



**About Us:** DetoXyFi is commercializing a novel wood-based water filtration technology to provide access to safe drinking water to those in adverse conditions.

**Our Vision:** Provide sustainable, affordable, and accessible clean drinking water solutions to households and individuals in resource-constrained settings at minimal cost and with no external power/energy needs.

**Who can use our filters?** Our filters can be used in theory by anyone in adverse circumstances where the only available water sources are/appear to be contaminated. Our target market for the bag-based filter is emergency relief & preparedness as well as for use on-base/in the field by armed forces. These two markets have synergies because both customers experience similar water quality concerns, and the armed forces are usually the first line of defense when deploying humanitarian aid. Our further intention is to sell the products inexpensively through convenience stores and stands in areas with such buying behavior and where access to clean drinking water is severely constrained.

**How do our filters work?** DetoXyFi is developing a patent-pending (PCT/US2022/076211) low-cost, sustainable and biodegradable filter with a short use life (<1 week) which builds upon extensive research, stakeholder feedback, and field validation at MIT over 10+ years. Our technology utilizes natural processes in the xylem tissue of plants that is responsible for the flow of sap from the roots to the leaves. (This tissue is normally a waste product of the lumber industry). In 2014, one of our founders (Dr. Rohit Karnik and collaborators at MIT) demonstrated that the xylem tissue present in the sapwood of conifers (such as pine trees) can be used to filter water. The resulting research docket is published in Nature: <https://www.nature.com/articles/s41467-021-22055-w>. The xylem is treated with warm water and food-safe chemicals, and then dried, leaving no residues that may cause concern. The filters are light and therefore easily transportable.

**What do our filters remove?** Our filters are 3<sup>rd</sup> party lab verified to eliminate bacteria, viruses and protozoa to WHO\*\* Comprehensive Protection standards (log 3 removal), as well as turbidity. Labs that have tested the filter include ETR Labs [<https://etrlabs.com/>] and Fountain Valley Labs [<https://www.fval.com/>].

**How to use our filters?** Our filters (figure below) are foldable, can hold 10L of unclean water and comes equipped with a handle for carrying or hanging. Simply collect unclean water in the bag and clean drinking water is emitted from the bottom.



**How long can our filters be used for?** Each filter can process at least 50L of water following which the filter will self-clog indicating end of usable life.

**How much do our filters cost?** Because DetoXyFi filters are made from normally discarded sapwood, our filters are extremely inexpensive

and final price depends on quantity and the market. That being said, we are confident that our filters would be cost competitive to any existing solution you have.

**Do you have other forms besides the bag?** Our filters can be engineered to meet any geometry and fit into a number of different housings (bottle, jug, reservoir etc). Please connect with us to create a custom application.

### Summary of DetoXyFi Bag Filter Specifications

Parameter	Specification
Water Flow Rate	3L/h
Total Volume of Water Processed (Filter life)	50L
Bag Capacity	10L
Bacteria Removal	Yes, 3 log (Coliform, Heterotrophic bacteria)
Virus Removal	Yes, 3 log (e.g. enterovirus, rotavirus, norovirus)
Operating Temperature	>0C
Shelf Life Before Use	At Least 6 months
Turbidity Removal	Yes
Chemical Contaminant Removal	Yes, but not measured

#### Contact Us

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