

# PERMANGANATE

## Dose Optimization

PARAMETER:

—  
PERMANGANATE

Although an effective treatment aid, residual permanganate in your treated water is undesirable and often leads to consumer complaints when pink water pours out of their tap. Careful control of permanganate dosing can be achieved with real-time permanganate monitoring, resulting in many benefits including:



**REAL-TIME FEEDBACK CONTROL  
TO OPTIMIZE PERMANGANATE DOSE**



**IMMEDIATE CORRECTIVE  
ACTION TO OVER FEEDING**



**MINIMIZE RISK OF CONSUMER  
COMPLAINTS FROM "PINK WATER"**



**COMPLIANCE WITH DRINKING WATER  
STANDARDS FOR MANGANESE AND IRON**

Real Tech's permanganate monitoring solution provides continuous online measurement of residual permanganate. Our real-time solution detects permanganate at low concentrations, giving you an early warning to act before unreacted permanganate becomes a problem.

## Permanganate in Drinking Water

Permanganate is a strong oxidant commonly used in drinking water for iron and manganese removal, colour removal, taste and odor control, biological growth control and zebra mussel control. Typically, permanganate is added at the intake or early in treatment to allow enough reaction time prior to filtration.

Controlling the dose of permanganate is challenging as adding too little to the water won't achieve treatment goals while adding too much can result in unreacted permanganate, leading to pink coloration in the finished water. Unreacted permanganate can also be a possible source of manganese in finished water. Plants may rely on visual monitoring or delayed grab sample methods for permanganate residual, however detection at this point usually means the problem is well underway.

Careful control of permanganate feed can be achieved by monitoring residual permanganate concentration in real time. Early warning of over feeding will enable you to take action quickly and adjust feed rates.

## Quick & Reagent-less Permanganate Monitoring

Real Tech's permanganate monitoring solution has a very low detection limit that will provide you with an early warning of overdosing, well before pink colour is visibly detected in the water.

The Real Permanganate sensor is an optical absorbance-based instrument that uses light for measurement. Sodium or potassium permanganate used in drinking water is purple/violet in colour and has a distinct peak in the visible light spectrum. This enables permanganate to be measured simply and effectively, in real time, without the use of reagents.

The sensor is uniquely designed with a long path length measurement cell that improves detection and sensitivity, enabling the system to monitor permanganate accurately at the low concentrations required for drinking water applications.



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