

Boiling

Source Protection	Safe Transportation	Sedimentation	Filtration	Disinfection	Safe Storage
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What is it?

Boiling is one of the world's oldest and most common methods for disinfecting water. It involves heating water until it boils (the boiling point of water depends on elevation but is often approximately 100°C). As the water temperature increases, pathogens are killed by the heat. CAWST recommends boiling water for one minute, plus one extra minute per 1,000 m of elevation above sea level.



Performance

Microbiological Effectiveness:

Parameter	Effectiveness
Bacteria	Very Effective (>99%)
Viruses	Very Effective (>99%)*
Protozoa	Very Effective (>99%)*
Helminths	Very Effective (>99%)*

*Assumed values. No independent test results available.

Other Parameters

Not effective for turbidity, colour, or chemicals.

Source Water Requirements

Turbid water should be settled or filtered before boiling. Boiling may not be appropriate for chemically contaminated water, as the concentration of chemicals may increase after boiling.

Capacity

Depends on size of pot or kettle.

Lifespan

Not applicable.

Ease of Use & Acceptability

Operation & Maintenance

The user heats water over a fire or stove until the water boils, then keeps it boiling for one minute or more (allowing one additional minute per 1,000 m elevation). Boiled water should be kept in the pot and covered with a lid until consumed. The pot and lid should be cleaned regularly.

Repair & Replacement

Fuel needs to be replaced regularly. Stove and pots may need to be repaired or replaced over time.

User Considerations & Preferences

Users must wait for water to cool before drinking, unless they prefer hot/warm water. Stoves and hot pots can cause burns and should be kept out of reach of young children. Indoor stoves that burn wood or coal can cause respiratory infections. Boiled water tastes flat to some people, and taste can be improved by shaking or stirring the cooled water.

Feasibility

Availability

Fuel, stoves, and pots can be found in every community and can often be produced locally. Sometimes fuel may be scarce or expensive.

Cost

Depends on cost of fuel.

Size & Weight

Depends on size of pot or kettle.

More Information

Details and references: www.hwts.info/products-technologies/819dad5c/boiling

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