



MANGANOX[®]

The most effective filter media for reducing iron, manganese and hydrogen sulphide.

Specifications

Natural mined Manganese Dioxide for removal of iron, manganese, hydrogen sulfide and heavy metals from drinking water



The high catalytic activity and adsorptive capacity of the media enables the processing of very high flow rates in small diameter filters, resulting in significant savings in plant size, real estate and supporting infrastructure. Unlike other traditional filter medias, the primary mechanism of removal is adsorption of the oxidized species on the external and interstitial surface of the media as opposed to physical filtration, thereby making contact time an important design consideration. Waters containing high iron and manganese concentrations can be effectively treated by increasing the contact time to yield the desired filter run interval, thereby reducing the frequency of backwash. The raw water containing the dissolved contaminants is first contacted with chlorine as the pre-oxidant, which serves to oxidize the iron and manganese and convert them to their hydroxide and oxide form respectively while also serving to maintain the media in a continuously high oxidative state. Oxidized manganese adsorbed on the surface of the media further acts to accelerate the conversion of iron to ferric hydroxide, which is also simultaneously absorbed.

For arsenic removal, the pre-oxidant converts arsenite to arsenate and iron in the water is converted to ferric hydroxide which adsorbs the arsenate to form ferric arsenate (a benign non-hazardous precipitate) which is adsorbed on the media. In iron deficient waters, iron in form of ferric chloride is added to effect the formation of Iron hydroxide. Hydrogen sulfide is readily converted to elemental sulfur to produce an odor free effluent.

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| TRADE NAME | MANGANOX |
| CHEMICAL NAME | MANGANESE DIOXIDE |
| CHEMICAL FORMULA | MnO ₂ |
| MOLECULAR WEIGHT | 86.94 |
| PHYSICAL FORM | SOLID GRANULAR |

| CHEMICAL SPECIFICATION | |
|--|--------------|
| PURITY (MnO ₂) | 75 - 80% |
| MANGANESE (Mn) | 50 - 52% |
| IRON OXIDE (Fe ₂ O ₃) | 3% (MAX) |
| SILICA (SiO ₂) | 5% (MAX) |
| ALUMINA (Al ₂ O ₃) | 2% (MAX) |
| ARSENIC (As - LEACHING) | 10 PPB (MAX) |
| ORGANIC CONTENT | NIL |

| PHYSICAL SPECIFICATIONS | |
|-------------------------|---------------------------------|
| COLOUR | BLACK / DARK GREY |
| BULK DENSITY | 1920 - 2000 Kg / m ³ |
| SPECIFIC GRAVITY | 3.8 - 4.0 |
| SIZE RANGE | 0.35 - 0.85 mm |
| UNIFORMITY COEFF. | < 1.65 |
| PRECONDITIONING | WASHED & SCREENED |
| MOISTURE | 2% (MAX) |

PACKAGING

25 KG HDPE BAGS, INSIDE-LAMINATED, MACHINE STITCHED
 PLACED ON WOODEN PALLETS WITH CARDBOARD STUFFING
 50 BAGS OR 1250 KG PER PALLET, COVERED WITH PALLET COVER

MARKING

MANGANOX, MANGANESE DIOXIDE GRANULES, NET WT. 25 KG, COUNTRY OF ORIGIN: INDIA