Purolite MZ10Plus is a catalytic media used to remove soluble iron, manganese and hydrogen sulfide during potable water treatment and pre-treatment for ion exchange resin / R.O. plants. This document answers questions related to application, operation and physical properties.
1. **What is Purolite MZ10Plus?**
   Purolite MZ10Plus is a dark- to black- colored catalytic media used to remove soluble iron, manganese, hydrogen sulfide, arsenic and radium from water supplies.

2. **What is the Purolite media made from?**
   The media is made from extremely hard silica sand coated with manganese dioxide. The silica core enables Purolite MZ10Plus to withstand waters low in silica, TDS and hardness without breakdown, while the manganese dioxide acts as a catalyst in the oxidation reduction reaction of iron and manganese.

3. **Can Purolite MZ10Plus be used in existing filters designed with other media in the market?**
   Yes. Purolite MZ10Plus can be used as a direct replacement media for all existing iron removal filters. Provisions for chlorine dosing and/or rinsing the bed with hypochlorite solution will need to be made.

4. **What are common applications for Purolite MZ10Plus?**
   Common uses for Purolite MZ10Plus include potable water treatment and pre-treatment for ion exchange resin / R.O. plants.

5. **What is the advantage of Purolite MZ10Plus in drinking water applications?**
   The nodular shape, controlled grading and durability of the media provide for excellent filtration efficiency—even after years of continuous service.

6. **What is the typical operating life of Purolite MZ10Plus?**
   Typical operating life of the media is 7 years. For drinking water applications, the media can be effective for over 10 years.

7. **What is the capacity of Purolite MZ10Plus and what is typical quality of treated water?**
   Purolite MZ10Plus has a loading capacity of 490 – 840 gm/m² of bed area. Depending on the inlet level of iron, typical treated water can have levels as low as 0.1 – 0.3 ppm to meet drinking water standards.

8. **Is any pre-conditioning of Purolite MZ10Plus required?**
   Yes, Purolite MZ10Plus requires minimal pre-conditioning. Catalytic oxidation operation involves feeding a pre-determined amount of chlorine as far upstream of the filter as possible. Continuous online dosing of hypochlorite solution facilitates activation of the media by allowing sufficient contact time. The chlorine also helps sanitize the vessel and inhibits bacterial growth. A residual chlorine level can be maintained at the outlet of the filter to maintain the media in continuously regenerated condition.

9. **What is the pre-conditioning process?**
   Backwash the media at a minimum of 12 gpm/ft² at 55°F (13°C) for up to 60 minutes. Then, for initial conditioning, mix 0.5 gallon (1.9L) of 6% household bleach or prepare 0.2 gallon (0.75L) of 12% sodium hypochlorite for every 1 ft³ (28.3 m³) of media into 6.5 gallons (25L) of water.
   
   Drain the filter to enable the addition of the diluted chlorine mix. Next, apply the dilution to the filter, allowing it to contact the media. Purolite MZ10Plus should soak for at least 4 hours. Finally, rinse until the chlorine residual is <0.2 mg/L.

10. **Can we do hot water sanitization of Purolite MZ10Plus with water at 212°F (100°C)?**
    Yes, hot water sanitization of Purolite MZ10Plus can be done at 212°F (100°C).

11. **Can we use Purolite MZ10Plus at the outlet of a solar water geyser or a hot water electric geyser?**
    Yes, the product remains effective under high temperatures.

12. **Is Purolite MZ10Plus NSF approved?**
    Yes, Purolite MZ10Plus is NSF approved.
13. Does Purolite MZ10Plus help remove H₂S in the feed water?
   Yes, Purolite MZ10Plus is very effective in removing H₂S from incoming water. The amount of chlorine dosing depends on levels of H₂S present in the feed water.

14. Is Purolite MZ10Plus effective in removing iron from waste water, where wastewater has limited or no oxygen?
   Yes, when Purolite MZ10Plus is used according to our specified process, it is very effective in removing iron and manganese from wastewater, even if the dissolved oxygen level is almost nil.

15. Is Purolite MZ10Plus effective in removing iron and hydrogen sulfide from textile effluents?
   Yes, MZ10Plus is very effective in removing the Fe and H₂S in textile wastewater. FeSO₄ is often added to effluents to break down the color. After this process, water at the outlet of the tertiary system is rich with Fe and H₂S. Fe is part of the chemical oxygen demand (COD), and sulfide acts as a reducing agent. Hypochlorite dosing will be required to maintain residual chlorine at the outlet.

16. What kind of filtration system is needed?
   Systems using either vertical or horizontal pressure filter, or gravity filters can be used.

17. Does Purolite MZ10Plus require a separate aeration tank?
   No, Purolite MZ10Plus does not require a separate aeration tank.

18. Does Purolite MZ10Plus have parameters for levels of dissolved oxygen, alkalinity, free chlorine, H₂S, TDS, or pH of water?
   For best results, Purolite recommends that water pH exceed 6.2. There are no other limitations or restrictions.

19. Would high differential pressure or high flow rate destroy Purolite MZ10Plus?
   No, Purolite MZ10Plus is very durable and will not break down with high differential pressure and flow rates. We recommend a maximum differential pressure across the bed of 0.85 Kg/cm².

20. Are there basic recommended operating conditions?
   - pH range: 6.2 – 8.5
   - Maximum operating temperature: No specific limit
   - Maximum differential pressure across the bed: 0.85 Kg/cm²
   - Backwash characteristics: 30 m³/hr/m² minimum
   - Service flow rate: 5 – 30 m³/hr/m²
   - Minimum bed depth: 700 mm (400 mm if dual media is used)

21. What are some other characteristics of the product?
   - Specific gravity: 2.4 (approximately)
   - Porosity: 0.45 (approximately)
   - Screen grade (dry): 18 x 60 mesh
   - Uniformity coefficient: <1.60

22. Is Purolite MZ10Plus available for immediate delivery?
   Yes, inventory is available with master distributors in India. Sale transaction currency will be in INR.

23. How is Purolite MZ10Plus packaged?
   The media is shipped in dry form within easy-to-handle 80 lb (40 kg) bags.

24. Can we get projections for OBR, vessel dimensions, quantity of required media, amount of hypo dosing for use of Purolite MZ10Plus media?
   Yes, Purolite can provide full technical support and detailed projections customized to your process.

25. Would trouble shooting services be available after purchase of media?
   Yes, troubleshooting services are available through Purolite as well as authorized distributors and channel partners.