AuSaMicS™ Life Science

TECHNICAL DATA SHEET

AS-1364 | Thioglycollate Medium, Brewer Modified

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Thioglycollate Medium, Brewer Modified — Technical Data Sheet

Catalogue Number: AS-1364

Product Identification

Product Name	Thioglycollate Medium, Brewer Modified
Catalogue Number	AS-1364
HS Code	3821.00.00
Medium Type	Enriched reducing semi-solid broth for anaerobic and microaerophilic cultivation
Physical Form	Dehydrated powder
Colour (powder)	Cream to light beige with possible faint pink tint from resazurin
Colour (prepared)	Straw/amber (reduced, colourless-pink) — pink at surface indicates oxygen penetration
Pharmacopoeial equivalents	Fluid Thioglycollate Medium (USP <71>), BP 2023, EP 2.6.1
Also known as	FTM, Fluid Thioglycollate Medium, THIO Broth, Brewer Thioglycollate

Composition (per litre of prepared medium)

Ingredient	CAS Number	Function	Amount (g/L)
Pancreatic Digest of Casein	73049-73-7	Nitrogen, peptides, amino acids	15.0
Yeast Extract	8013-01-2	Vitamins, growth factors	5.0
Dextrose (D-Glucose)	50-99-7	Carbon source, mild reductant	2.5
Sodium Chloride	7647-14-5	Osmotic balance	5.0
Sodium Thioglycollate	367-51-1	Primary reducing agent	0.5
L-Cystine	56-89-3	Secondary reducing agent	0.5
Resazurin	62758-13-8	Redox indicator	0.001

Agar (semi-solid)	9002-18-0	Oxygen gradient maintenance	0.5

Total: ~28.5 g/L | Final pH: 7.1 ± 0.2 at 25 °C

Physical & Chemical Specifications

Appearance (powder)	Cream to light beige homogeneous powder
Appearance (prepared)	Clear amber/straw — colourless (reduced) to faintly pink (surface only)
pH (prepared medium, 25 °C)	7.1 ± 0.2
Loss on Drying (moisture)	≤ 5.0%
Solubility	Completely soluble with gentle heating
Agar concentration	0.5 g/L (semi-solid — not solid agar)
Resazurin	0.001 g/L — colourless (reduced/anaerobic) ↔ pink (oxidised/aerobic)
Reducing capacity	Dual system: sodium thioglycollate + L-cystine
Pharmacopoeial grade	Meets USP <71>, BP 2023, EP 2.6.1 Fluid Thioglycollate Medium requirements

Performance Specifications

Organism	ATCC No.	Incubation	Expected Result	Pharmacopoeial Ref.
Clostridium sporogenes	11437	30–35 °C, 5 days (anaerobic)	Growth in lower zone — obligate anaerobe	USP <71> / EP 2.6.1
Bacteroides vulgatus	8482	35–37 °C, 48–72 h (anaerobic)	Growth in lower zone	USP <71>
Staphylococcus aureus	6538	30–35 °C, 3 days (aerobic)	Growth throughout	USP <71> / EP 2.6.1
Pseudomonas aeruginosa	9027	30–35 °C, 3 days	Growth at surface	USP <71> / EP 2.6.1
Candida albicans	10231	20–25 °C, 5 days	Growth throughout	USP <71>

Bacillus subtilis	6633	30–35 °C, 5 days	Growth at surface	USP <71> / EP 2.6.1

Preparation Protocol

1. Dissolve 28.5 g per litre in purified water with gentle heating and agitation.
2. Autoclave at 121 °C for 15 minutes.
3. Cool to room temperature.
4. Before use: heat in boiling water bath or steamer for 10–15 minutes. Cool rapidly without shaking.
5. Discard any tube where >1/3 of depth is pink (indicating oxidation).

For pharmacopoeial sterility testing: follow the specific preparation, validation, and incubation requirements of the applicable pharmacopoeia (USP, BP, or EP).

Key Limitations

- Presumptive medium for anaerobic detection — confirmatory subculture required for organism identification
- Resazurin pink layer must not exceed 1/3 of tube depth before inoculation
- Not suitable as the sole medium for definitive anaerobe identification
- For USP/BP/EP sterility testing: medium must be prepared and validated per pharmacopoeial requirements
- Do not overheat — excessive autoclaving degrades reducing agents and nutrients

Storage & Stability

Dehydrated powder	15–30 °C, tightly sealed, dry
Prepared medium	2–8 °C, protected from light, minimise oxygen exposure
Shelf life	As per labelled expiry
Before use	Heat to expel dissolved O_2; discard if >1/3 pink

Regulatory & Quality Standards

Pharmacopoeial compliance	USP <71> — Sterility Tests; BP 2023; EP 2.6.1
Country of Manufacture	Australia

Performance testing	Per USP <71> / EP 2.6.1 reference organisms

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