

Sterilization of Unsanitary Water

不衛生な水の殺菌指導

MUTUROU ISII MONDAY, SEPTEMBER 9, 2019 READING TIME: 8 MINUTES

<https://www.facebook.com/notes/石井-睦郎/sterilization-of-unsanitary-water-不衛生な水の殺菌指導/10156221485766852/>

In the world, one child dies every 10 seconds due to unsanitary water. Because water pipes are old, many pathogens such as Escherichia coli are mixed in tap water in India and other countries. E. coli diarrhea. Amoeba dysentery. Intestinal / paratyphoid. Bacterial dysentery. Infectious diarrhea. A / E hepatitis. Cholera. Polio. Cryptosporidiosis. Roundworm. Medinatosi. Langle flagellate disease. Blast cystis disease. Various pathogens are detected. Even in Japan, many people are treated overseas for diarrhea and abdominal pain caused by water. Many people living in poverty cannot buy a water purifier. Not all NGO-supported water purifiers are available. This is because the budget is small. I think the United Nations and companies should contribute more budget. It seems that it is difficult to do it right away. However, in the meantime, one person died in about 10 seconds. Humans will die if they don't drink water. If the body loses 20% of the water, it will die.

This activity is a very low cost, simple and effective way to disinfect water. It is the same method as the water disinfectant sold at the camping equipment section. The cost to sterilize 2 liters of water is 0.00082 US dollars (0.088 Japanese yen). About 0.028 US dollars per month (3 Japanese yen). It is easy to get even for people without cash income. All you need is a plastic bottle and a disposable mask. I will explain how to use it with photos.



Sterilization of unsanitary water

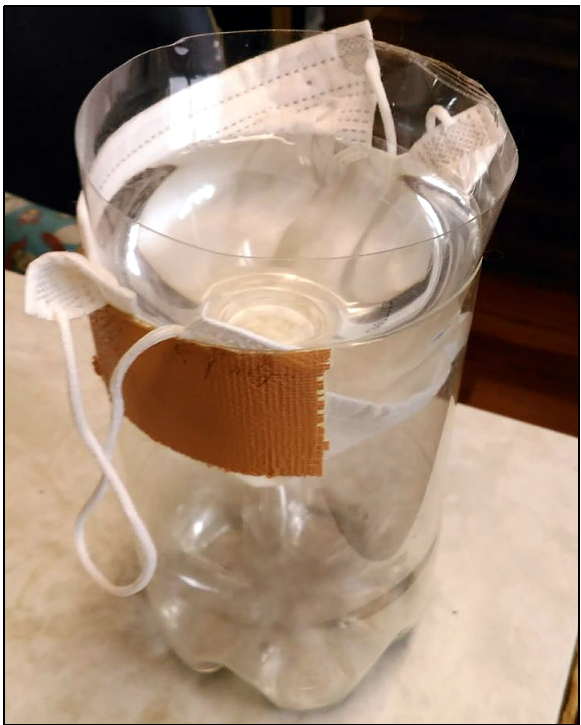
<https://youtu.be/1W5kDG8NBHw>



Cut off the top of the plastic bottle, which is accessible even in the poorest countries and regions. It will be a funnel.



Filter the water with a disposable mask. This is to filter out large microorganisms and pathogens. Filtration increases the effectiveness of chlorine dioxide sterilization.

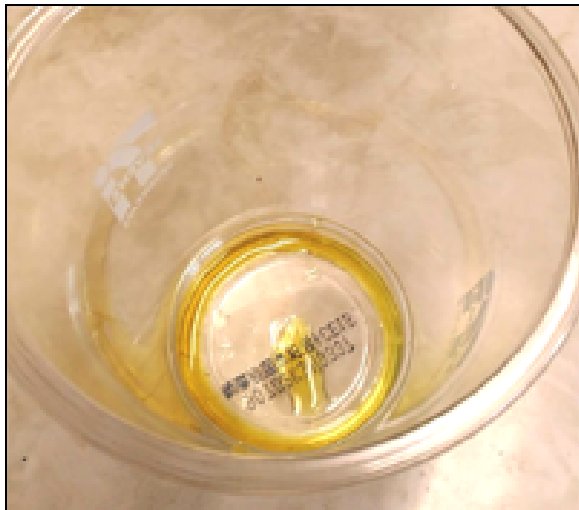




Put filtered water into a clean plastic bottle and sterilize with chlorine dioxide. You can drink water in about 30 minutes.



For 2 liters of water, add 10 drops of about 30% sodium chlorite solution in a dry cup. Mix 10 drops of about 50% citric acid or 4% HCL. When the color changes to yellow, chlorine dioxide is being produced. Put filtered water in it.



Then put it in a plastic bottle of filtered water again. You can drink after being sterilized 30 minutes after closing the bottle cap.



With 2 liters of water. In experimental studies, it is about 4 ppm chlorine dioxide (ClO_2) after 30 minutes. After 24 hours, it is about 1.2 ppm. This is safe at the same concentration as tap water sterilized with chlorine dioxide.

The cost of raw materials is so cheap that it can be distributed free of charge to the poor. However, I would like to teach the manufacturing method so that cash income can be obtained. I want the poor to be self-sufficient.

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This activity can save many people on a low budget. And anyone can teach easily. The world is wide. I alone take time. So we need the cooperation of many people. Why do not you try activities together?

