SAFETY DATA SHEET

MacConkey Agar with Sorbitol | Catalog No. AS-1284

GHS (UN Purple Book, 9th Ed.) | Safe Work Australia Model WHS Regulations | ISO 11014:2009

SECTION 1 — IDENTIFICATION

Product Name	MacConkey Agar with Sorbitol
Synonyms	Sorbitol MacConkey Agar; SMAC Agar
Catalog Number	AS-1284
Product Type	Dehydrated microbiological culture medium (complex mixture)
Recommended Use	Selective and differential culture medium for isolation of Enterobacteriaceae, particularly E. coli O157:H7. For laboratory use only.
Restrictions on Use	NOT for human, veterinary, food ingredient, or clinical therapeutic use.
Supplier	AuSaMicS Pty Ltd
Address	31 Longview CT, Thomastown VIC 3074, Australia
ABN	56 676 640 467
Phone	+61 412 520 598
Email	support@ausamics.com
Website	www.ausamics.com.au
Emergency Telephone	Australia: 000	Poisons Information Centre: 13 11 26 (24 hrs)
SDS Date of Issue	March 2026	Rev. 1.0

SECTION 2 — HAZARD IDENTIFICATION

GHS Classification	Not classified as hazardous under the GHS (9th Ed.) for this complex mixture at typical laboratory quantities
WHS Classification	Not classified as a hazardous chemical under Safe Work Australia Model WHS Regulations

SUSMP Classification	Not scheduled
Signal Word	None required
Hazard Pictograms	None required

Hazard Statements: No GHS hazard statements are required. Not classified as hazardous.

Precautionary Statements:

- P102 — Keep out of reach of children.
- P261 — Avoid breathing dust.
- P264 — Wash hands thoroughly after handling.
- P270 — Do not eat, drink, or smoke when using this product.
- P271 — Use only in a well-ventilated area.
- P280 — Wear protective gloves, protective clothing, and eye/face protection.
- P302 + P352 — IF ON SKIN: Wash with plenty of water.
- P305 + P351 + P338 — IF IN EYES: Rinse cautiously with water for several minutes.
- P501 — Dispose of contents/container in accordance with applicable regulations.

Other Hazards: This medium contains bile salts and crystal violet, which may cause mild skin and eye irritation. The medium is used for culturing potentially pathogenic microorganisms — standard Containment Level 2 laboratory practices must be observed.

Biological Hazard: When used as intended, this medium supports the growth of potentially pathogenic organisms including E. coli O157:H7 (Biosafety Level 2 pathogen). All standard BSL-2 practices, containment, and disposal requirements apply.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Complex dehydrated microbiological culture medium (UVCB — substance of variable composition).

Component	CAS Number	Proportion	GHS Classification
Peptic digest of animal tissue	91079-38-8	~35%	Not classified
Sorbitol (D-Sorbitol)	50-70-4	~21%	Not classified
Agar	9002-18-0	~28%	Not classified
Sodium chloride	7647-14-5	~10%	Not classified
Bile salts mixture	8008-63-7	~3%	Not classified
Pancreatic digest of casein	91079-46-8	~3%	Not classified

Neutral red	553-24-2	< 0.1%	Not classified
Crystal violet	548-62-9	< 0.01%	Acute Tox. 4 (oral); Eye Irrit. 2 — below threshold in mixture

Note: Crystal violet is present at < 0.01% (< 0.1 g/L in prepared medium). This is below the GHS concentration threshold for mixture classification. No component exceeds GHS classification thresholds at the concentrations present in this product.

SECTION 4 — FIRST AID MEASURES

Eye Contact	Immediately flush eyes with copious clean water for at least 15 minutes, holding eyelids open. Remove contact lenses if present. Seek medical attention if irritation or redness persists. Crystal violet may cause temporary discolouration of conjunctiva.
Skin Contact	Remove contaminated clothing. Wash affected area thoroughly with soap and water for at least 10 minutes. Seek medical advice if irritation or skin rash develops. Neutral red and crystal violet may cause temporary skin staining — not a health hazard.
Inhalation	Remove to fresh air. If coughing or breathing difficulties develop, seek medical attention. Dust inhalation at occupational levels is unlikely under normal conditions of use.
Ingestion	Rinse mouth with water. Do NOT induce vomiting. Seek medical advice. Product has low acute oral toxicity. Contact Poisons Information Centre: 13 11 26.
Note to Physician	Dehydrated complex culture medium. Treat symptomatically. No specific antidote. If significant quantities ingested, consider gastrointestinal support.

SECTION 5 — FIRE-FIGHTING MEASURES

Flash Point	Not applicable (solid; not classified as flammable)
Flammability	Not classified as flammable. Agar and organic components may combust at high temperatures.
Suitable Extinguishing Media	Water spray, CO_2, dry chemical powder, foam
Hazardous Combustion Products	CO, CO_2, NO_x, SO_x, and irritating organic fumes upon combustion

Fire-Fighting Precautions	Wear self-contained breathing apparatus (SCBA) and full protective clothing. Cool fire-exposed containers with water.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear full PPE (gloves, lab coat, eye protection, dust mask). Avoid generating dust. Do not use compressed air for clean-up.
Environmental Precautions	Prevent entry into drains and waterways. Nutrient-rich material — may promote microbial growth in waterways. If prepared medium spills, treat as potentially biohazardous.
Clean-Up (Dry Powder)	Carefully sweep or HEPA-vacuum into sealed, labelled containers. Avoid generating dust. Clean area with water and detergent.
Clean-Up (Prepared Medium)	Treat as biohazardous. Absorb with inert material, collect in sealed biohazard bags. Decontaminate area with 10% sodium hypochlorite, allow 30 min contact, then rinse.
Reference	See Section 8 for PPE; Section 13 for disposal.

SECTION 7 — HANDLING AND STORAGE

HANDLING:

- Weigh and handle dehydrated powder in a well-ventilated area or fume cupboard. Minimise dust generation.
- Wear appropriate PPE at all times (see Section 8).
- All work with inoculated media must be performed using standard BSL-2 microbiological practices under a biosafety cabinet.
- Do not pipette by mouth. Do not eat, drink, or smoke in the laboratory.
- Wash hands thoroughly before leaving the laboratory.
- Decontaminate all work surfaces before and after use with 70% ethanol or 10% sodium hypochlorite.

STORAGE:

- Dehydrated powder: Store tightly sealed at 15–30 °C, dry and away from light.
- Prepared plates: Store inverted at 2–8 °C in sealed plastic bags. Use within 2 weeks.
- Keep away from food, beverages, and animal feed.
- Shelf life of dehydrated medium: refer to expiry date on label.

SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits (OELs) — Key Components:

Component	OEL Type	TWA (mg/m³)	STEL (mg/m³)	Standard
Inhalable dust (agar, peptone)	WES	10	Not set	Safe Work Australia
Sodium chloride	WES	Not set	Not set	Safe Work Australia
Crystal violet (< 0.01%)	WES	Not established	Not set	Safe Work Australia

Engineering Controls: Use in a well-ventilated laboratory. For weighing large quantities, use a fume cupboard. All microbiological work with inoculated cultures must be performed in a Class II Biological Safety Cabinet (BSC).

PPE Category	Recommendation	Australian Standard
Respiratory	P1 dust mask for routine weighing; P2 for dusty operations	AS/NZS 1716
Eye / Face	Safety glasses; chemical splash goggles for solution preparation	AS/NZS 1337
Hands	Nitrile gloves (≥ 0.1 mm)	AS/NZS 2161
Body	Laboratory coat; closed-toe footwear	AS/NZS 4501

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Property	Value / Description	Method
Physical state (20°C)	Solid — dehydrated powder	Visual
Appearance	Homogeneous light beige to pink powder	Visual
Odour	Characteristic (mild, slightly organic)	Organoleptic
pH (2% aq. solution, 25°C)	7.1 ± 0.2	Potentiometry
Melting point	Not applicable (complex mixture; gels on cooling)	—
Solubility	Dispersible in hot water; gels on cooling to ~45°C	Dissolution
Bulk density	Approximately 400–600 g/L	Gravimetric
Moisture content	≤ 5% (typical)	Karl Fischer / LOD
Flash point	Not applicable	—
Gelling temperature	Approximately 42–45°C	Empirical

Melting temperature (agar)	Approximately 85–95°C	Empirical

SECTION 10 — STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions (15–30°C, dry, sealed). Hygroscopic — absorbs moisture; store sealed.
Conditions to Avoid	Moisture ingress; prolonged high temperature (> 40°C); direct sunlight; freezing of prepared medium.
Incompatible Materials	Strong oxidising agents; concentrated acids and alkalis; bleaching agents (destroy medium components).
Hazardous Decomposition	CO, CO_2, NO_x upon combustion. No hazardous decomposition under normal storage.
Hazardous Reactions	Will not polymerise. Will not self-ignite. No known hazardous self-reactivity.

SECTION 11 — TOXICOLOGICAL INFORMATION

Data based on individual component information. No formal toxicology studies have been conducted on this dehydrated mixture as a whole.

Endpoint	Assessment	Basis
Acute toxicity — oral	Not classified. LD_{50} of mixture > 2000 mg/kg (estimated from components)	Component data / estimation
Skin irritation	Not classified. Bile salts may cause mild defatting with prolonged contact.	Component data
Eye irritation	Not classified. Crystal violet at concentration in mixture is below threshold. May cause mild irritation.	Component data
Sensitisation	Not classified. No known sensitising components at concentrations present.	Component data
Mutagenicity	Not classified.	Literature review
Carcinogenicity	Not classified. No component listed as carcinogen by IARC, NTP, or ACGIH.	Regulatory review
Reproductive toxicity	Not classified.	Data gap
STOT — single exposure	Not classified.	Expert judgement

STOT — repeated exposure	Not classified.	Expert judgement
Aspiration hazard	Not applicable (solid).	—

Biological Hazard Note: This medium is designed to support the growth of pathogenic organisms. Exposure to cultures grown on this medium represents a biological, not a chemical, hazard. Follow BSL-2 containment procedures at all times.

SECTION 12 — ECOLOGICAL INFORMATION

Ecotoxicity	Not classified. Nutrient-rich organic material — high biological oxygen demand (BOD) if released to waterways.
Persistence	Biodegradable. Organic components will be metabolised by environmental microorganisms.
Bioaccumulation	Not expected. Components are hydrophilic nutrients with no bioaccumulation potential.
Mobility in soil	Soluble components may leach. Agar forms gel and immobilises in soil.
Other effects	Do not release inoculated cultures to the environment. Treat all cultures as biohazardous waste.

SECTION 13 — DISPOSAL CONSIDERATIONS

CRITICAL — Biological Hazard: All inoculated (used) culture media must be decontaminated before disposal.

- Decontamination: Autoclave all inoculated media and cultures at 121°C, 121 kPa, for a minimum of 15 minutes. Verify with biological indicators as required by your facility.
- Unused dehydrated medium: Dispose of as chemical waste in accordance with local EPA regulations.
- Prepared (uninoculated) plates: Dispose of as chemical waste. No autoclaving required if uninoculated.
- Sharps and contaminated plasticware: Autoclave then dispose of as regulated biohazardous waste.
- Relevant legislation: Protection of the Environment Operations Act 1997 (NSW); Environment Protection Act 1970 (VIC); and equivalent state/territory legislation.

SECTION 14 — TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Class	Pkg Group	Label
ADG (Australia)	Not regulated	Not a Dangerous Good	—	—	None

IATA (Air)	Not regulated	Not a Dangerous Good	—	—	None
IMDG (Sea)	Not regulated	Not a Dangerous Good	—	—	None

Special Precautions: Transport dehydrated powder at ambient temperature. Keep sealed and dry. Protect from moisture during transit.

SECTION 15 — REGULATORY INFORMATION

AICS Status	All components are listed on the Australian Inventory of Chemical Substances (AICS). No restrictions apply.
SUSMP	Not scheduled. Not a controlled poison.
WHS Regulations	Not classified as a hazardous chemical under Safe Work Australia Model WHS Regulations.
Gene Technology Act 2000 (Cth)	This medium is used for culture of potentially GMO organisms in some applications. Users must comply with the Gene Technology Act 2000 and OGTR regulations where applicable.
Biosafety	This product is used with BSL-2 organisms. Users must comply with AS/NZS 2243.3:2010 (Safety in laboratories — Microbiological aspects) and their institutional biosafety requirements.
Food Standards	Not for use as a food ingredient. Not for use in food production environments without appropriate validation.

SECTION 16 — OTHER INFORMATION

Date of Issue	March 2026
Version	Rev. 1.0 — First issue
Prepared By	AuSaMicS Pty Ltd — Quality & Regulatory Affairs
Next Review	March 2028 or upon change to composition or regulations

Key References:

- GHS Purple Book, 9th Ed., United Nations (2021).
- Safe Work Australia: Preparation of Safety Data Sheets for Hazardous Chemicals — Code of Practice (2021).
- ISO 11014:2009 — Safety data sheet for chemical products.
- AS/NZS 2243.3:2010 — Safety in laboratories — Microbiological aspects and containment facilities.

- ISO 11133:2014 — Culture media performance testing.

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