



SAFETY DATA SHEET

AS-1444

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Jensen's Medium (Nitrogen-Free)

Prepared in accordance with the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals, as adopted under the Work Health and Safety Regulations (Australia).

SECTION 1 — IDENTIFICATION

Product Name	Jensen's Medium (Nitrogen-Free)
Catalogue Number	AS-1444
Medium Type	Selective solid medium — nitrogen-free (free-living nitrogen-fixing bacteria)
Recommended Use	Detection and cultivation of free-living nitrogen-fixing bacteria (e.g. Azotobacter spp.). Research, agricultural microbiology, and educational use.
Supplier	AuSaMicS Pty Ltd, 36/25 Trafalgar Road, Epping VIC 3076, Australia Phone: +61 412 520 598 Email: support@ausamics.com
Emergency Telephone	AuSaMicS Pty Ltd: +61 412 520 598 (business hours, AEST) Poisons Information Centre (Australia): 13 11 26 (24 hours)

SECTION 2 — HAZARDS IDENTIFICATION

GHS Classification: Not classified as a hazardous substance or mixture under the Australian WHS Regulations or GHS criteria at intended use concentrations.

Signal Word: None required. Pictograms: None required.

Precautionary Note: This product is a microbiological growth medium. Follow standard laboratory biosafety procedures — treat inoculated cultures as potentially containing viable soil microorganisms and handle in accordance with AS/NZS 2243 series biosafety requirements.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Component	g/L	Function
Sucrose	20.000	Energy source
Calcium Carbonate	2.000	Buffering, stimulates nodulation-associated growth
Dipotassium Phosphate (K_2HPO_4)	1.000	Buffering agent, phosphorus source
Magnesium Sulfate	0.500	Mg^{2+} ion source, enzyme cofactor
Sodium Chloride	0.500	Osmotic equilibrium
Ferrous Sulfate	0.100	Iron source — nitrogenase cofactor
Sodium Molybdate	0.005	Molybdenum — essential nitrogenase cofactor
Agar	15.000	Solidifying agent

Total dehydrated weight: 39.1 g/L. No added nitrogen source — selectivity relies on the absence of a usable nitrogen compound, so only organisms capable of atmospheric nitrogen fixation grow well. Not a hazardous mixture.

SECTION 4 — FIRST AID MEASURES

Inhalation	Remove to fresh air. Seek medical attention if symptoms persist. Avoid generating dust during weighing.
Skin Contact	Wash with soap and water. No significant hazard expected from dry powder at normal handling quantities.
Eye Contact	Irrigate with large amounts of water for 15 minutes. Seek medical attention if irritation persists.
Ingestion	Rinse mouth. Not expected to be acutely toxic. Call the Poisons Information Centre (13 11 26) if a large amount is ingested.

SECTION 5 — FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Water spray, foam, dry powder, CO ₂ .
Specific Hazards	Not flammable, not explosive. No unusual fire hazard expected.
Advice for Firefighters	Wear standard fire-fighting protective equipment.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid generating dust. Use appropriate PPE (Section 8) if handling large spills.
Environmental Precautions	Not expected to pose a significant environmental hazard in dehydrated form.
Containment & Clean-Up	Sweep or vacuum carefully (avoid dust generation) and collect in a suitable labelled container.

SECTION 7 — HANDLING AND STORAGE

Handling Precautions	Handle in a well-ventilated area. Avoid generating or inhaling dust.
Storage — Dehydrated Powder	Store below 30°C in a tightly closed container, protected from moisture and direct sunlight. Hygroscopic — reseal promptly after use.
Storage — Prepared Medium	2–8°C. Use within a short period; discard if evidence of contamination is observed.

SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection	P1 particulate filter if dust is generated during weighing.
Eye Protection	Safety glasses recommended during preparation.
Skin Protection	Nitrile gloves and laboratory coat when preparing and handling cultures.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Dehydrated Appearance	Off-white, fine, free-flowing, hygroscopic powder
Prepared Medium Appearance	Cream coloured, slightly opalescent gel with a slight precipitate (from calcium carbonate)
Dissolution	39.1 g/L in distilled/purified water
Final pH (25°C)	7.2 – 7.8
Sterilisation	Autoclave 121°C for 15 minutes

SECTION 10 — STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended ambient storage conditions in dehydrated form. Hygroscopic.
Incompatible Materials	None known under normal use.
Hazardous Decomposition Products	None expected under normal use.

SECTION 11 — TOXICOLOGICAL INFORMATION

No specific toxicological data for this product. Components are standard microbiological media ingredients with no significant acute toxicity at normal handling quantities. This medium is not intended for consumption. Once inoculated, cultures should be treated as potentially biohazardous per Section 2.

SECTION 12 — ECOLOGICAL INFORMATION

No specific ecological data for this product. Dehydrated medium components are not expected to pose a significant environmental hazard. Inoculated/used media should be autoclaved before disposal (see Section 13) to prevent release of cultured organisms to the environment.

SECTION 13 — DISPOSAL CONSIDERATIONS

Autoclave all inoculated media (121°C / 15 minutes) before disposal as general laboratory waste, in accordance with institutional biosafety procedures and local EPA regulations. Uninoculated dehydrated powder may be disposed of as general waste in accordance with local regulations.

SECTION 14 — TRANSPORT INFORMATION

Not classified as Dangerous Goods under the Australian Dangerous Goods (ADG) Code, IATA, or IMDG regulations. No UN Number applicable.

SECTION 15 — REGULATORY INFORMATION

Regulatory Framework	Australian WHS Regulations; GHS as adopted in Australia; Safe Work Australia Code of Practice
Poisons Schedule	Not scheduled under the SUSMP

SECTION 16 — OTHER INFORMATION

SDS Reference	SDS-AS-1444-JEN
Revision Date	11 Sep 2025
Prepared By	AuSaMicS Pty Ltd
Next Review	August 2028
Abbreviations	GHS = Globally Harmonized System; WHS = Work Health and Safety; ADG = Australian Dangerous Goods; SUSMP = Standard for the Uniform Scheduling of Medicines and Poisons

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