

## What is SODIS?

SODIS, Solar water disinfection is a simple method to improve the quality of drinking water by using sunlight to inactivate pathogens causing diarrhea. During the exposure, the sun destroys the pathogens. If the water temperature rises above 50°C, the disinfection process only requires one hour solar exposure.

**Note: Boiling is the best. Use SODIS only when boiling is difficult.**

## How to apply SODIS?



- A bottle of volume 1-2 litres is to be used.
  - Preferably made of plastic material (preferably Polyethylene terephthalate or PET)
  - Glass bottles take more time to increase the water temperature, are heavy, expensive, breakable.
- Bottles can be painted black on one side and the transparent surface exposed to sun.
- At least 2 bottles for each member of the family must be exposed to sun while there are other 2 ready for consumption. Hence each family member would ideally need about 4 bottles
- Use **clear transparent bottles** only, not green or brown plastic bottles.
- Bottle of volume of **1-2 litres** is the best. Don't use bottles that are too big.
- Lay bottles **horizontally**, not upright.
- The black painted side of the bottle needs to be on the **bottom**, not on top.
- Consume the treated water **directly** from the bottle using a clean glass or a cup. Avoid transferring the water into different containers.



SODIS uses local resources



SODIS water tastes good

- Fill the bottle **completely** before exposing to the sun. Partially filled bottles are not as effective.
- Close the bottle tightly to avoid water leakage.
- Wash the bottles properly, by using filtered water before filling them with water and exposing them to sunlight.
- Expose the bottle fully to sunlight, from early in the morning to evening. Even partial shade can reduce effectiveness.
- Never place the bottles on inflammable materials like cloth, straw. This can lead to fire.
- Don't use old, scratched blind bottles, as much as possible.
  - ⇒ Replace such bottles after one year of SODIS application.

## Advantages of SODIS

- Simple in application, relies on plastic bottles, and sunlight.
- It reduces the risks of infectious diarrhea and dysentery from bacterial and parasitic infections and cholera.
- The diarrhea causing bacteria inactivated by SODIS process rarely appears to re-grow or recover their infectivity

## Limitations of SODIS

- SODIS does not change the chemical water quality
- SODIS requires relatively clear water
- SODIS is not as effective in cloudy weather. Exposure time:
  - 2 consecutive day under 100% cloudy sky
  - During days of continuous rainfall, SODIS does not perform satisfactorily.
- Not as effective as boiling. Use only when boiling is infeasible.
- SODIS processed water is not advisable for babies less than 18 months.
- It is also not advisable for those with chronic gastrointestinal illness, severely ill children and adults, severely malnourished children or adults.
- Not as effective against virus and parasites.

**Again, note that boiling is the best. Use SODIS only when boiling is difficult.**

Information collected from: [www.sodis.ch](http://www.sodis.ch)