

SAFE DRINKING WATER

Safe drinking water in third world countries such as Nepal and India is of major importance if the traveller is to remain healthy. In general terms, the cost of buying bottled mineral water is very reasonable but in other places it can impact quite considerably on a traveller's day to day budget.

If you were to buy bottled water throughout an Everest Base Camp trek for example, it would easily cost you upwards of £30. If you stick to the guidelines of 3 litres per day (and EBC trek is 13 days), then that cost could rise to over £40. Be aware that a litre of water at Gorak Shep (closest tea house to EBC) costs about £2.50!

Even without considering the cost, the idea of having access to safe drinking water just about anywhere and at anytime is no bad thing. There is also the eco element; less plastic bottle waste.

If you are a frequent trekker, it is worth considering the long term options open to you to help keep the cost of safe drinking water down.

You should always ask your Tour Operator about how you obtain drinking water as it will differ between treks. In Bhutan for example where all treks are tented, the water will be boiled for you so there is no requirement to take system of your own. Nepal's lodged treks uses bottled water mainly so some consideration is required there.

Let's face facts; you need the water, there is no way around it but you can cut the cost.

Frequent travellers (not just trekkers) who go anywhere that has potentially unsafe drinking water should seriously consider buying a good water filter¹ and/or a purification² system. Boiling is the only sure way of making water safe (you should also filter it though, boiling does not remove particles) but this isn't always possible to do. A filter and/or purification method is the next best thing. In theory you should filter AND purify but the vaccinations that you should have had should counter any ill effects that may come your way as a result of only doing one or the other.

When deciding what to use, there are numerous factors that you should consider:

- Initial cost
- Upkeep costs (batteries, replacement filters)
- Weight
- Size/bulk
- Robustness (does the unit break easy? bear in mind how you carry it)
- Ease of use

¹ Filtration is the process of separating solids from fluids (ie small particles in water), normally using a multi-layer filter.

² Purification is the process of removing contaminants from a raw water source (often unseen) to make it potable.



- How much water can be treated (filters only last for so long and drops only treat x amount of water)
- Effectiveness. In theory they are all effective but if you are going into very remote places, you may want to ensure that the system you have is bombproof, ie what happens if it breaks?

What's Available? – here are some examples of what is on the market

Water filter: Katadyn Vario water filter approx £80 (treats 7000 litres)

There are various versions of this filter. The one pictured right is the Vario.

- Pros: Heavy duty plastic and therefore robust, lightweight, high capacity, fast through flow, good to share, good track record, easy to maintain.
- Cons: Some consider it a little bulky, high initial outlay
- Costs: £0.01 per litre over a single filters life. With a 7000L capacity, it will filter 3 litres every day for over 6 years!



Purification tablets: about £3 (treats 50 litres)

- Pros: Very small bottle, cheap, easy to carry several bottles.
- Cons: Horrid tasting water.

Costs: £0.6 per litre. Rises to £0.10 per litre if you add effervescent tablets to offset the taste.



Iodine droplets: £4.99 (treats 280 litres)

Be aware that the sale of Iodine has been banned within the EU, effective 25th October 2009. They can however, still be purchased outside of the EU in places such as Kathmandu.

- Same as purification tablets.
- The over taste can be countered using effervescent orange tablets (factor in extra cost).

Costs: £0.02 per litre, rises to £0.21 per litre if you add the effervescent tablets.

Chlorine Dioxide Tablets: £11.00 (treats 30 litres)

These tablets have replaced the Iodine tablets in the EU.

- Same as purification tablets.
- The over taste can be countered using effervescent orange tablets (factor in extra cost).

Costs: £0.36 per litre, rises to £0.46 per litre if you add the effervescent tablets.

Steripen: approx £70 (treats 5000 litres)

The Steripen is a handheld device that uses UV light to destroy ALL waterborne microbes.

- Pros: Kills 99.9% of anything remotely harmful, lightweight, high capacity, easy to use.
- Cons: Requires batteries to operate (newer versions have lithium batteries), could be considered bulky, potential to malfunction (batteries don't like cold temperatures), need a wide necked bottle to allow the Steripen to get into the bottle to operate.

Costs: £0.014 per litre, rising to over £0.15 per litre when you add the cost of batteries (rechargeable).



Conclusions

At worst case, the droplets or tablets plus the effervescent tablets will cost you approx £9 as opposed to £40, a saving of £38 on a single EBC trek. For individuals embarking on a 'one off' trip, this is difficult to beat and a batch of purification tablets or a bottle of iodine droplets in your bag is always a good safe backup even if you were to choose another method.

If shared between two people, even taking into account the initial outlay, both the Katadyn filter and Steripen will be cheaper than buying bottled water and you still have it for future use.

They are both excellent value for the longer term.

The Katadyn filter is especially good on a tented trek when you are inevitably camping next to rivers and mass production of drinking water is needed. They are also good if you use a camelback hydration system (it is easy to filter water straight into it).

Comment (Nov 09)

Both the Steripen (AA battery and lithium battery versions) and the Katadyn filter were used on an EBC/ Island Peak trek in Oct/Nov 09 and the Katadyn filter performed extremely well against the Steripen.

The AA battery version suffered constant battery failure due to the cold temperatures even though they were kept warm overnight.

The lithium battery version performed much better lasting an excellent 8 days of good use before the batteries needed replacing. It was also a very convenient method.

The Katadyn filter was excellent at producing lots of water quite fast but does require slightly more effort. Perhaps a small price to pay for a system with no batteries to fail?

Eco-friendly Element

All of these methods are much more eco-friendly than the use of bottled water, cutting down enormously on the considerable quantity of plastic bottles currently being used.

Terry Crosby
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Terry still leads many treks in Nepal, India, Bhutan and Morocco and has actively used all of these methods experiencing the pros and cons.

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