

## CM 21195 - MILK MEDIUM WITH A REDUCING AGENT

### INTENDED USE

For determination of litmus reaction of Clostridium species.

### PRODUCT SUMMARY AND EXPLANATION

This medium has been found satisfactory for the cultivation of Clostridium species and allows observation of their reactions in litmus milk. In anaerobically grown Litmus Milk cultures, enzymes of Clostridium perfringens attack the proteins and carbohydrates of the milk producing a stormy fermentation with clotting and gas formation. Bacterial enzymes alter the media and may bring about various changes. Litmus is added to the medium to detect pH changes that may occur as a result of these enzymatic reactions. Above pH 8.3, litmus is blue, while below pH 4.5 litmus is red. Fermentation of lactose results in the production of acid, which causes milk to curdle or form a clot at the bottom of the tube. Litmus may also act as an electron acceptor thus becoming reduced by bacterial metabolism. This reaction is observed as a white color in the medium. Milk medium with reducing agent is used for determination of litmus reaction of Clostridium species.

### COMPOSITION

| Ingredients                    | Gms / Ltr |
|--------------------------------|-----------|
| Skim milk                      | 100.000   |
| Peptic digest of animal tissue | 10.000    |
| Sodium thioglycollate          | 0.500     |
| Litmus                         | 5.000     |

### PRINCIPLE

Peptic digest of animal tissue and skim milk provide nitrogen, sulphur, vitamins and other growth nutrients. Sodium thioglycollate is a reducing agent, which absorbs oxygen and creates a reduced environment required by anaerobes. Milk is a complex nutritional source that contains proteins (mainly casein) in an aqueous solution of lactose and minerals.

### INSTRUCTION FOR USE

Dissolve 115.5 grams in 1000 ml distilled water agitating continuously.

Sterilize by autoclaving at 15 psi pressure (121°C) for 5 min.

Mix well and dispense as desired.

### QUALITY CONTROL SPECIFICATIONS

|                               |                                                         |
|-------------------------------|---------------------------------------------------------|
| Appearance of Powder          | : Light pink to purple homogeneous free flowing powder. |
| Appearance of prepared medium | : Purple coloured opalescent solution.                  |
| pH (at 25°C)                  | : 7.0±0.2                                               |

### INTERPRETATION

Cultural characteristics observed after an incubation.

| Microorganism | ATCC | Inoculum (CFU/ml) | Observation | Gas | Incubation Temperature | Incubation Period |
|---------------|------|-------------------|-------------|-----|------------------------|-------------------|
|---------------|------|-------------------|-------------|-----|------------------------|-------------------|



|                         |       |        |                           |                                                     |         |        |
|-------------------------|-------|--------|---------------------------|-----------------------------------------------------|---------|--------|
| Clostridium perfringens | 12924 | 50-100 | Stormy fermentation       | Gas trapped in acid coagulated casein peptonization | 35-37°C | 5 days |
| Clostridium sporogenes  | 11437 | 50-100 | Acid with gas proteolysis | -                                                   | 35-37°C | 5 days |

#### PACKAGING:

In pack size of 500 gm bottles.

#### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

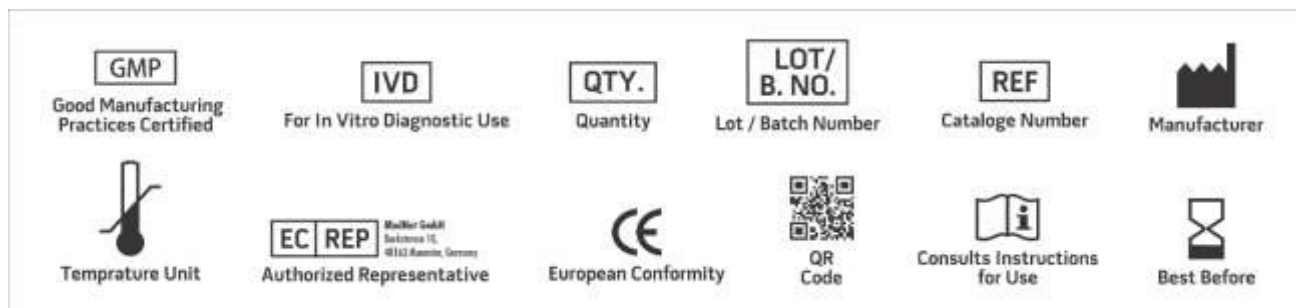
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

#### DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

#### REFERENCES

1. Gainor C. and Wegemer D. E., Appl. Microbiol., 1954 March; 2(2): 9597.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.