

Lactose Sulfite Broth

Liquid medium for detection of
C. perfringens, according to EP and ISO 7937.

DESCRIPTION

Lactose Sulfite (LS) Broth is a liquid medium used for confirmation of *Clostridium perfringens* in food and pharmaceutical products.

This medium complies with the recommendations of the European Pharmacopoeia (EP) and ISO 7937.

TYPICAL FORMULA

	(g/l)
Enzymatic Digest of Casein	5.0
Yeast Extract	2.5
Sodium Chloride	2.5
Lactose	10.0
L-Cysteine Hydrochloride	0.3
Disodium Disulfite, Anhydrous	0.75
Ammonium Iron(III) Citrate	0.625
Final pH 7.1 ± 0.2 at 25°C	

METHOD PRINCIPLE

Enzymatic digest of casein provides amino acids, nitrogen, carbon, vitamins and minerals for organisms growth. Yeast extract is a source of vitamins, particularly of B-group. Sodium chloride maintains the osmotic balance of the medium. Lactose is the fermentable carbohydrate. Cysteine is included to reduce the redox potential of the medium and create an anaerobic atmosphere. Sodium metabisulfite reacts with ferric ammonium citrate in the presence of hydrogen sulfide forming a black precipitate.

PREPARATION

Dehydrated medium Suspend 21.7 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. Dispense 9 ml portions into test tubes with inverted Durham tubes. Sterilize in autoclave at 121°C for 15 minutes.

TEST PROCEDURE

According to ISO 7937, inoculate each black colony from Tryptose Sulfite Cycloserine Agar (ref. 163872) into a tube of Fluid Thioglycollate Medium (ref. 24124). Incubate at 37 ± 1°C for 18-24 hours. Subsequently, transfer 5 drops of the enrichment culture into a tube of Lactose Sulfite Broth and incubate aerobically at 46°C for 18-24 hours.

The European Pharmacopoeia recommends to dilute samples 1:100 or 1:1000 with Buffered Peptone Water (ref. 24099). Inoculate Lactose Sulfite Broth and incubate at 46 ± 0.5°C for 24-48 hours to determine the most probable number of bacteria (MPN).

INTERPRETING RESULTS

Tubes of Lactose Sulfite Broth containing Durham tubes more than one-quarter full of gas and having are black precipitate are considered positive for *Clostridium perfringens*. Estimate the MPN by using the appropriate table.

APPEARANCE

Dehydrated medium: free-flowing, homogeneous, beige.
Prepared medium: clear, amber.

STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed. Store tubes at 2-8°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

SHELF LIFE

Dehydrated medium: 4 years.
Medium in tubes: 1 year.

Distribué par :

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QUALITY CONTROL

The medium is inoculated with the microbial strains indicated in the QC table.

Inoculum for productivity: ≤ 100 CFU.

Incubation conditions: aerobically at $46 \pm 0.5^\circ\text{C}$ for 18-48 h.

QC Table.

Microorganism		Gas production	Blackening
<i>Clostridium perfringens</i>	ATCC® 13124	+	+
<i>Clostridium bifermentans</i>	ATCC® 19299	-	+

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is intended for professional use only and must be used by properly trained operators.

DISPOSAL OF WASTE









Disposal of waste must be carried out according to national and local regulations in force.

BIBLIOGRAPHY

1. ISO 7937:2004. Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of *Clostridium perfringens* – Colony count technique.
2. The European pharmacopoeia (2007) 6th ed.
3. Beerens, H., Romond, C.H., Lepage, C., and Criquelion, J. (1982) A Liquid Medium for the Enumeration of *Clostridium perfringens* in Food and Faeces. Isolation and Identification Methods for Food Poisoning Organisms. Edited by Academic Press London, 137-149.

PRESENTATION		Contents	Ref.
Lactose Sulfite Broth	Tubes	20 x 9 ml tubes	24468
Lactose Sulfite Broth	Dehydrated medium	500 g of powder	610358

TABLE OF SYMBOLS

LOT Batch code	 Keep away from sunlight	 Manufacturer	 Use by	 Fragile, handle with care
REF Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult Instruction For Use	 Do not reuse

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