



Here's to Life!

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What is KDF®?

Patented KDF® process media are high-purity copper-zinc formulations that reduce contaminants in the water using oxidation/reduction (redox).

As good as existing carbon filtration/purification technologies are, they do have limitations as they can be:

- Short lived
- Difficult to maintain
- Inadequate under certain conditions

H2O International, however, makes use of KDF® process media in all its purifiers, which serves to:

- Improve these technologies
- Provide extended life
- Lower total costs
- Decrease maintenance
- Control micro-organisms
- Improve performance

What does KDF® do?

- **Controls chlorine and heavy metals**

The redox reaction means that KDF® media simply exchanges electrons with contaminants. This give and take of electrons changes many contaminants into harmless components such as changing chlorine to chloride. Other contaminants, such as lead and other heavy metals, bond to the KDF® media.

- **Controls bacteria, algae and fungi**

KDF® process media controls micro-organisms in two ways:

1. The first way is a by-product of the redox reaction in that the exchange of electrons actually sets up an electrolytic field that most micro-organisms can't survive.
2. Second, the process of forming hydroxyl radicals and peroxides from some of the water molecules interferes with the micro-organisms ability to function.

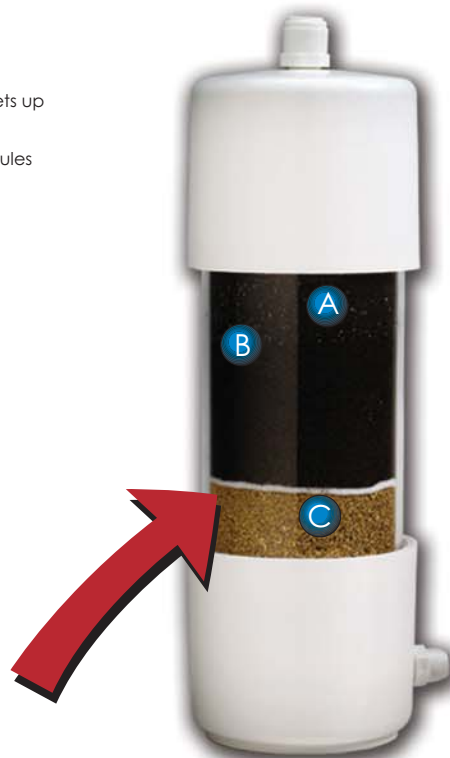
- A** **Granular Activated Carbon (GAC)** - provides protection for home drinking water from chemical compounds manufactured or widely used after World War 2. These include the chlorinated hydrocarbons in various pesticides, herbicides and industrial solvents. Misuse of these materials has allowed water supplies to become a problem. **GAC** has proved to be an effective media for the removal of such contaminants, absorbing chlorine, other chemical compounds and gases.

GAC is a preferred method of protecting water from tri-halomethanes (THM's), PCE's, EDB's, PCB's, DBCP's, chlorine, tri-chloroethylene, nitrobenzene's, radon, herbicides, insecticides, pesticides, iodine, silver, ethylene chloride, detergents and numerous other chemical compounds in existence. **GAC** also traps organic material thereby removing bad tastes, colour and odours.

- B** **Riolyte®** - is a unique formula added to countertop & undercounter models. It contains specially formulated mineral components that are mixed into the media bed.

Riolyte® gently releases these minerals into the water making it more palatable, as well as improving the PH of the water, making it more alkaline.

- C** **KDF®** - Even though **GAC** is sufficient to correct the problems of 85% of today's household water, to make the process more complete, we have added the patented **KDF®** to our systems. **KDF®** significantly removes iron, aluminium, sulphur, as well as heavy metals (lead, mercury, arsenic & many others) and kills bacteria, fungus and algae. **KDF®** makes our units completely bacteriostatic; no bacteria will grow in the unit and the life of the cartridge is prolonged.



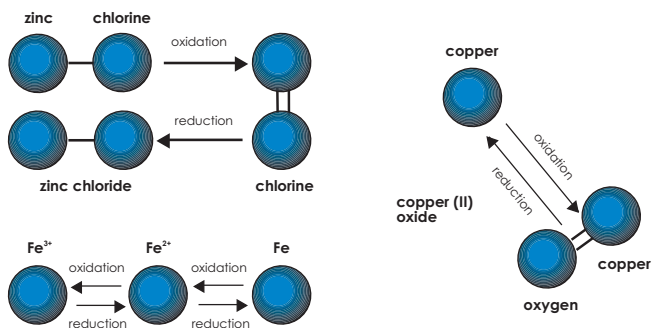
** U.S. Patents 4,642,192; 5,122,274; 5,135,654; 5,198,118; 5,275,737; 5,314,623; 5,415,770; 5,433,856. Foreign counterparts granted. Other U.S. and foreign patents pending



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Applications of KDF®

- The removal of chlorine from municipal water supplies**

KDF® process media is used by H2O International in South Africa in all filters, often in conjunction with activated carbon filters and, results in the removal of up to 99% of the chlorine in municipal water.

KDF® media extends the carbon's life and protects the bed against bacterial growth. KDF® also removes up to 98% of lead and other heavy metals that are a growing concern to public health officials.

- Protecting reverse osmosis systems**

KDF® is also used to protect reverse osmosis (RO) water purification systems from chlorine degradation and bacterial contamination.

Activated carbon is quickly exhausted by heavily chlorinated water and must be carefully monitored for chlorine breakthrough and build up. The use of KDF® process media provides consistent, long-term protection for RO systems as they have a high chlorine removal rate and provide effective bacteria and fungi control.

KDF® 55 is used by H2O and is the most effective for removing chlorine and water-soluble heavy metals.

As a result of the chemical reactions induced by KDF®, the media completely or partially removes:

Contaminant	Level in untreated water (in ppm)	After treatment with redox filter medium
● Chlorine	75	0.01
● Arsenic	5	0.01
● Asbestos	100	0.1
● Cadmium	5	0.01
● Chloroform	1	0.002
● Chromium	5	0.01
● Coliform Bacteria	2000*	1*
● Hydrogen Sulfide	10	0.01
● Lead	2.05*	0.1
● Lindane Pesticide	5	0.002
● Malathion Pesticide	5	0.002
● Mercury	1	0.001
● Salmonella Bacteria	2000*	1*
● Silver	1	0.01
● Trichlorethane	1	0.002

*Counts per millimeter.
This table is a compilation of test data from research on the capabilities of redox media

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