AuSaMicS™ Life Science

Technical Data Sheet

TDS-AS-1190

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Product Identification

Product Name	D/E Neutralizing Agar
Full Name	D/E Neutralizing Agar (Dey/Engley)
Catalog No.	AS-1190
Lot No.	DEN260301
Mfg. Date	March 2026
Retest Date	March 2029
Grade	Microbiological Grade — Disinfectant Neutralizing Medium
Formulation Reference	Dey B.P. & Engley F.B. (1970). AOAC 53(4):763–777

Physical & Chemical Properties

Appearance (powder)	Homogeneous powder; pale cream to beige with possible off-white particles (lecithin/polysorbate)
Appearance (prepared)	Opaque, purple to reddish-purple opalescent gel; possible fine white precipitate (normal — from lecithin)
Odour	Faint, characteristic
pH (prepared, 25 °C)	7.6 ± 0.2
Agar gel / melt	Gels ≈ 32–34 °C / Melts ≈ 84–86 °C
Loss on Drying	≤ 7.0% w/w (105 °C / 2 h)
Suspension	54.02 g / L purified water

Composition per Litre

Component	Function	Amount (g/L)
Tryptone	Nitrogen, amino acids — primary nutrient source	5.0

Component	Function	Amount (g/L)
Yeast Extract	B vitamins, growth factors — supports stressed cell recovery	2.5
Dextrose (Glucose)	Fermentable carbon source — energy; substrate for BCP indicator	10.0
Sodium Thiosulfate	Neutralises halogens (Cl_2, I_2, Br_2)	6.0
Sodium Thioglycollate	Neutralises mercurials and metal-based biocides	1.0
Sodium Bisulfite	Neutralises aldehydes (glutaraldehyde, formaldehyde)	2.5
Lecithin	Neutralises phenolics and membrane-active agents	7.0
Polysorbate 80	Neutralises QACs and surface-active agents	5.0
Bromocresol Purple (BCP)	pH indicator — purple (neutral/alkaline) → yellow (acid from fermentation)	0.02
Agar	Solidifying agent	15.0
TOTAL		54.02

Preparation Protocol

Step 1 — Suspension	Suspend 54.02 g of dehydrated D/E Neutralizing Agar in 1 L of purified/distilled water.
Step 2 — Dissolution	Heat with frequent agitation to boiling until completely dissolved. Do not overheat — excessive boiling may degrade neutralizing agents.
Step 3 — Sterilisation	Autoclave at 121 °C (15 psi) for 15 minutes. Do not over-autoclave.
Step 4 — Cooling	Cool to 45–50 °C in a water bath. Mix gently to resuspend any particulates (white precipitate from lecithin is normal).
Step 5 — Contact Plates	Pour 20–25 mL per plate; slightly overfill to create a dome shape for direct surface contact sampling. Allow to solidify at room temperature.

Step 6 — Standard Plates	Pour 15–20 mL per 90 mm Petri dish for standard enumeration. Allow to solidify.
Step 7 — Storage	Store prepared plates at 2–8 °C in sealed bags. Use within 2–4 weeks.

Quality Control Specifications

Parameter	Specification	Method
Appearance (powder)	Homogeneous; cream to beige; no excessive lumping	Visual inspection
pH (prepared, 25 °C)	7.4 – 7.8	Potentiometry (ISO 10523)
Loss on Drying	≤ 7.0% w/w	105 °C / 2 h (gravimetric)
Colour (prepared)	Purple to reddish-purple opalescent gel	Visual — plate check
Precipitate	Fine white precipitate acceptable (lecithin)	Visual — plate check
Growth — E. coli ATCC 25922	Good growth; yellow colony colour (fermentation positive)	Growth promotion / BCP reaction
Growth — S. aureus ATCC 25923	Good growth; yellow colony colour (fermentation positive)	Growth promotion / BCP reaction
Growth — P. aeruginosa ATCC 27853	Good growth; purple/unchanged colony colour (non-fermenter)	Growth promotion / BCP reaction
Neutralizing efficacy (chlorine)	≥ 95% neutralization of 200 ppm free chlorine	AOAC neutralizer performance test
Neutralizing efficacy (QAC)	≥ 95% neutralization of 400 ppm benzalkonium chloride	AOAC neutralizer performance test
Sterility (prepared medium)	No growth at 14 days (35–37 °C)	Incubation sterility check

Technical References

Primary Reference — Dey B.P. & Engley F.B. (1970). Prototype formulation of a universal neutralizing medium for antimicrobial chemicals. J AOAC, 53(4):763–777

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AOAC Methods	AOAC 955.11 · 964.02 · 966.04 — Use-dilution methods for disinfectant efficacy
USP Standards	USP <51> Antimicrobial Effectiveness Testing · USP <61>/<62> Microbiological Examination
ISO Standards	ISO 14698-1/2 — Cleanroom environmental monitoring · ISO 4833 — Food microbiology
FDA Guidance	FDA Guidance for Aseptic Processing (2004) — environmental monitoring