

VOH 12 Medium

According to World Health Organization's guidelines, there should not be any coliform bacteria and enteric pathogenic bacteria in drinking water as they are indicators of fecal contamination that could cause bacteria infection, thus contributing to diseases related to digestive systems such as diarrhoeas.

The detection of certain types of coliform bacteria in drinking water, such as *Citrobacter* and some harmful bacteria like *Salmonella* and *Proteus* which are all hydrogen sulfide producing bacteria which cause diarrhoea, can be done by using fird test kit, VOH 12 Medium (culture media absorbed in cotton ball). The kit was developed by Department of Health, The test can be performed by a non-specialist after being trained to use VOH 12 Medium to detect fecal contamination. Then, appropriate actions should be taken for improvement prior to consumption. Using VOH 12 Medium to detect those hydrogen sulfide producing bacteria in drinking water is very simple, easy and convenient. If the water is contaminated, the culture medium will change from its original clear light yellow to slightly black, black and more black precipitate depending on the degree of contamination. Also the presence of emergence of gas when shaken the reaction bottle gently confirms positive hydrogen sulfide producing bacteria contamination.

VOH 12 Medium is used as a reliable tool in detecting coliform bacteria such as *Citrobacter* bacteria and enteric pathogenic bacteria such as *Salmonella* in drinking water of one follows the prescribed instruction and steps as shown in the manual. The result of using VOH 12 Medium shows over 85.2% accurate compared to the standard test procedure or Multiple-Tube Fermentation Technique according to the finding of research study.

Procedure for VOH 12 Medium



1. Food detect coliform bacteria. Hydrogen sulfide gas is produced at VOH 12 Medium.
2. Water sampling containers.



3. The sampling water Use a cotton swab moistened with alcohol 70%, wiping the faucet mouth thoroughly sterilized microorganisms.
4. Sampling wash thoroughly.
5. Open a faucet with running water for 1 minute for full drainage pipe that is stuck in the cast.
6. Adjust water flow to medium flow before collected water samples.
7. Use a container of water, about half the capacity.
8. The equipment used for inspection. Food detect coliform bacteria VOH 12 Medium.
9. Clean the tray and put a cotton swab moistened with 70% alcohol.
10. Clean hands with a cotton swab moistened with alcohol and 2 above 70%.
11. Clean the knife for cutting the strap bottle mouth with a cotton swab moistened with 70% alcohol.



12. Clean around the bottle cap and bottle neck strap bottle with a clean cotton swab moistened with 70% alcohol.
13. Use one hand to hold the bottle by bottle cap index finger after the finger is lifted the bottle as shown below.
14. Place the index finger of the hand grip knife lean on the bottle. Then put the knife down on the strap bottle.
15. Cut the band of the mouth of the bottle.
16. Use the tip of a knife to open bottles off the cuff.
17. Clean the area around the neck of the bottle and the bottle again with a clean cotton swab moistened with 70% alcohol to clean it again with a cotton swab moistened with 70% alcohol.
18. Use your thumb and forefinger to loosen the bottle cap. Spiral out without your fingers hit the bottle.
19. Use the little finger and ring finger gripper bottle caps out of a bottle.
20. Do not put the bottle on the floor, use your ring finger and little finger clip by the mouth of the bottle turned out of hand.

Simplified Technique for Field Detection of Hydrogen Sulfide (Salmonella) Producing Bacteria in Water and Ice (VOH 12)



21. Water samples reached 4 of the bottle, do not let the container hit by a bottle from the bottle about 1 centimeter while pouring water into the sample bottle.
22. Gently place the jar lid clamps onto the bottle.
23. Screw cap tightly again.
24. Rotate the bottle gently in a circular motion to detect food blended with 12 water samples together. Set aside at room temperature (25-40 °C) for 24-48 hours to check the results with respect to the color calibration plate VOH 12 Medium.

Colour standard for VOH 12 Medium



- Bottle 1** Culture medium (clear yellow) prior to adding sample
Bottle 2 After adding sample.
Bottle 3 After keeping in room temperature (25-40 °C) for 24-48 hours. : this color (clear yellow) indicates negative (-) in the sample are detected.
Bottle 4 After keeping in room temperature (25-40 °C) for 24-48 hours. : There is black sediment and bubbles rise when gently shaken with a strong smell of rotten gas. Indicates positive (+) in the sample are unsafe.

- Bottle 5** After keeping in room temperature (25-40 °C) for 24-48 hours. : There is black sediment and bubbles rise when gently shaken with a strong smell of rotten gas. Indicates positive (++) in the sample are unsafe.
Bottle 6 After keeping in room temperature (25-40 °C) for 24-48 hours. : There is black sediment and bubbles rise when gently shaken with a strong smell of rotten gas. Indicates positive (+++) in the sample are unsafe.

Preservation of VOH 12 Medium

- ✦ Keep it in a refrigerator at 4-10 °C for 12 months.
- ✦ Keep it in room temperature for 6 months.

Management of used test bottles

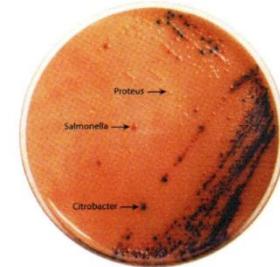
- ✦ Dispose the used medium in the bottle into toilet.
- ✦ Clean the bottle before using it again.

Recommendations for the management of consumed water.

1. Boil 100 °C for at least 5 minutes and store in a clean container with a lid.
2. The use of chemicals such as ozone gas, chlorine gas, chlorine powder.
3. Filtration using a powerful filter for bacterial filtration.
4. The use of radiation through radiation.

WHO recommends drinking water quality in 1993 and Water Supply Criteria, Department of Health, 2000

Information	Measurement unit	Set value
Coliform bacteria	mpn /100 ml.	not found
Salmonella	Colony	not found



ASIANMEDIC CO., LTD.
 Tel: 6690-898-5188, 6689-185-8999
 E-mail: sales@asianmedic.com
 Line ID: asianmedic
 www.asianmedic.com