AuSaMicS™ Life Science

Technical Data Sheet

TDS-AS-1337

www.ausamics.com.au

Product Identification

Product Name	R2A Agar (Reasoner's 2A)
Catalog No.	AS-1337
Lot No.	R2A260301
Mfg. Date	March 2026
Retest Date	March 2028
Grade	Microbiological / Analytical Grade
Standard	ISO 6222:1999 · Ph. Eur. 11th Ed. · APHA SM-9215B

Physical & Chemical Properties

Appearance (powder)	Homogeneous, free-flowing powder; pale cream to light beige
Appearance (prepared)	Clear to slightly opalescent gel; light amber colour
Odour	Faint, characteristic (peptone/yeast extract)
pH (prepared, 25 °C)	7.2 ± 0.2
Agar gel / melt point	Gels ≈ 32–34 °C / Melts ≈ 84–86 °C
Loss on Drying (spec.)	≤ 7.0% w/w (105 °C / 2 h)
Solubility	18.12 g/L in purified water on heating; swells in cold water

Composition per Litre — ISO 6222 / Ph. Eur. Standard

Component	Function	g / L
Yeast Extract	Vitamins, amino acids — primary C/N source	0.50
Proteose Peptone No. 3 (or Polypeptone)	Peptides — slow-release nitrogen source	0.50

AuSaMicS™ Life Science

Technical Data Sheet

TDS-AS-1337

www.ausamics.com.au

Component	Function	g / L
Casein Hydrolysate (acid)	Amino acids — supplementary nitrogen	0.50
Glucose (Dextrose)	Fermentable carbon source	0.50
Starch (Soluble)	Carbon source + peroxide neutralisation — protects injured cells	0.50
K_2HPO_4	pH buffer — stabilises at 7.2	0.30
Sodium Pyruvate	Peroxide scavenger — rescues chlorine-injured cells	0.30
$MgSO_4 \cdot 7H_2O$	Divalent cation — enzyme cofactor, membrane integrity	0.024
Agar (bacteriological grade)	Solidifying agent	15.00
TOTAL (per litre)		18.12

Preparation Protocol

Step 1 — Suspension	Weigh 18.12 g of dehydrated R2A Agar. Suspend in 1 L of purified/distilled water (type 1 or equivalent).
Step 2 — Dissolution	Heat with frequent agitation. Bring to a rolling boil for 1 minute until completely dissolved. Do not over-heat.
Step 3 — Sterilisation	Autoclave at 121 °C (15 psi / 103 kPa) for exactly 15 minutes. Over-autoclaving degrades pyruvate and starch.
Step 4 — Pouring	Cool in a 45–50 °C water bath. Pour 15–20 mL per 90 mm Petri dish under sterile conditions.
Step 5 — Drying	Allow to solidify on a level surface. Dry at 37 °C for 30–45 min before use. Store at 2–8 °C.

Incubation & Counting Specifications

AuSaMicS™ Life Science

Technical Data Sheet

TDS-AS-1337

www.ausamics.com.au

Protocol	Temperature	Duration	Standard
Standard (preferred)	20–28 °C	5–7 days	ISO 6222 / Ph. Eur. 2.6.12
Accelerated	35–37 °C	44–72 hours	When shorter protocol required

Count all visible colonies regardless of size, pigmentation, or morphology. Report results as CFU/100 mL or CFU/mL.

Quality Control Specifications

Parameter	Specification	Method
Appearance (powder)	Homogeneous; cream to beige; no lumps	Visual inspection
pH (prepared, 25 °C)	7.0 – 7.4	Potentiometry (ISO 10523)
Loss on Drying	≤ 7.0% w/w	105 °C / 2 h (gravimetric)
Growth — P. aeruginosa ATCC 9027	Recovery ≥ 70% vs. reference medium	ISO 6222 growth promotion
Growth — S. aureus ATCC 6538	Recovery ≥ 70% vs. reference medium	ISO 6222 growth promotion
Growth — M. luteus ATCC 9341	Visible colonies ≤ 48 h at 28 °C	Ph. Eur. 2.6.12
Sterility (prepared medium)	No growth at 14 days (30–35 °C)	Incubation sterility check

Technical References

Primary Reference	Reasoner D.J. & Geldreich E.E. (1985). Appl. Environ. Microbiol. 49(1):1–7
ISO Standard	ISO 6222:1999 — Enumeration of culturable micro-organisms
Pharmacopoeial	Ph. Eur. 11th Ed. 2.6.12 — Medium S
APHA/AWWA	Standard Methods for Examination of Water & Wastewater, 9215 B
US EPA	EPA Method 1604 (selected applications)

AuSaMicS™ Life Science

Technical Data Sheet

TDS-AS-1337

www.ausamics.com.au

Disclaimer: *AuSaMicS Pty Ltd (ABN 56 676 640 467) warrants that this product meets the specifications stated herein at time of manufacture and release. This product is for laboratory and research use only. AuSaMicS Pty Ltd shall not be held liable for any direct, indirect, incidental, or consequential damages resulting from use outside its intended application. By using this product the purchaser agrees to these terms.*