



Reference : 02-802

Scharlau Microbiology - Technical data sheet

Product :  
D/E NEUTRALIZING BROTH BASE**Specification**

Liquid medium for enrichment cultures in cosmetics, according to ISO Standards.

**Formula \* in g/L**

Tryptone.....	5.00	Bromcresol purple.....	0.02
Yeast extract.....	2.50		
Dextrose .....	10.00	Final pH 7,6 ±0,2 at 25 °C	
Lecithin.....	7.00		
Sodium thiosulphate (anhy.).....	3.82 (*1)	(*1) Equivalent to 6 g of	
Sodium bisulfite .....	2.50	Sodium thiosulphate. 5H <sub>2</sub> O	
Sodium thioglycollate.....	1.00		

\* Adjusted and /or supplemented as required to meet performance criteria

**Directions**

Suspend 31.8 g of powder in 1 L of distilled water with 5 mL of Polysorbate 80 (Art. No. TW0080) and bring to the boil. Distribute in suitable containers and sterilize in the autoclave at 121°C for 15 minutes. The appearance of precipitates is normal and does not affect the results.

**Description**

Initially, Dey & Engley developed this medium in 1983 to recover chemically damaged staphylococci. At present its use has expanded to verify several aspects in the application of disinfectants and preservatives.

The present formulation incorporates neutralizing substances for almost all the active products used as preservatives in cosmetic production. Lecithin neutralizes quaternary ammonium compounds (QAC's); polysorbate acts on phenolics and formalin; thioglycollate neutralizes the organic-mercurial compounds; thiosulfate-sulfite inactivates halogen-compounds and lecithin + polysorbate neutralizes ethanol and other alcoholic compounds.

The ISO Standards give this medium as an alternative for culture enrichment in the detection of aerobic mesophilic bacteria (ISO 21149), in the detection of *Escherichia coli* (ISO 21150) and for verifying the presence of *Pseudomonas aeruginosa* (ISO 22717) and *Staphylococcus aureus* (ISO 22718).

**Technique**

When the product is water-soluble, a suitable sample (1 g or 1 mL) is transferred to 9 mL of D/E Neutralizing Broth. If the product is not water-soluble it must first be dissolved with Polysorbate 80 or another emulsifier product.

The D/E Neutralizing Broth with the sample is then incubated at 32,5°C ± 2,5°C for 24±3h hours and no more than 72 hours before subculturing on a suitable solid medium for isolation of colonies.

**Quality control****Incubation temperature:** 30-35°C**Incubation time:** 24-48 h**Inoculum:** Practical range 50-500 CFU. (Productivity) according to ISO 11133. verified IF ≤2.0

Microorganism	Growth	Remarks
<i>Escherichia coli</i> ATCC® 8739	Good	Recovery in D/E Neutralizing A./ 24h
<i>Pseudomonas aeruginosa</i> ATCC® 9027	Good	Recovery in D/E Neutralizing A./ 24h
<i>Staphylococcus aureus</i> ATCC® 6538	Good	Recovery in D/E Neutralizing A./ 48h
<i>Bacillus subtilis</i> ATCC® 6633	Good	Recovery in D/E Neutralizing A./ 48h
<i>Candida albicans</i> ATCC® 10231	Good	Recovery in D/E Neutralizing A./ 48h



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### References

- ATLAS, R.M. & L.C. PARKS (1993) Handbook of Microbiological Culture Media. CRC Press. Boca Ratón. Fla.
- DEY, B.P. & F.B. ENGLEBY (1983) Methodology for recovery of chemically treated Staphilococcus aureus with neutralizing medium. Appl. Environm. Microbiol. 45:1533-1537.
- HICKEY, P.J., C.E. BECKELHEIMER & T. PARROW (1992) Microbiological tests for equipment, containers, water and air. In R.T. Marshall (Ed.) Standard Methods for the Examination of Dairy Products. 16th ed. APHA. Washington.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 18415 Standard (2017) Cosmetics - Microbiology - Detection of specified and non-specified microorganisms.
- ISO 21149 Standard (2017) Cosmetics - Microbiology - Enumeration and detection of aerobic mesophilic bacteria.
- ISO 21150 Standard (2015) Cosmetics - Microbiology - Detection of Escherichia coli.
- ISO 22717 Standard (2015) Cosmetics - Microbiology - Detection of Pseudomonas aeruginosa.
- ISO 22718 Standard (2015) . Cosmetics - Microbiology - Detection of Staphylococcus aureus.

### Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).