



## Sulphanilic Acid, 0.8%

R015

It is used along with Alpha- Naphthylamine solution (R009) for determination of nitrate reduction by bacterial strains.

### Composition\*\*

#### Ingredients

Sulphanilic acid	8.000 gm
30% Acetic acid	1000.000 ml
Final pH ( at 25°C)	1.6±0.1

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Inoculate growth from an 18 - 24 hours pure culture into Nitrate HiVeg Broth, (MV439). Incubate at 35°C for 12 to 24 hours. Very rarely prolonged incubation upto 5 days may be required. Add 0.5 ml a -naphthylamine along with 0.5 ml sulphanilic acid (R015).

### Principle And Interpretation

The a-Naphthylamine solution and Sulphanilic acid is used to determine nitrate reduction by bacterial strains. The reduction of nitrates (NO<sub>3</sub>) leads to the formation of nitrites (NO<sub>2</sub>) and may progress to the liberation of nitrogen gas. The nitrate reductase producing organisms reduce nitrate to nitrite which reacts with sulphanilic acid to form a diazonium salt. This salt reacts with a-naphthylamine to form a red coloured, water soluble azo dye which results in the visualization of pink-red colour. A distinct red colour formation within 1-2 minutes indicates reduction of nitrate to nitrite.

### Quality Control

#### Appearance

Very light amber coloured solution with characteristic odour.

#### Clarity

Clear with no insoluble particles.

#### Reaction

Reaction of the solution at 25°C

#### pH

1.50-1.70

#### Cultural Response

Add 0.5 ml. of 0.8% Sulphanilic Acid (R015) and 0.5 ml Alpha-Naphthylamine Solution (R009) into 18-24 hours old cultures in Nitrate Broth (M439).

Organism	Growth	Nitrate Reduction
<i>Acinetobacter calcoaceticus</i> ATCC 43498	Luxuriant	Negative (No colour change)
<i>Enterobacter aerogenes</i> ATCC 13048	Luxuriant	Positive(Development of distinct red colour)
<i>Escherichia coli</i> ATCC 25922	Luxuriant	Positive(Development of distinct red colour)
<i>Salmonella Typhimurium</i> ATCC 14028	Luxuriant	Positive(Development of distinct red colour)

## Storage and Shelf Life

Store at 10-30°C in tightly closed container. Use before expiry period on the label.

## Reference

- 1)MacFaddin J.,1980,Biochemical tests for identification of medical bacteria.



### Disclaimer :

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