26037 Water Purification System

The Technology

The technology is based on forward osmosis, an established method of water purification. The complete system consists of a semi-permeable membrane encasing a superabsorbent polymer. When this assembly is immersed in dirty or contaminated water, only the water (solvent) molecules are able to pass through the membrane and are absorbed by the polymer. Particulate matter, viruses, bacteria, heavy metals and fertiliser residues all remain in the original impure water. The same process could potentially be used for desalination of seawater.

When required the water can be extracted from the polymer, thus regenerating the system ready for immediate reuse. This reversibility is a key advantage of the technology over other systems which require replacement of salts to drive the forward osmosis process each time.

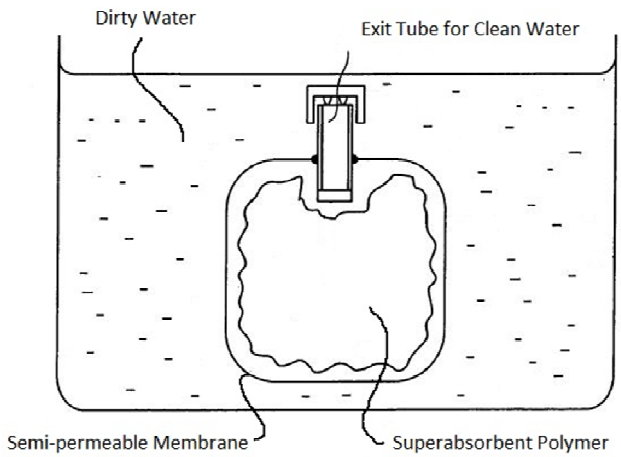

Figure 1 – schematic of a personal water purification device including a reusable polymer to drive the osmotic process.

By placing the membrane+polymer assembly into an outer bag or other container, the device becomes suitable for mobile use (Figure 1). Filling the outer container with dirty water means there is no need to remain next to the water source while filtration takes place. A small device could easily be carried in a rucksack to provide a personal renewable supply of pure water.

Intellectual Property

A patent application WO/2008/059219 has a priority date of November 2006, and has been maintained in Europe and USA.

The Opportunity

The technology has the potential to provide pure drinking water in an emergency, or for anyone spending extended periods of time in remote locations, for example hikers or military personnel. We are currently seeking partners and licensees to collaborate on commercial development of this technology, including improvements to extend the lifetime of the membrane.

For commercial enquiries on this technology, please contact Andrew Tingey, quoting reference 26037.

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