

Survival Bag from World Wide Water Ltd.

World Wide Water Company is a value added manufacturer and distributor for Water Security Corporation (WSC). We utilize WSC's patented technology in our water purification products to remove pathogens from contaminated waters to deliver safe, potable water for disaster relief situations and extremely remote environments. World Wide Water's Survival Bag product has been devised as a first response device for individuals and families in natural disasters, refugee camps, civil emergencies, and in remote locations.



The Survival Bag is capable of purifying 9000 liters of microbiologically contaminated water to provide clean, clear, safeguarded drinking water.

- One Survival Bag weighs just 2kg and provides 9000 liters of purified water.
- 9000 liters of bottled water requires more than 15 pallets and weighs over 9000kg



Bottled Water Comparison



5 Survival Bags weigh just 10kg and can provide safe, potable water for 100 people for 90 days (5 Liters per person / day).

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Mini Water Station

The Survival Bag can be set up as a mini water station to fill jerry cans for groups. In emergency/disaster situations, clean drinkable water is available for family or neighborhood groups and reduces the need for security/crowd control at tankers.

The UN/W.H.O recommends a minimum water requirement for survival of 2 Liters per person, per day (LPP/PD).

At 2LPP/PD, one Survival Bag would satisfy the daily needs of 180 people for 25 days.

At 5LPP/PD, one Survival Bag would satisfy the daily needs of 72 people for 25 days.



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The following pages contain a field performance test report for the Survival Bag.

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Bag Filter / Iodide Resin Cartridge Water Treatment Trial

Analytical testing conducted by Hill Laboratories Microbiology Department.
Barbara Müller (Section Manager)

The trial was set up by Sue and Russell Kelly from World Wide Water Ltd, with the analytical testing for *Escherichia coli* carried out by RJ Hill Laboratories Ltd and the analytical testing for phage levels carried out by Watercare Services Ltd. This trial was observed in its entirety by Barbara Müller from Hill Laboratories.

A Bag Filter / Iodide Resin Cartridge treatment system was used for the treatment of water of varying quality.

The system first preliminarily filters the water by passing it through a bag incorporating a filter mesh of 1 – 2µm. From the bag the water passes through an in-line cartridge containing activated carbon / MCV iodised resin, then through iodisorb and more carbon before being collected for use.

Rather than seeding water samples with a laboratory strain *E.coli*, the trial was carried out using raw sewage mixed into river water. This was done to ensure that the trial represented as close to a real field situation as possible. By using raw sewage and river water the trial simulates what may happen in a real emergency situation where water of drinking quality becomes contaminated with large volumes of raw sewage. Raw, untreated sewage was collected from the Bromley Sewage treatment plant, Christchurch.

A 5% sewage / river water mix was created in a 25 Litre tank with a pump attached, capable of pumping 2.75 LPM. The pump was used to mix the contents of the tank for 40 minutes.

A sample of the 5% sewage / river water mix was taken after mixing was complete.

The 5% sewage / river water mix was passed through the treatment system at a rate of 200cc per minute.

A sample was taken after the in-line cartridge iodide resin treatment

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Results of the field trials are shown below:

Table 1: 5% sewage / river water mix

	<i>E.coli</i> count MPN per 100ml	Phage count pfu per 1 L
5% sewage / river water mix prior to treatment	250,000	66,000
5% sewage / river water mix prior to treatment	0	20
% Decrease	100%	99.97%

MPN = Most Probable Number
Pfu = Phage forming units
LPM = Liters per minute