Sulfite Polymyxin Sulfadiazine Agar, SPS Agar | AS-1353

Used for isolation and enumeration *of Clostridium perfringens* and *Clostridium botulinum* in all types of foodstuffs.

SPS (Sulfite Polymyxin Sulfadiazine) Agar is a selective culture which is used to isolate and count *Clostridium perfringens* from a variety of food sources. To improve selectivity, sulfadiazine and polymyxin B sulfate are added to a base that is comparable to Wilson and Blair Agar.

Important components include ferric citrate and sodium sulfite as indicators of sulfide production, pancreatic digest of casein and yeast extract to supply vital nutrients, and polymyxin B and sulfadiazine as antibacterial agents to prevent competing microbiota.

Black iron sulfide precipitates are formed when *Clostridium perfringens* converts sulfite to sulfide, which helps with colony differentiation. Although SPS Agar shows a moderate level of selectivity, more biochemical tests must be performed in order to definitively identify the species.

Composition (gr/L)	
Pancreatic digest of Casein	15
Yeast Extract	10
Ferric Citrate	0.5
Sodium Sulfite	0.5
Sulfadiazine	0.12
Polymyxin Sulfate	0.01
Agar	13.9
Final pH at 25°C	7.0 ± 0.2

Preparation

Dissolve 40 g of the powder into 1 liter distilled water. Mix well. Autoclave at 121°C for 15 min.

Quality Control

Dehydrated Appearance: Beige, free-flowing, homogeneous.

Prepared Appearance: Light to medium amber, slightly opalescent.

Reaction of 4.0% Solution at 25°C: pH 7.0 ± 0.2

Microbial Test Results

Inoculate using pour plate technique and incubate at 35 ± 2 °C for 24 to 48 hours anaerobically.

Organism (ATCC)	**Recovery**	**Colony color**
Clostridium perfringens (12919)	Good	Black
Clostridium sporogenes (11437)	None to fair	Black
Escherichia coli (25922)	Marked to complete inhibition	-
Salmonella enterica (14028)	Marked to complete inhibition	-
Staphylococcus aureus (25923)	Fair to good	White

Storage

Keep the container at 15-30 °C and prepared medium at 2-8 °C.