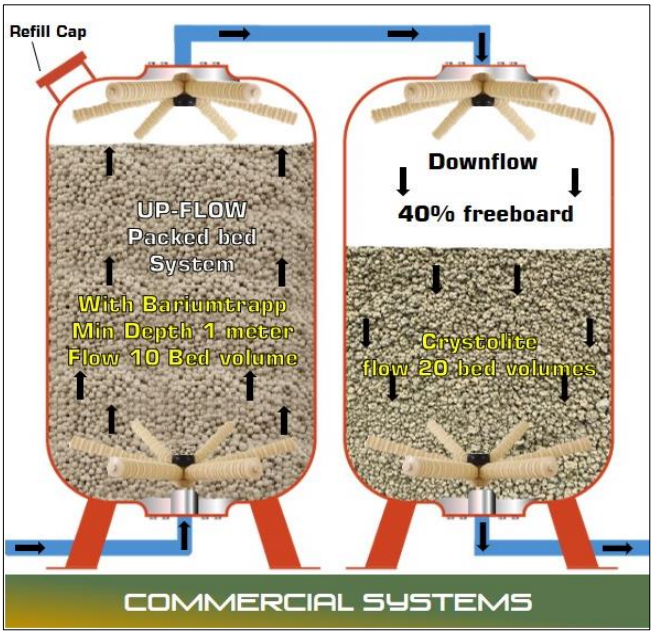
WATCH WATER
WATCH WATER
a Water Company

RED-OXY TREATMENT
FILTRATION
ADSORPTION
FILTERSORB
INSTANT PRODUCTS

56
Ba
Barium
137.327

# BARIUM TRAPP

## BARIUM ADSORBENT




COMMERCIAL SYSTEMS

### Advantages

- **No Control Valves**
- **No Backwash**
- **No Waste Water**
- **No Chemicals**
- **No Regeneration**
- **No Concentrate**
- **High Filtration Rate**
- **Filtration down to 1 micron**
- **Resistance to Heavy metals**
- **Continuous operation & performance**
- **Easy Maintenance**

The above process shown is for removing soluble **Barium (Ba)** in water by adsorption onto the **Hydrous Magnesium Oxide Beads**. In addition this process will also **remove Silica, Phosphates, Sulphates and Strontium from water**. The negatively charged Hydrous magnesium oxide beads in **Up Flow** packed bed system when comes in contact with water having Barium than immediately Barium is adsorbed onto Hydroxide making it **non-dissolvable** and then later trapped by **Crystolite filtration**. The other methods to reduce Barium concentration are just not economical and dangerous for environment.

### Mechanism

$Mg^{2+} + O$ = MgO (Media)

MgO → $H_2O$ (Removal)

$Mg^{2+}(OH) + Ba(Trapp)$

$Mg^{2+} + Ba(OH)_2$

## Ion Exchange Method

However, strong acid cation system can remove barium from water with **massive unintended consequences**. Ion exchange systems require frequent resin regeneration using **Sodium Chloride**. The treatment, handling and disposed of the Regenerant (chemicals) are a major drawback to this lousy technology and concentrating to the world problems.

## Reverse Osmosis Method

As the world says, concentrated wastes with membranes are not reversible. Reverse Osmosis systems, scaling often occurs on the **RO membrane** if the barium reacts with contaminants which form Barium silicate, Barium phosphate and Barium sulfate or Barium carbonate. This reduces the efficiency of the Reverse Osmosis units and damage the **Membranes**.

So there is only one Unique method to remove Barium from water is **Bariumtrapp** which involves adsorption of Barium onto Magnesium ($Mg^{2+}$) Hydroxide ($OH^-$). Adsorption is pH dependent process. The water must have once again a pH of approximately 10.5 for efficient Barium Adsorption. **Bariumtrapp systems** are cost effective and most successful.