BETTER, FASTER, MORE AFFORDABLE WATER FILTRATION MEDIA SOLUTION

Introducing a 100% green, highly effective, light-weight, non-toxic filtration media that will revolutionize water filtration for municipalities, businesses, homeowners and consumers.

Glanris is the best, fastest and most affordable way to filter water and here's why:

- **Hybrid Technology.** Glanris can remove metals as well as organics and removes a wider breadth of contaminants than Granular Activated Carbon (GAC), ion-exchange resins and other technologies in a sustainable fashion.
- **Single-Pass Efficiency.** Glanris can achieve in one pass what it takes other filtration media multiple passes to accomplish.
- **Low-Cost.** Glanris is dramatically less expensive to produce, ship and dispose of than GAC or any other type of media.

PROVEN PERFORMANCE

Glanris' patent-pending technology has undergone independent pilots and tests to verify its efficacy. In tests against current filtration processes at six different large manufacturers, Glanris resulted in a significant reduction in contaminants over current technologies.

Furthermore, a single pass of these solutions through a bed of Glanris media consistently delivered more effective results than multiple passes of competing GAC, resins and chemical treatments.

SUSTAINABLE

Glanris' media is made from a plentiful agricultural bi-product grown globally in millions of metric tons. Compared to granular activated carbon made from coconut shells, Glanris' manufacturing process uses 98% less CO_2.

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MAKING SAFE DRINKING WATER A REALITY

Glanris' renewable water filtration media and filters provide the highest level of safety for drinking water and unparalleled protection for our natural resources. Glanris stands alone in its ability to:

- Remove heavy metals: color/turbidity, chlorine and chloramine, suspended solids and colloids, gas and oil, solvents and low molecular weight organics, as well as odors
- Regenerate with a weak acid
- Comply with FDA food-grade specifications

PRACTICAL APPLICATIONS

Glanris filtration media is ideal for:

- The removal of lead and other contaminants in tap water
- Failing, aging municipal water treatment plants
- Environmental remediation
- Removal of metals from manufacturing process
- Reuse/Recycling of grey water and tertiary water

DID YOU KNOW...

According to McKinsey & Co, by the year 2030, the demand for water will exceed sustainable supplies by 40 percent. This means it is mission-critical to find more effective ways to filter water for reuse. Past tragedies have proven that point-of-use filtration is required for businesses and homes to ensure safe, clean water.

HOW GLANRIS COMPARES TO OTHER FILTRATION MEDIA & METHODS

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Application	Glanris	GAC	Ion Exchange (IX)	Zeolites	Current Carbon Block (CBT)
Production	**Processed for 10 minutes, lower material cost**	Coconut/Clamshells baked at 1,000˚C for 8 hours or more	Petroleum-based, manufacturing creates plastic waste	Fossil fuel-based	Grinding of shell material is costly and timely
Raw Material Availability	**Sustainable agricultural bi-product grown globally**	Coconuts, clams and bones have limited availability, variable cost	Raw divinyl benzene requires time and costly processing	Mining dependent, disruptive to water and consumes fossil fuels	Uses varying raw materials due to market volatility
Weight (lbs/cu ft)	**14-22/ft³**	29-45 lbs/ft³	50-60 lbs/ft³	16-50 lbs/ft³	40-60 lbs/ft³
Causes Odors	**No**	Tendency to produce odor when capacity is exhausted	Users often complain of a fishy smell	No	Tendency to produce odor when capacity is exhausted
Organic Removal	**Yes**	Limited, slow acting, surface area easily plugged up	Ion exchange resins foul, are ineffective with organic material	Efficient at odor removal, not organic chemical removal	Limited by combination of GAC and IX.
Chlorine Removal	**Yes. Fast kinetics, high affinity for chloramine removal. Removes metals in presence of chlorine**	Yes. Slow acting surface area easily plugs up. Less effective at chloramine removal. Ineffective at metals removal	No. Chlorine destroys most IX resin and causes it to lose its ability to remove metals and organics	Partially effective. Not a target of zeolite. Chlorine may destroy zeolite	Effective at chlorine removal, less effective at chloramine, very limited metals removal
Metal Removal	**0.6 mEq/gm 0.5 lbs/cu ft**	.01-.02 mEq/gm	2.0 mEq/gm	N/A	Minimal
Distinguish Between Harmless and Harmful Metals	**Yes. Refuses harmless cations, capacity is totally available to harmful metals**	Poor ability to remove metals. Requires addition of IX resin or zeolites to remove metals	Metals removal requires narrow pH range, low organics debris and chlorine. Cannot differentiate between harmless and harmful metals. Costly	Effective at water softening. Requires chemical regeneration. Heavy. Metal removal may be due to adsorption and not electrical attraction, results not predictable, reliable or repeatable	Current CBT uses a sprinkling of IX media to achieve extremely limited metal removal capacity. Emits fishy odor
Effective pH Range for Metals Removal	**4-10 pH**	Does not remove metals to any significant degree	6.5-8 pH	6.5-8 pH	Tap water pH range is favorable to metals removal
Longevity	**Will not prematurely exhaust due to water hardness. Low cost favors replacement versus regeneration**	Durable. Loses effectiveness as surface area becomes blocked	Varies widely and is unpredictable	Varies widely and is unpredictable	Capacity dependent on tap water quality. Disposable nature of filter does not require durability
Changes pH of Water	**No**	No	Yes	Yes	Somewhat
Eliminates Color	**Yes**	To a far less degree	Limited and only with costly esoteric resin	Highly limited	No
Cost	• **$0.65-$1.20/lb: powdered carbon** • **$0.90-$2.00/lb: granular filtration** • **$3.00-$6.00/lb: specialty metals removal** • **$3.00-$10.00/lb: nutritional/vitamin grade**	$35-$200/ft³	$100-$2,000/ft³ $0.08-$0.20/gallon to remove metal	$100-$1,000/ft³ Wide fluctuations	$0.30/gallon. Depends on water quality
Disposal	**Organic media (less disposal cost), compactable, non hazardous. Metals can be recycled using acetic acid**	Not easily compacted. Heavy to transport, requires super-heated steam to rejuvenate. Metals not readily recycled	Plastic resin beads create plastic waste. Metals only recoverable with strong acids and alkali	Disposal difficult due to weight issues. Hazardous metals not easily removed	Residential waste disposal