

Also known as

CLS

Specification

 Liquid medium for the determination of H₂S production by *Clostridium perfringens* according to ISO 7937 standard.

Formula * in g/L

Peptone.....	5,000
Yeast extract.....	2,500
Sodium chloride.....	2,500
Lactose.....	10,000
L-Cysteine.....	0,300
Ferric ammonium citrate.....	0,624
Di- sodium sulfite.....	0,750

Final pH 7,1 ±0,2 at 25 °C

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

Directions

Dissolve 21,6 g of powder in 1 L of distilled water and bring to the boil. Distribute into containers containing Durham tubes and sterilize in the autoclave at 121°C for 15 minutes.

Description

 This is a simple medium that selects *C. perfringens* over other sulfite reducing clostridia by their ability to produce gas from lactose, at 46°C. *C. paraperfringens* also has this ability, however this microorganism is very rare in food samples.

Technique

 All of the freshly prepared or reconstituted media tubes are inoculated in duplicate with 1 mL of the sample dilution. The sample dilution must have previously been kept in a boiling water bath, for 10 minutes. Tubes are incubated in anaerobic conditions at 46°C for a period of 18-24 hours. *C. perfringens* presence is observed by an iron sulfide precipitate appearing in the tubes. It indicates sulfite reducing activity. Accumulation of gas in the Durham's tubes is a sign of lactose fermentation.

Quality control
Incubation temperature: 46°C ±1,0

Incubation time: 24 h

Inoculum: ≤100 CFU. min. 50 CFU (productivity)/ 10⁴-10⁶ CFU (selectivity), according to ISO 11133:2014/Amd 1:2018.

Microorganism
Growth
Remarks
Pseudomonas aeruginosa ATCC® 27853

Inhibited

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Staphylococcus aureus ATCC® 25923

Inhibited

-

Escherichia coli ATCC® 8739

Inhibited

-

Clostridium perfringens ATCC® 13124

Good

 H₂S (+) Gas (+)

Clostridium perfringens ATCC® 10543

Good

 H₂S (+) Gas (+)

References

- ISO Standard 7937 (2004) Microbiology of food and animals feeding stuffs. Horizontal method for enumeration of *Clostridium perfringens*. Colony count technique.
- PASCUAL ANDERSON, M^a R. (1992) Microbiología Alimentaria. Díaz de Santos. Madrid.

Storage

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