SAFETY DATA SHEET

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

Kasugamycin 20 g/L SL

Shanghai Bosman Industrial Co., Limited

Product name	**Kasugamycin 20 g/L SL**	SDS number	**BM-SDS-9511**
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	Kasugamycin 20 g/L SL
Product type	Soluble concentrate (SL) - plant protection product
Active substance	Kasugamycin (CAS 6980-18-3)

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

Identified use	Professional bactericide / fungicide for the control of bacterial diseases (e.g. bacterial leaf spot, bacterial soft rot, fire blight) and rice blast on rice, vegetables, fruit and ornamental crops. Aminoglycoside antibiotic acting by inhibition of protein biosynthesis. 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.

H302	Acute toxicity, oral, Category 4 — Harmful if swallowed.
H317	Skin sensitisation, Category 1 — May cause an allergic skin reaction.
H319	Eye irritation, Category 2 — Causes serious eye irritation.

2.2 Label elements



SIGNAL WORD
WARNING

H302 H317 H319	Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye irritation.

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

Precautionary statements - Prevention

P261	Avoid breathing dust, fume, gas, mist, vapours or spray.
P264	Wash hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves, protective clothing, eye protection and face protection.

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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321	Specific treatment (see label).
P330	Rinse mouth.
P333+P313	If skin irritation or rash occurs: Get medical advice or attention.
P337+P313	If eye irritation persists: Get medical advice or attention.
P363	Wash contaminated clothing before reuse.

Precautionary statements - Disposal

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

2.3 Other hazards

The product is an aqueous soluble concentrate of the aminoglycoside antibiotic kasugamycin. The active substance is of low acute toxicity to mammals, but the formulation is self-classified for oral acute toxicity (Category 4), skin sensitisation (Category 1) and serious eye irritation (Category 2) in line with the existing Bosman classification for Kasugamycin 2% SL (BM-SDS-9124). No component is considered PBT or vPvB at 0.1 % (w/w) or above. Kasugamycin is not approved as a plant-protection active substance under Regulation (EC) No 1107/2009 in the EU; check the authorisation status in each country of use.

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)
Kasugamycin	6980-18-3	615-014-8	20 g/L (approx. 2.0 % w/w)	Acute Tox. 4 (H302); Skin Sens. 1 (H317); Eye Irrit. 2 (H319) - self-classification consistent with the existing Bosman Kasugamycin 2% SL safety data sheet
Water and formulants (surfactants, stabilisers)	Mixture	-	Balance to 100 %	None classified as hazardous at the concentrations present

Kasugamycin: C14H25N3O9, relative molecular mass 379.36. The technical material is readily soluble in water and unstable in alkaline media (activity decreases sharply above pH 8).

The active-substance content is declared as 20 g/L, equivalent to approximately 2 % w/w for a formulation density close to 1.0 g/mL. Confirm the declared concentration against the current product specification 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. Ingestion of larger quantities may cause gastrointestinal discomfort (nausea, abdominal pain, diarrhoea). Direct eye contact may cause redness and irritation. Repeated or prolonged skin contact may cause sensitisation and an allergic skin reaction in susceptible individuals. Inhalation of mist may cause mild respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively; no specific antidote is known. After ingestion rinse the mouth with water and seek medical advice, do not induce vomiting. After eye contact continue rinsing for at least 15 minutes and obtain medical advice if irritation persists. 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

The product is an aqueous, non-flammable soluble concentrate. On drying and thermal decomposition it may release carbon oxides, nitrogen oxides and irritant fumes. Fire water run-off must be contained, as the concentrate may be harmful to aquatic organisms.

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 breathing mist or spray; avoid contact with skin, eyes and clothing.
- Use only with adequate ventilation; do not eat, drink or smoke during handling.
- Wash hands and face before breaks and at the end of the working period.
- Keep the container tightly closed when not in use; protect from contamination and from alkaline materials, which degrade the active substance.
- Do not contaminate water, food, feed or seed by storage, handling or disposal.
- Observe the approved label, including any buffer zones to surface water.

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 frost.
- Protect from alkaline materials and from strong oxidising agents; kasugamycin is stable in acidic to neutral media but decomposes in alkaline conditions.
- Store locked up and out of reach of children, unauthorised persons and animals.
- Store separately from food, drink, feed and seed.
- Shelf life is two years in the unopened, undamaged original container under the stated conditions.

7.3 Specific end use(s)

Professional bactericide / fungicide for the control of bacterial diseases (e.g. bacterial leaf spot, bacterial soft rot, fire blight) and rice blast on rice, vegetables, fruit and ornamental crops. Aminoglycoside antibiotic acting by inhibition of protein biosynthesis. 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
Kasugamycin	No binding OEL assigned	-	No occupational exposure limit established under Directive 2004/37/EC; a national limit, where in force in the country of use, prevails

No binding EU occupational exposure limit has been assigned to kasugamycin. A company-internal occupational exposure band should be set by the safety officer. Reference values from a regulatory assessment are to be confirmed against the current JMPR/EFSA conclusion before use in risk assessment (data point to be supplemented).

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 (aqueous soluble concentrate)
Colour	Clear to lightly coloured (green dyed grade available)
Odour	Slight characteristic
pH	4.0 - 7.0 (25 °C) (neat / 1 % dilution)
Melting point / freezing point	Approx. 0 °C (water-based)
Boiling point	Approx. 100 °C (water-based)
Flash point	Not applicable (aqueous, non-flammable)
Flammability	Not classified as flammable
Vapour pressure	Approx. 2.3 kPa (20 °C, water)
Relative density	Approx. 1.00 - 1.05 g/cm³ (20 °C) (formulation)
Solubility in water	Completely miscible; forms a true solution
Partition coefficient (log Pow)	log Pow < -2 (kasugamycin, highly polar) (active substance)
Auto-ignition temperature	Not applicable (non-flammable aqueous liquid)
Decomposition temperature	Not determined; degraded by alkaline media
Viscosity	Low, water-like

Property	Value
Explosive properties	Not explosive (assessment by composition)
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. The active substance is stable in acidic and neutral media but is rapidly degraded in alkaline solution; do not mix with alkaline products such as lime sulphur or Bordeaux mixture.

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

10.4 Conditions to avoid
Temperatures above 40 °C, frost, direct sunlight, alkaline materials (pH > 8) and strong oxidising agents.

10.5 Incompatible materials
Strong oxidising agents and strongly alkaline materials. Do not tank-mix with copper formulations of alkaline reaction without a prior compatibility test.

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)	kasugamycin technical - low toxicity
Acute dermal toxicity	LD50 > 2 000 mg/kg (rat)	kasugamycin hydrochloride hydrate
Acute inhalation toxicity	LC50 (4 h) > 2.07 mg/L (rat)	kasugamycin hydrochloride hydrate
ATE (mixture, oral)	> 2 000 mg/kg (Category 4 by additivity)	calculated from composition - drives H302
Skin corrosion / irritation	Non-irritating (rabbit, technical)	active substance
Serious eye damage / irritation	Category 2 (H319) for the formulation	self-classification, in line with BM-SDS-9124
Respiratory or skin sensitisation	Skin sensitiser Category 1 (H317) for the formulation; technical not sensitising in guinea pig	self-classification
Germ cell mutagenicity	No relevant genotoxic effect reported	public literature
Carcinogenicity	Not classified	no evidence in available studies
Reproductive toxicity	Not classified	no evidence at non-maternal toxic doses
STOT - single exposure	Not classified	-
STOT - repeated exposure	Not classified	-
Aspiration hazard	Not classified (low viscosity aqueous liquid)	-

11.2 Symptoms and effects
See Section 4.2. Kasugamycin is of low acute toxicity to mammals. The formulation is classified for oral acute toxicity (Category 4), skin sensitisation and serious eye irritation; observe the precautions in Section 8.

11.3 Other information

The mixture classification follows the existing Bosman Kasugamycin 2% SL safety data sheet (BM-SDS-9124) for the same active substance and loading. Public supplier SDS differ: some classify kasugamycin technical as not hazardous, others list H315/H360/H373/H412 or H400/H410. The in-house formulation self-classification has been retained for consistency; it should be confirmed by the regulatory affairs department against the current CLP Annex VI harmonised classification and the final formulation test data.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Organism	Result	Test condition
Fish, acute	LC50 (96 h) > 100 mg/L	low acute toxicity to fish
Aquatic invertebrates	EC50 (48 h) > 100 mg/L (Daphnia magna)	moderate alert in PPDB; data to be confirmed
Algae	EbC50 (72 h) > 100 mg/L	green algae
Bees	Low toxicity; avoid application during foraging	bee
Birds	Low acute toxicity	bird
Earthworms	Low toxicity	earthworm

12.2 Persistence and degradability

Kasugamycin is a microbial metabolite produced by Streptomyces kasugaensis. It is highly water soluble and is degraded primarily by microbial activity and photolysis; it is not expected to persist in soil. Quantitative DT50 values for the formulation are to be supplemented from the registration dossier.

12.3 Bioaccumulative potential

Low potential for bioaccumulation (log Pow < -2, highly polar molecule).

12.4 Mobility in soil

High mobility in water is possible because of the high water solubility, but rapid biodegradation limits leaching. Avoid direct contamination of surface water and drainage ditches.

12.5 Results of PBT and vPvB assessment

Not considered PBT or vPvB (low bioaccumulation potential, readily biodegradable).

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

Do not contaminate ponds, waterways or ditches with the product or its rinsate. Although of low acute toxicity to aquatic organisms, an unclassified aquatic hazard cannot be excluded for the formulation; observe label buffer zones. Kasugamycin is an antibiotic - avoid unnecessary release to the environment.

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	Not regulated	Not regulated	Not regulated
Proper shipping name	Not dangerous goods	Not dangerous goods	Not dangerous goods
Class	Not applicable	Not applicable	Not applicable
Packing group	-	-	-
Environmental hazard	No	No	No
Tunnel code	-	-	-
EmS / Special	-	-	-

14.6 Special precautions for user

Not classified as dangerous goods for transport under ADR/RID, IMDG and IATA, consistent with the existing Bosman Kasugamycin 2% SL SDS. Protect from frost and from temperatures above 40 °C, keep containers upright and closed, and do not transport together with food, feed or drinking water. Confirm the classification if the formulation is changed to contain a flammable solvent.

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 Kasugamycin 20 g/L SL, prepared in the 16-section GHS/CLP format in accordance with Regulation (EC) No 1272/2008. Classification and labelling elements follow the existing Bosman Kasugamycin 2% SL safety data sheet (BM-SDS-9124) for the same active substance and loading. Confirm against final formulation test data and the current regulatory status before commercial release.

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.
H319	Causes serious eye irritation.

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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