

## PRODUCT DATASHEET

### Water Treatment Media



We offer a wide range of media designed for water treatment. Each is generally specific for its duty and some may be used in conjunction with other medias to enhance performance.

#### PH Correction

Water with a pH level of less than 7 is classed as acidic, the legal limit is 6.5 to 9.5. Acidic water will cause a blue/green deposit when in contact with copper and can cause copper cylinders to perforate. Water with a pH between 6.5 and 7 is easily corrected using a calcium carbonate media. This media gradually dissolves away and requires topping up from time to time. It self regulates the pH and so does not over correct.

Where pH is lower than 6.5 we will boost the effectiveness of the calcium carbonate with a 25% mix of magnesium salt which has a much more powerful pH correction action.

#### Iron & Manganese

Iron may be present in water either in a dissolved or non dissolved form, the legal limit of iron is (Fe) 200 µg L and manganese (Mn) 50 µg L. Dissolved iron may present as perfectly clear water which when left to stand will deposit at the bottom of the container as the iron oxidises. Usually in toilet systems or dogs bowls, non dissolved iron will be seen as 'rusty' water.

Hydrogen sulphide if present has a very distinctive smell of rotten eggs.

For general use we will use a manganese dioxide based media. Manganese dioxide is very effective if certain conditions are met. To remove iron the pH must be over 7, to remove manganese the pH must be over 8.

This media simply backwashes with water periodically. It is very long lasting.

Also very effective at removing iron and manganese are anion/cation resins. These work only on dissolved iron and manganese. They are not so dependant on the pH level to operate effectively. They regenerate using a brine solution. It is imperative that we know the sodium level and the hardness in the raw water as this treatment will increase the sodium level of the treated water.

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*for all your Private Water Supply requirements*

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#### Hydrogen Sulphide

Typical concentrations in drinking water are not a health risk, but can be highly unpleasant, high concentrations can affect the taste of your water. A concentration as low as 0.1 milligram hydrogen sulphide per litre of water (mg/l) is detectable by smell by most people.

To put that into perspective, 1 teaspoon of salt dissolved in 1,000 gallons of water produces a concentration equal to about 1 mg/l. Hydrogen sulphide taste can be detected in water with a level as low as 0.05 mg/l. Hydrogen sulphide also can corrode plumbing metals (iron, steel, copper, brass) and exposed metallic parts in washing machines etc. Corrosion of iron and steel by hydrogen sulphide forms a black precipitate (ferrous sulphide) that can stain laundry and bathroom fixtures, darken silverware and discolour copper and brass fittings.

The treatment of Hydrogen Sulphide comes in three forms, activated carbon for lower levels, Manganese Dioxide medias can be used if Iron and Manganese are present and finally a process of aeration accompanied by carbon or Manganese Dioxide.

#### Water Softening

Hard Water occurs when salts of Calcium and Magnesium are found in water. These salts are removed by ion exchange where calcium and magnesium ions are exchanged for sodium. Softener resins are regenerated using a brine solution. This releases sodium back into the water. For this reason on drinking water we have know the sodium level and the hardness of the untreated water. Softener resin may also be used to remove iron and manganese at lower concentrations

#### Nitrate Reduction

Often high nitrate levels in water are found in agricultural areas and are usually associated with drinking water taken from ground or surface source (ie not underground supplies such as borehole). We offer a resin based media which very effectively reduces nitrate levels in drinking water. This is an ion exchange based media which is regenerated with a brine solution. As with all ion exchange we need to know the raw water sodium and hardness levels.

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#### Particulate Removal

We have two grades of filter media that are designed specifically for particulate removal. Filter Ag has a high surface area which is required for trapping high concentrations of dirt. It will remove solids from the water as fine as 20 microns (1 micron is 1/1000 of a millimetre).

The second media is Turbidex. This will remove particles as fine as 5 microns and has a higher volumetric flow rate than Filter Ag. The trade off is that Turbidex requires a greater reverse flow rate in order to backwash successfully as it is a heavier media.

Because of its advantages we usually offer Turbidex in preference to Filter Ag.

Both medias backwash using water.

#### Arsenic

We offer a proprietary branded Bayoxide media for arsenic removal. This is the same media used by municipal water companies.

#### Taste, odour & Colour

We have different grades of carbon, the choice will be made on application. Natural charcoal is best for heavy metals and colour removal. Activated carbon from coconut shells is best for chlorine and taste removal.

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