Section 4.2. Niclosamide is of low acute toxicity to mammals (WHO classification U - unlikely to present an acute hazard in normal use). The main risks of the EC formulation are solvent-related irritation and aspiration, and the very high aquatic toxicity. Observe the precautions in Section 8.

11.3 Other information

The classification is driven by the aquatic hazard of niclosamide (Aquatic Acute 1 / Chronic 1), consistent with multiple authoritative public SDS (Selleckchem; Cell Signaling Technology REACH SDS 2020; Aladdin 2025; Rayfull) and with the existing Bosman Niclosamide ethanolamine salt 97% TC SDS (BM-SDS-9150, H400). Public SDS disagree on additional human-health endpoints for dry 50 % formulations containing crystalline silica (H302 / H350i / H373, MSD 2025); those endpoints are linked to respirable cristobalite and are not applicable to this liquid EC. The final mixture classification must be confirmed against the solvent system and the formulation test data by the regulatory affairs department.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Organism	Result	Test condition
Fish, acute	LC50 (96 h) 1.83 mg/L (rainbow trout)	Rayfull / very toxic - drives H400
Aquatic invertebrates	EC50 (48 h) 1.3 mg/L (Daphnia magna)	Rayfull / very toxic - drives H410
Algae	EC50 (72 h) 1.1 mg/L (Pseudokirchneriella subcapitata)	Rayfull
Bees	LD50 (contact, 48 h) > 200 µg/bee; oral > 71 µg/bee	practically non-toxic to bees
Birds	LD50 > 2 000 mg/kg (bobwhite quail); dietary LC50 > 5 000 mg/kg (mallard)	Rayfull
Earthworms	LC50 (14 d) > 1 000 mg/kg soil	Rayfull

12.2 Persistence and degradability

Niclosamide is poorly absorbed from the gastrointestinal tract and is rapidly metabolised and excreted in mammals. In the environment it is strongly adsorbed to sediment and is degraded by photolysis and microbial action; the major metabolite is 2',5-dichloro-4'-aminosalicylanilide. Quantitative DT50 / Koc values are to be supplemented from the registration dossier.

12.3 Bioaccumulative potential

Moderate log Pow (approx. 4.0 - 4.5), but rapid metabolism and strong adsorption limit bioaccumulation in fish; not considered PBT/vPvB.

12.4 Mobility in soil

Niclosamide is of low mobility in soil because of strong adsorption to organic matter and sediment; the main route of concern is direct entry into surface water, where it is very toxic to fish and aquatic invertebrates.

12.5 Results of PBT and vPvB assessment

Not considered PBT or vPvB at the concentrations present.

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. Niclosamide is used intentionally as a molluscicide in aquatic habitats: apply only at the authorised rate, only in the designated treatment area, and never to potable water sources or to waters used for fish farming unless expressly authorised. Prevent run-off, contain fire water and collect spillage.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of surplus product, rinsate, spray-tank residues and contaminated absorbents as hazardous waste through a licensed contractor. Do not discharge to drains, surface water or groundwater. Triple-rinse empty containers and offer them to an approved container recycling scheme where available; otherwise puncture and dispose of them as hazardous waste. Comply with national and local waste legislation.

- 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	3082	3082	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (niclosamide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (niclosamide)	Environmentally hazardous substance, liquid, n.o.s. (niclosamide)
Class	9	9	9
Packing group	III	III	III
Environmental hazard	Yes	Yes (marine pollutant)	Yes
Tunnel code	(E)	-	-
EmS / Special	ADR 5.3.6	F-A, S-F	A97, A158

14.6 Special precautions for user

Transport in packaging permitted for Class 9, packing group III. The transport document must state the UN number, proper shipping name, class, packing group and the environmental-hazard / marine-pollutant mark. Keep containers closed, upright and secured, away from heat and sources of ignition. Do not transport together with foodstuffs, feed or drinking water. IMPORTANT: UN 3082 is assigned on the basis of the aquatic hazard only. If the solvent flash point is below 60 °C the product may instead fall under a Class 3 entry (e.g. UN 1993 / UN 1992) with a Class 9 subsidiary risk - confirm the flash point and the final classification with the carrier and the national competent authority before shipment.

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

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP).
- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- Regulation (EC) No 1107/2009 concerning the placing of plant protection products on the market; the active substance must be approved and the product authorised in the country of use.
- EUH401: To avoid risks to human health and the environment, comply with the instructions for use.
- Directive 2008/98/EC on waste and national implementing legislation.
- Dangerous-goods regulations: ADR/RID (road/rail), IMDG (sea) and IATA (air).
- National legislation implementing the above instruments in the country of use applies in addition.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture. The classification is derived from the composition using the additivity principles and concentration limits of Annex I to Regulation (EC) No 1272/2008 (CLP). A mixture chemical safety report is available to competent authorities on request.

16 OTHER INFORMATION

16.1 Revision information

Original issue for Niclosamide 25% EC, prepared in the 16-section GHS/CLP format in accordance with Regulation (EC) No 1272/2008. Ecotoxicological and toxicological data are cross-checked against authoritative public sources; the H400/H410 classification is consistent with the existing Bosman Niclosamide ethanolamine salt 97% TC SDS (BM-SDS-9150). The solvent system, flash point and the exact active form (free acid CAS 50-65-7 versus ethanolamine salt CAS 1420-04-8) are explicitly marked 'to be supplemented'. Confirm all flagged items, the transport entry and the regulatory status with the regulatory affairs department before commercial release.

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

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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