



TECHNICAL DATA SHEET

AS-1334 | Presence-Absence (P-A) Broth
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Presence-Absence (P-A) Broth — Technical Data Sheet

Catalogue Number: AS-1334

Product Identification

Product Name	Presence-Absence (P-A) Broth
Catalogue Number	AS-1334
HS Code	3821.00.00
Medium Type	Double-strength differential presumptive coliform detection broth
Physical Form	Dehydrated powder
Colour (powder)	Cream to pale beige
Colour (prepared)	Purple (bromocresol purple indicator, pre-inoculation)
Regulatory Approval	US EPA 40 CFR 141.21; APHA Standard Methods 9221 B (alternative)
Also known as	P-A Broth, Presence-Absence Coliform Test Broth

Composition (per litre — double-strength stock)

Ingredient	CAS Number	Amount (g/L)	Function
Tryptose / Lactose Broth base	73049-73-7	35.6	Nitrogen and carbon source
Lactose	63-42-3	10.0	Fermentable substrate → acid + gas
Sodium Chloride	7647-14-5	10.0	Osmotic balance
Dipotassium Phosphate	7758-11-4	5.5	Alkaline buffer
Monopotassium Phosphate	7778-77-0	5.5	Acidic buffer
Sodium Lauryl Sulfate	151-21-3	0.2	Selective inhibitor
Bromocresol Purple	115-40-2	0.02	pH indicator

Total (double-strength): 71.82 g/L | Final pH: 6.8 ± 0.2 at 25 °C



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Physical & Chemical Specifications

Appearance (powder)	Cream to pale beige homogeneous powder
Appearance (prepared)	Clear purple liquid (bromocresol purple)
pH (prepared medium, 25 °C)	6.8 ± 0.2
Loss on Drying (moisture)	< 5.0%
Solubility	Completely soluble in purified water
Formulation	Double-strength — diluted 1:1 with 100 mL water sample
Positive indicator	Yellow colour + turbidity ± gas (Durham tube)
Negative indicator	Purple colour, clear broth, no gas
Autoclave time	121 °C for exactly 12 minutes — do not exceed

Performance Characteristics

Organism	ATCC No.	Expected Result	Incubation
Escherichia coli	25922	Turbidity + yellow + gas within 24–48 h	35 ± 0.5 °C, 48 h
Enterobacter aerogenes	13048	Turbidity + yellow + gas within 24–48 h	35 ± 0.5 °C, 48 h
Pseudomonas aeruginosa	27853	No gas; no yellow colour change	35 ± 0.5 °C, 48 h
Staphylococcus aureus	25923	Inhibited; no growth	35 ± 0.5 °C, 48 h

Key Limitations

- Presumptive test only — all positive results must be confirmed by approved subculture (APHA 9221 F: EC-MUG or BGB + indole)
- Provides presence/absence data only — does not enumerate organisms; not an MPN method
- Residual disinfectants (chlorine, chloramine, iodine) inhibit coliform recovery — neutralise before testing
- Some non-coliform organisms (e.g. Aeromonas spp.) may produce gas or acid — confirmatory testing is mandatory
- Autoclave strictly for 12 minutes only — longer times degrade selectivity



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- Discard any prepared bottle showing turbidity or colour change before sample addition

Storage & Stability

Dehydrated powder	15–30 °C; dry; original tightly sealed container
Prepared bottles	2–8 °C; protected from light; use within 3 months
Shelf life (powder)	As per labelled expiry date (typically 3 years from manufacture)

Quality Standards & References

Regulatory Approval	US EPA 40 CFR 141.21
Standard Method	APHA Standard Methods 9221 B (alternative procedure)
Performance Test	Per APHA 9221 B vs ATCC reference organisms
Country of Manufacture	Australia

Disclaimer

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