



Mesopaper™ Fact Sheet

Water is essential for life. According to the [CDC](#), arsenic, lead, and mercury are the three most hazardous threats to human health. The consumption of these hazardous materials often comes from contaminated water.

What is Mesopaper?

Mesopaper is the latest filtration medium from Mesofilter designed to bring clean water and air to anyone, anywhere. It is the only paper able to filter and immobilize harmful pollutants such as:

- Arsenic
- Lead, mercury and other heavy metals
- Bacteria and viruses
- Uranium and other radioactive elements

How does it work?

Through nanotechnology using natural ingredients, Mesopaper uses Mesofilter's patented MesoNose technology to mimic the human nose, the best natural filter. Natural clay is fired and manufactured into mesoporous (about 40-60 nanometer (nm)) material to make MesoNose granules. The paper is made of three layers sandwiched with MesoNose powder wrapped in bamboo fibers. When water passes through Mesopaper it adsorbs and seals the arsenic and lead, immobilizing the toxic metals, and inactivating bacteria and viruses.

Why is it better?

Mesopaper works without the use of pressure, chemicals, electrical potential, or plastic, and one square foot of paper can purify 10 gallons with absolutely no wastewater or hazardous byproducts. The paper can be molded into various shapes such as pour-through filters, straw filters, and industrial filtration cartridges that can be easily disposed without negative environmental impacts. According to NSF International, Mesopaper represents a new category as a "Universal Filtration Membrane."

What makes it unique?

- Highly effective (>99% removal efficiency)
- Simplified one-step filtration process
- Zero wastewater
- Saves more than 80% on cost (compared to processes like reverse osmosis, chemical treatment, or UV)
- Filters both water and air
- Affordable and easy to store for individual use
- Easy to use and safe to dispose
- Technology can be scaled based on industrial application
- No hazardous byproducts
- Water is stopped from passing through when no longer usable

What are the environmental impacts?

Mesopaper is sustainable and environmentally friendly. The natural fiber is biodegradable and with multiple uses per sheet and no wastewater or hazardous byproducts; Mesopaper provides a safe way to filter contaminated water around the world. Since all hazardous materials become immobile and inert upon filtration, disposing of Mesopaper is as simple as throwing away any other piece of trash.

Applications:

Industrial	Emergency	Agricultural	Personal	Air Filtration
Industrial wastewater treatment	Disaster (i.e. hurricane, flood, earthquake, etc.) relief	Agriculture irrigation	Household water filtration	Medical
Nuclear and radioactive water treatment		Aquaculture and fish farming	Outdoor recreation	Masks and hazmat suits
Highway runoff control	Personal emergency kits	Groundwater purification	Travel	Automotive air filtration
Mining site acid runoff water filtration	Toxic wastewater spill in-situ treatment			Heating, ventilation, and air conditioning (HVAC)

Use Cases

Disaster Relief – Hurricane Irma left one million Americans without access to safe drinking water. With Mesopaper, organizations like FEMA and the American Red Cross could potentially distribute filters to disaster victims, who would regain access to safe water in minutes with the same amount of effort it takes to make a cup of drip coffee.

Industrial – Industries such as mining and paper manufacturing produce large amounts of wastewater. With Mesopaper, engineers can efficiently and cost-effectively filter this water to a cleanliness level that it can be introduced to local waterways or the water table.

Nuclear – Nuclear wastewater from uranium mining sites can lead to dangerous levels of uranium and other radioactive elements in nearby soil and groundwater. Mesopaper can be used to stop radioactive water from entering the ecosystem or purify existing toxic groundwater.

Agricultural – Raising crops and animals generates irrigation runoff and other forms of wastewater. Mesopaper removes contaminants so this water can be reused or returned to waterways or the water table.

Patents/Certifications:

- Mesopaper is the first pour-through product to pass NSF/ANSI 53: Drinking Water Treatment Units – Health Effects, for the removal of arsenic and lead to below EPA and WHO standards.
- 12 patents granted to the core MicroNose and MesoNose technology, 3 patents pending for Mesopaper.
- Efficiency and safety has been proven by the NAE and EPA.

Cost:

For personal use Mesopaper can be purchased on Amazon at a cost of \$6.99 for a pack of six 9" x 9" sheets. For large industrial paper rolls, contact Mesofilter directly.

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