

## TM 2356 - SYNTHETIC BROTH, AOAC (WRIGHT AND MUNDY BROTH)

### INTENDED USE

For growing inoculum, making subcultures and preparing various dilutions while testing disinfectants.

### PRODUCT SUMMARY AND EXPLANATION

The phenol coefficient test has been employed for determining the germicidal efficiency of disinfectants for over 30 years since Rideal and Walker developed their original method in 1903. In addition to being a satisfactory index of the germicidal value of phenol like disinfectants, the phenol coefficient is used as basis for determining the dilutions, which may safely be employed in practice. The phenol coefficient of each disinfectant was first determined by the Food and Drug Administration method, 1931. Since then there is no standard method for testing disinfectants under practical conditions. Synthetic Broth is prepared, based on the formulation described by Wright and Mundy and is recommended by AOAC for determining phenol coefficients of disinfectants.

### COMPOSITION

Ingredients	Gms / Ltr
L-Cystine	0.050
DL-Methionine	0.370
L-Arginine	0.400
DL-Histidine	0.300
L-Lysine	0.850
L-Tyrosine	0.210
DL-Threonine	0.500
DL-Valine	1.000
L-Leucine	0.800
DL-Isoleucine	0.440
Amino acetic acid	0.060
DL Serine	0.610
DL-Alanine	0.430
L-Glutamic acid	1.300
L-Aspartic acid	0.450
DL-Phenylalanine	0.260
DL-Tryptophan	0.050
L-Proline	0.050
Sodium chloride	3.000
Potassium chloride	0.200
Magnesium sulphate	0.050
Monopotassium phosphate	1.500
Disodium phosphate	4.000
Thiamine hydrochloride	0.010

Nicotinamide

0.010

### PRINCIPLE

Variability in test cultures affects germicide testing. This medium minimizes variability of cultures and of media. It contains nutrients necessary for the growth of *Salmonella Typhi*, *Staphylococcus aureus* and *Pseudomonas aeruginosa*. These media are used for growing the inoculum and for subcultures used for the dilutions of disinfectant under test.

### INSTRUCTION FOR USE

- Dissolve 16.9 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense 10 ml amounts in 20x150 mm culture tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to room temperature and just before use, aseptically add 0.1 ml of 10% sterile dextrose solution.

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : White to cream homogeneous free flowing powder.  
**Appearance of prepared medium** : Colourless clear solution without any precipitate.  
**pH (at 25°C)** : 7.1±0.2

### INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Pseudomonas aeruginosa</i>	27853	50-100	Luxuriant	35-37°C	40-48 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	35-37°C	40-48 Hours
<i>Staphylococcus aureus</i>	25923	50-100	Luxuriant	35-37°C	40-48 Hours

### 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.

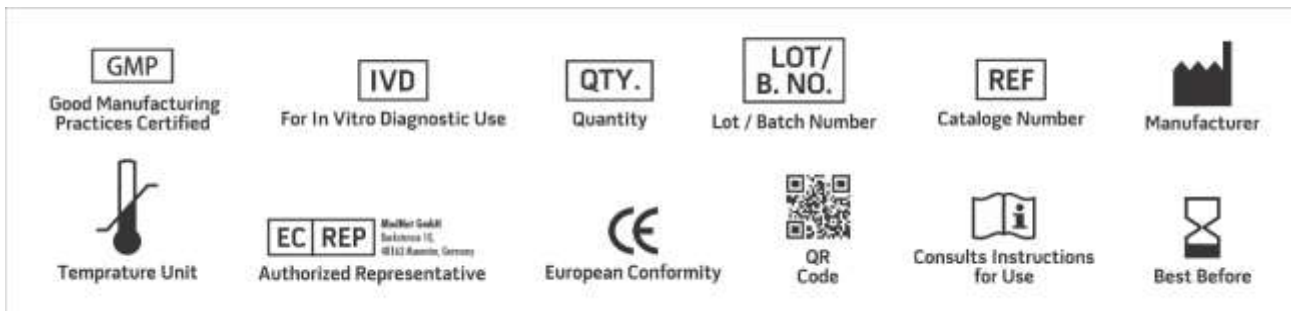
### DISPOSAL



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

**REFERENCES**

1. Rideal S., Walker J. T. A., 1903, Examination of disinfectants, J. San. Inst. 24, 424-441
2. United States of Food and Drug Administration Methods for testing Antiseptics and Disinfectants. Circular No.198. December 1931.
3. Wright E. S. and Mundy R. A., 1960, J. Bacteriol., 80:279.
4. Williams S., (Ed.), 2005, Official Methods of Analysis of the Association of Official Analytical Chemists, 19th Ed., AOAC, Washington, D.C.



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

**\*For Lab Use Only**  
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