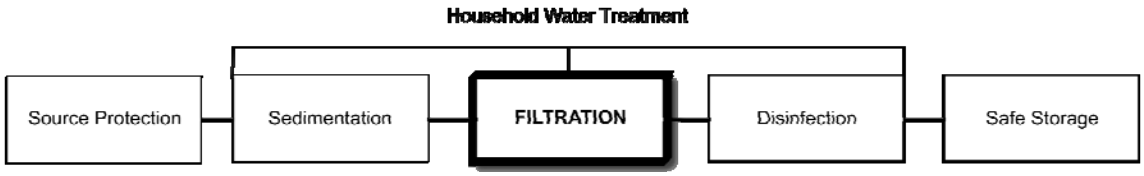
Centre for Affordable Water and Sanitation Technology

Household Water Treatment and Safe Storage Fact Sheet: Kanchan™ Arsenic Filter

The Treatment Process



Effectiveness

Very Effective For:	Somewhat Effective For:	Not Effective For:
• Arsenic • Bacteria • Protozoa • Helminths • Turbidity • Taste, smell, colour	• Viruses • Iron	• Chemicals

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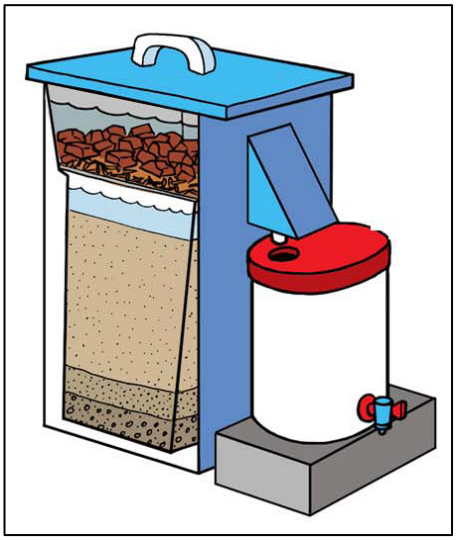
How Does it Work?

The Kanchan™ Arsenic Filter is an adaption of the biosand filter. It is a concrete or plastic box that is filled with layers of sand and gravel. There is also a layer of rusty nails, which remove the arsenic. Brick chips are used on top of the nails to keep them from moving around. Pathogens and turbidity are removed by physical and biological processes in the filter sand. Water is simply poured into the top of the filter and collected in a safe storage container.

Effectiveness

- Quality: Very effective in removing arsenic, turbidity and pathogens
- Quantity: Can filter 12-18 litres each batch; recommend to use 1-2 times each day to ensure effective arsenic removal
- Local water: Can be used with any water source; may need to sediment water before filtering



Appropriateness

- Local availability: Concrete filters can be constructed any where in the world; plastic filters are used in Nepal
- Time: Flow rate is 0.6 litres/minute
- Operation and maintenance: Simple maintenance to clean sand when the flow rate slows down
- Lifespan: Concrete filters 30+ years; plastic filters 10+ years; nails need to be replaced every 2-3 years to ensure effective arsenic removal; lids and diffusers may need to be replaced

Acceptability

- Taste, smell, colour: Usually improved
- Ease of use: Easy for adults; may be difficult for small children to pour water into the filter

Cost

- Initial purchase cost: US$12-30
- Operating cost: None