



SAFETY DATA SHEET

AS-1443

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Löwenstein-Jensen Medium Base (L.J. Medium)

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	Löwenstein-Jensen Medium Base (L.J. Medium)
Catalogue Number	AS-1443
Medium Type	Selective egg-based solid medium (base powder) — isolation and cultivation of Mycobacterium species
Recommended Use	Isolation, cultivation and niacin testing of Mycobacterium species (including M. tuberculosis) from clinical and research specimens. This dehydrated base requires the aseptic addition of fresh egg suspension and glycerol (or sodium pyruvate) before use — see Technical Data Sheet.
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: The dehydrated base powder is not classified as acutely hazardous to human health under the Australian WHS Regulations or GHS criteria at intended use concentrations. However, this product contains malachite green, a triphenylmethane dye with recognised aquatic toxicity.

Hazard Class	Category	Hazard Statement
Long-term (chronic) aquatic hazard	Category 2 (precautionary classification)	H411 — Toxic to aquatic life with long-lasting effects (attributable to malachite green content)

Signal Word: **WARNING (environmental)**

Precautionary Statements: P273 (Avoid release to the environment), P391 (Collect spillage), P501 (Dispose of contents/container in accordance with local/national regulations). General laboratory PPE (P264, P280) recommended.

Biosafety Note: When reconstituted with fresh egg suspension and inoculated, this product supports the growth of Mycobacterium species, including potentially pathogenic organisms such as M. tuberculosis. Inoculated cultures must be handled in a certified biosafety cabinet under PC2/PC3 containment as locally required, in accordance with AS/NZS 2243 series and institutional biosafety procedures for Mycobacterium handling.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Component	g/L	Function
Potato Flour (Potato Starch, soluble)	30.000	Carbohydrate/nutrient source
L-Asparagine	3.600	Nitrogen source
Monopotassium Phosphate (KH ₂ PO ₄)	2.400	Buffering agent, phosphorus source
Magnesium Citrate	0.600	Magnesium source, metal ion chelation

Magnesium Sulfate	0.240	Magnesium source, enzyme cofactor
Malachite Green	0.400	Selective inhibitor of contaminants; pH indicator dye

Total dehydrated base weight: 37.24 g/L. This base does not include glycerol, egg suspension, or sodium pyruvate, which are added separately during preparation — see Section 7 and the Technical Data Sheet.

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. Malachite green may stain skin; this is not indicative of a chemical burn. Seek medical attention if irritation develops.
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 at normal handling quantities. 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. Avoid skin contact with the dye component. Use appropriate PPE (Section 8).
Environmental Precautions	Malachite green is toxic to aquatic organisms. Prevent entry to drains, waterways, and soil.
Containment & Clean-Up	Sweep or vacuum carefully (avoid dust generation) and collect in a suitable labelled container. Do not wash spilled powder into drains.

SECTION 7 — HANDLING AND STORAGE

Handling Precautions	Handle in a well-ventilated area. Avoid generating or inhaling dust. Avoid skin contact — malachite green stains readily.
Preparation Note	This dehydrated base is reconstituted with glycerol (or sodium pyruvate for glycerophobic strains such as <i>M. bovis</i>) and combined aseptically with fresh whole egg suspension before use — see Technical Data Sheet.
Storage Conditions	Store below 30°C in a tightly closed container, protected from moisture and light. Malachite green is photosensitive — protect from light to preserve selectivity.

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 the base and when preparing/handling egg suspension and inoculated cultures.

Biological Safety	Reconstituted, inoculated medium must be handled under appropriate biosafety containment (PC2/PC3 as locally required) due to potential Mycobacterium growth.
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SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Dehydrated Appearance	Pale green, free-flowing powder
Prepared Medium Appearance	Pale bluish-green, opaque, coagulated (inspissated) solid surface, once combined with egg suspension
Dissolution (base)	37.24 g/L in 600 mL purified water containing 12 mL glycerol per litre of final base solution
Final pH	Approximately 6.8 (typical commercial range 6.4–7.0; malachite green itself functions as a pH indicator in the finished medium)
Sterilisation (base)	Autoclave 121°C for 15 minutes (base solution only, prior to egg addition)
Coagulation (final medium)	Inspissation at 85°C for 45–50 minutes — not standard autoclaving

SECTION 10 — STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended ambient storage conditions in dehydrated form. Malachite green is photosensitive and should be protected from light.
Incompatible Materials	None known under normal use.
Hazardous Decomposition Products	None expected under normal use.

SECTION 11 — TOXICOLOGICAL INFORMATION

No specific acute toxicity data for this product at intended use concentrations. Malachite green has been associated with toxicological concerns (including potential mutagenicity) in the toxicology literature at higher, sustained exposure levels (e.g. in aquaculture and veterinary use); however, exposure from handling this dehydrated laboratory reagent is expected to be minimal with standard PPE and hygiene practices. Once reconstituted and inoculated, cultures should be treated as potentially biohazardous per Section 2.

SECTION 12 — ECOLOGICAL INFORMATION

Aquatic Toxicity	Malachite green is recognised as toxic to aquatic organisms, including fish and aquatic invertebrates. Avoid release of this product to waterways.
Persistence/Degradability	Malachite green is relatively persistent in aquatic environments; degradation products (e.g. leucomalachite green) may also be of environmental concern.
Bioaccumulative Potential	Malachite green has documented potential for bioaccumulation in aquatic organisms.
Mobility in Soil	No specific data available for this formulated product.

SECTION 13 — DISPOSAL CONSIDERATIONS

Autoclave or otherwise decontaminate all inoculated media before disposal, in accordance with institutional biosafety procedures for Mycobacterium-containing waste and local EPA regulations. Due to the malachite green content, do not discharge uninoculated dehydrated powder, prepared medium, or rinse water to drains or waterways; dispose of via a licensed waste contractor.

SECTION 14 — TRANSPORT INFORMATION

Not classified as Dangerous Goods under the Australian Dangerous Goods (ADG) Code, IATA, or IMDG regulations for the dehydrated base in its supplied form. No UN Number applicable.

SECTION 15 — REGULATORY INFORMATION

Regulatory Framework	Australian WHS Regulations; GHS as adopted in Australia; Safe Work Australia Code of Practice
Biosafety Considerations	Reconstituted/inoculated medium may fall under institutional biosafety and, depending on jurisdiction and intended pathogen handling, may be subject to additional biosafety/biosecurity oversight — consult your institutional biosafety committee
Poisons Schedule	Not scheduled under the SUSMP

SECTION 16 — OTHER INFORMATION

SDS Reference	SDS-AS-1443-LJ
Revision Date	11 June 2026
Prepared By	AuSaMicS Pty Ltd
Next Review	August 2028
Abbreviations	GHS = Globally Harmonized System; WHS = Work Health and Safety; L.J. = Löwenstein-Jensen; ADG = Australian Dangerous Goods; SUSMP = Standard for the Uniform Scheduling of Medicines and Poisons; PC2/PC3 = Physical Containment Level 2/3

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