



KATALYST-LIGHT®

Advanced Catalytic Filtration Media

An advanced catalytic filtration media that incorporates three removal methods:

- Mechanical Filtration of fine particles, TSS, turbidity etc.
- Catalytic Precipitation and Adsorption (Fe, Mn, Cu, Pb etc.)
- Adsorption (flocculant formation and adsorption of As, Heavy Metals, and Radionuclides)



Filtration of

- Less than 3 micron
- Suspended solids
- Sediments
- Turbidity
- Organics
- Color
- Odor

Removal of

- Iron
- Manganese
- Hydrogen Sulfide
- Arsenic
- Radium
- Heavy Metals
- Radionuclides

Advantages

- High content MnO₂ coating (10%)
- High surface area
- Contains NO crystalline Silica
- Light weight - providing significant savings on backwash water
- Higher filtration rates
- Filtration of sand, sediment and suspended solids, down to 3 microns
- High efficiency removal capacity of Iron, Manganese and Hydrogen sulfide
- Effective reduction of Arsenic, Zinc, Copper, Lead, Radium, Uranium, radionuclides and other heavy metals
- Media replacement every 7-10 years
- No disinfection by-product
- No mandatory KMnO₂, chlorine, or chlorine dioxide dosing
- Low operational costs
- Unique product, unmatched by our competitors

Why should you use Katalyst-Light® instead of any sand products?

- Better Filtration (3 microns), means crystal clear water.
- Leading water treatment system manufacturers recognize these benefits and have chosen to promote this unique Katalyst-Light® media.
- Removal of hydrogen sulfide: better drinking water, no odor, so bad taste, no more irritation to skin and eyes
- Because of its very high surface area, the backwash rate and frequency are minimal, therefore saving water up to 50% than conventional products.

Katalyst-Light® is formally known as Katalox-Light



WHAT IS KATALYST-LIGHT®

Katalyst-Light® is a revolutionary advanced filtration media developed in Germany. Its composition sets it apart from the other filter media (like sand, BIRM, Greensand Plus, Manganese Greensand, etc.) currently available in water treatment industries. Katalyst-Light® is engineered with a unique MnO₂ coating technique on ZEOSORB, providing a lighter weight, higher filtration surface, extended service life, and a more reliable performance (filtration down to 3 µm) than any other existing granular filter media.

Physical Properties

Appearance	Granular black beads	
Odor	None	
Mesh Size	US	14 x 30
	SI	0.6 – 1.4 mm
Uniformity Coefficient	≤ 1.75	
Bulk Density	US	66 lb/ft ³
	SI	1060 kg/m ³
Moisture Content	<0.5% as shipped	
Filtration	<3 microns	
Loading Capacity	for Fe ²⁺ alone	3000 mg/l 85000 mg/ft ² (approx.)
	for Mn ²⁺ alone	1500 mg/l 42500 mg/ft ² (approx.)
	for H ₂ S alone	500 mg/l 14000 mg/ft ² (approx.)

Recommended System Operating Conditions

Inlet Water pH	5.8 – 10.5	
Freeboard	40%	
Minimal Bed Depth	US	29.5 inches
	SI	75 cm
Optimal Bed Depth	US	47 inches
	SI	120 cm
Service Flow	US	4 – 12 gpm/ft ²
	SI	10 – 30 m/h
Backwash Velocity*	US	10 – 12 gpm/ft ²
	SI	25 – 30 m/h
Backwash Time*	10 – 15 minutes	
Rince Time*	2 – 3 minutes	

*NOTE: Starred parameters could be more or less in some cases depending on inlet parameters.

ADVANCED USE

Katalyst-Light® is being used worldwide in numerous systems for residential, commercial, industrial, and municipal applications for high level filtration, color and odor removal, Iron, manganese, hydrogen sulfide removal, reduction of arsenic, zinc, copper, lead, radium, uranium, and other radionuclides and heavy metals. Katalyst-Light® is certified to NSF/ANSI-61 standard for drinking water applications and has met the ANSI/NSF 372 lead-free compliance.

High concentration coating of MnO₂ on the Katalyst-Light® surface (10%) is the biggest advantage compared to any similar product available in the market. This makes the oxidation and co-precipitation of contaminants much more effective.

For removal of very high concentrations of contaminants, it is recommended to use H₂O₂ as an oxidizer, which provides accelerated catalytic oxidation on the surface of the media. Conventional oxidizing agents like chlorine or potassium permanganate also could be used, if required.

Katalyst-Light® can be used for arsenic, radium, and uranium removal, but in these cases, there is a requirement of iron in the water. The Katalyst-Light® system is designed with special iron dosing technology which has many advantages over adsorbent media used for heavy metal removal.

ADVANCED FEATURES

Fracking: Reducing radionuclide waste in tracking wastewater

Reverse Osmosis Pre-treatment: Increasing the membrane lifespan 3-4 times more

Industrial Wastewater: Reducing radionuclide waste in tracking wastewater

Removal of Arsenic: by the method of co-precipitation

Cooling Tower Recirculation: Dramatically reducing the blow-down water and using part of it in re-circulation process

Radionuclide Removal: Radium, Uranium