

## Muller Kauffmann Tetrathionate Broth Base

Basal medium for detection of *Salmonella* spp from foodstuffs and environmental samples, according to ISO 6579.

TYPICAL FORMULA	(g/l)
Enzymatic Digest of Casein	8.6
Meat Extract	4.3
Sodium Chloride	2.6
Calcium Carbonate	38.7
Sodium Thiosulfate anhydrous	30.5*
Ox Bile	4.78
Brilliant Green	0.0096
Final pH 8.0 ± 0.2 at 25°C	

\*Equivalent to 47.8 g of sodium thiosulfate pentahydrate.

### DESCRIPTION

Muller Kauffmann Tetrathionate Broth Base is used with supplements for the selective enrichment of *Salmonella* in food, animal feed and environmental samples.

The complete medium complies with ISO 6579-1 requirements.

### PRINCIPLE

Enzymatic digest of casein and meat extract provide amino acids, nitrogen, carbon, vitamins and minerals. Sodium chloride maintains the osmotic balance of the medium. Calcium carbonate is the buffer. Sodium thiosulfate is included to produce tetrathionate after adding iodine to the medium. Organisms-reducing tetrathionate, such as *Salmonella*, grow luxuriant while most faecal organisms are inhibited. Bile promotes the growth of *Salmonella* while inhibiting the contaminant bacterial flora. Brilliant green suppresses primarily Gram-positive bacteria. Novobiocin is added to inhibit Gram-positive bacteria.

### PREPARATION

Suspend 89.5 g of powder in 1 liter of deionized or distilled water. Heat with frequent agitation and boil for 5 minutes to completely dissolved the powder. DO NOT AUTOCLAVE. Cool up to 45-50°C. Aseptically, add the contents of 2 tubes (20 ml) of Iodine MKTT Solution (ref. 80009). Also add the contents of 2 vials of Novobiocin MKTT Supplement (ref. 81073) each reconstituted with 5 ml sterile distilled water. Mix well. Dispense into sterile containers.

### TECHNIQUE

For pre-enrichment, add the sample to Buffered Peptone Water (ref. 414020) at a ratio of 1:9 (e.g. 25 g per 225 ml), homogenize well and incubate at 36 ± 2°C for 16-20 h.

Transfer 1 ml of the pre-enrichment culture to a tube containing 10 ml of Muller Kauffmann tetrathionate-novobiocin (MKTTn) broth. Incubate at 37 ± 1°C for 18-24 h.

### INTERPRETATION OF RESULTS

Turbidity indicates microbial growth.

Presumptive identification is achieved by subculture onto XLD Agar (ref. 10056) and a second selective agar of choice such as Chromatic *Salmonella* (ref. 11614). Characteristic presumptive *Salmonella* colonies should be confirmed with biochemical and serological tests.

### STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared plates at 2-8°C away from light.

### WARNING AND PRECAUTIONS

**For professional use only.** Operators must be trained and have certain experience in the laboratory methods. Please read the instructions carefully before using this product. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this document.

Consult the Safety Data Sheet (SDS) for information regarding hazards and safe handling practices.

### DISPOSAL OF WASTE

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

### REFERENCES

- ISO 6579-1:2017+Amd1:2020. Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of *Salmonella* — Part 1: Detection of *Salmonella* spp. — Amendment 1: Broader range of incubation temperatures, amendment to the status of Annex D, and correction of the composition of MSRV and SC
- DeSmedit J.M., R. Bolderdijk, H. Rappold and D. Lautenschlaeger (1986) Rapid *Salmonella* detection in food by motility enrichment on a modified semi-solid Rappaport-Vassiliadis Medium. J. Food Prot. 49:510-514.
- Vassiliadis P., D. Trichopoulos, A. Kalandidi and E. Xirouchaki (1978) Isolation of salmonellae from sewage with a new procedure of enrichment. J. Appl. Bacteriol 44:233-239.
- Rappaport F., N. Konforti and B Navon (1956) A new enrichment medium for certain salmonellae. J. Clin. Pathol. 9:261-266.



**LIOFILCHEM® S.r.l.**

Via Scozia, 64026 Roseto degli Abruzzi (TE) ITALY  
Tel +39 0858930745 Fax +39 0858930330 www.liofilchem.com

## PRODUCT SPECIFICATIONS

### NAME

Muller Kauffmann Tetrathionate Broth Base

### STORAGE

10-30°C

### pH OF THE MEDIUM

8.0 ± 0.2

### USE

Muller Kauffmann Tetrathionate Broth Base is used with supplements for the selective enrichment of *Salmonella* in food and environmental samples according to ISO 6579-1

### TECHNIQUE

Refer to technical sheet of the product

### SHELF LIFE

4 years

### QUALITY CONTROL

**Appearance of Dehydrated Medium:** Free-flowing, homogeneous, pale green

**Appearance of Prepared Medium:** Opaque, very pale green

**Expected Cultural Response:**

Incubation conditions: 24 ± 3 h / 37 ± 1°C

Inoculum for productivity: ≤100 CFU

Microorganism		Growth	Specification
<i>Salmonella</i> Typhimurium	WDCM 00031	Good	>10 colonies on XLD agar or other medium of choice
+ <i>Escherichia coli</i>	WDCM 00013		
+ <i>Pseudomonas aeruginosa</i>	WDCM 00025		

Inoculum for selectivity: >10<sup>3</sup> CFU







Microorganism		Growth	Specification
<i>Escherichia coli</i>	WDCM 00013	Partially inhibited	≤100 colonies on TSA
<i>Enterococcus faecalis</i>	WDCM 00009	Partially to completely inhibited	<10 colonies on TSA

### PACKAGING

610239 Dehydrated medium 500 g of powder in plastic bottle

620239 Dehydrated medium 100 g of powder in plastic bottle

### TABLE OF SYMBOLS

<b>LOT</b>	Batch code	 Consult instructions for use	 Manufacturer	 Use by
<b>REF</b>	Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Keep away from sunlight



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