



Reference: 06-113LYO1

Scharlau Microbiology - Technical Data

Product: **Ferric Ammonium Citrate Supplement (312 mg)**

Specification

Sterile selective supplement used for the isolation *Clostridium perfringens* for the sulfide production as result of sulfite reduction.

Presentation

	Packaging Details	Shelf Life	Storage
10 Freeze dried vials Vial with: 3 ± 0.1 g	23x60 mm glass vials, tag labelled, White plastic cap - 10 vials per box.	49 months	2-25 °C

Composition

Compositon (g/vial)	NOTE : Each vial is sufficient to supplement 500ml of medium Base: Lactose Sulfite Broth base,02-519
Ferric Ammonium Citrate.....0.312	

Reconstitute the original freeze-dried vial
by adding
Sterile Distilled Water.....6 ml

Description /Technique

Description

Ferric Ammonium Citrate supplement is an indicator for the sulfide production as result of sulfite reduction typical of *Clostridium perfringens* spp.

Among other sulphite reducing clostridia, *Cl. perfringens* has the ability to produce gas from lactose, at 46°C. It has interferences only with *Cl. paraperfringens*, however this microorganism is not so common in food samples.

The presence this microorganism is observed by an iron sulphide precipitate appearing in the tubes. It indicates the sulphite reducing activity. Accumulation of gas in the Durham's tubes is a sign of lactose fermentation.

Technique:

Collect, dilute and prepare samples and volumes as required according to specifications, directives, official standard regulations and/or expected results.

Reconstitute the vial with 6 ml of sterile diluent in aseptic conditions and add it to 500 ml of the medium Lactose Sulphite Broth Base cooled to 50°C.

If necessary, supplement the base also with sodium bisulfite.

Do not overheat once supplemented.

Pour the complete medium into tubes with Durham and inoculate it.

Incubate anaerobically at 46 ± 1°C for 18-24 h

After incubation, observe iron sulfide precipitate appearing in the tubes. Accumulation of gas in the Durham's tubes is a sign of lactose fermentation.

Presumptive isolation of *Clostridium perfringens* must be confirmed by further microbiological and biochemical tests.



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Quality control

Physical/Chemical control

Color : Brownish

Microbiological control

Add 1 vial to 500 ml of medium base. DO NOT HEAT once supplemented.

Prepare Tubes with Durham bell- Inoculate: Practical range 100 ± 20 CFU; min. 50 CFU (productivity)/ 10^4 - 10^6 CFU (selectivity)

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Anaerobiosis incubation at $46^\circ\text{C} \pm 1$ for 18 - 24h.

Microorganism

Clostridium perfringens ATCC® 13124, WDCM 00007, NCTC® 8237

Clostridium perfringens ATCC® 10543, WDCM 00174

Bacillus subtilis ATCC® 6633, WDCM 00003

Growth

Good - Black precipitate

Good - Black precipitate

Inhibited

Sterility control

100 ml TSB and 100 ml Thioglycollate.

Incubation 48 h at 30-35 °C and 48 h at 20-25 °C: NO GROWTH.

Check at 7 days after incubation in same conditions.

Bibliography

· ISO Standard 7937 (2004) Microbiology of food and animals feeding stuffs. Horizontal method for enumeration of *Clostridium perfringens*. Colony count technique.

· ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.

· PASCUAL ANDERSON, Mª R. (1992) Microbiología Alimentaria. Díaz de Santos. Madrid.