

THIOGUARD® TST

EFFECTIVE, ENVIRONMENTALLY SAFE TOTAL SYSTEM TECHNOLOGY FOR MUNICIPAL WASTEWATER



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THIOGUARD® Newsletter Series



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THIOGUARD® TST is a non-hazardous application with no required reportable quantities (RQ = None)

THIOGUARD.COM



**OWNED, MINED
AND PRODUCED
IN THE USA**

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THIOGUARD IS THE RIGHT TOOL FOR WASTEWATER TREATMENT APPLICATIONS.

ONE UNIQUE PRODUCT, MANY PROBLEMS SOLVED



Harness the versatility and power of Thioguard for optimal treatment and maximum resource recovery, in addition to odor control and corrosion prevention.

THIOGUARD BENEFITS IN NUTRIENT REMOVAL AND RECOVERY

Phosphorus-Removal | Nitrogen-Removal

| HOW IT WORKS | WHAT TO LOOK FOR | HOW TO MEASURE | OPTIMAL RESULT/BENEFIT/ SAVINGS |
|--|---|---|--|
| <ol style="list-style-type: none">Increases pH and buffering alkalinityNutrient enhancement of Phosphorus uptakeEnhanced P-strip release | <ol style="list-style-type: none">Increased Biological Nutrient Removal pH and AlkalinityReduced Total Phosphorus and Nitrogen | <ol style="list-style-type: none">pH MeterAlkalinity TitrationPhosphorus and Nitrogen Balance | Improved Phosphorus uptake and condition for Phosphorus wasting or recovery through side-stream treatments |

Thioguard added at the plant or collection system is the only odor control strategy that can have positive influence on a BNR process.

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THIOGUARD BENEFITS IN BIOSOLIDS TREATMENT

Digestion | CH₄ Methane Production | Enhanced Dewatering

| HOW IT WORKS | WHAT TO LOOK FOR | HOW TO MEASURE | OPTIMAL RESULT/ BENEFIT/ SAVINGS |
|--|--|---|--|
| <ol style="list-style-type: none">1. Increases pH and buffering alkalinity2. Stabilizes and enhances volatile acid and methane generation | <ol style="list-style-type: none">1. Increased digester pH and alkalinity2. Higher Alkalinity/Volatile Acid ratio | <ol style="list-style-type: none">1. pH Meter2. Alkalinity Titration3. Volatile Acid Analysis4. pH profile across process basins | <ol style="list-style-type: none">1. Higher Digester Gas quantity and quality2. Increased Digester Load Capacity3. Lower Solids Disposal Costs |

Thioguard added to the collection system or sludge digestion process improves the digestion and dewatering processes at the Wastewater Treatment Plant.

THIOGUARD BENEFITS IN WASTEWATER TREATMENT

BOD (Biological Oxygen Demand) | TSS (Total Suspended Solids)
NH₃ (Ammonia) | Phosphorus | FOG

| HOW IT WORKS | WHAT TO LOOK FOR | HOW TO MEASURE | OPTIMAL RESULT/ BENEFIT/ SAVINGS |
|--|---|--|--|
| <ol style="list-style-type: none">1. Increases wastewater pH2. Sustainable non-carbonate alkalinity3. Provides nutrient enhancement for biological efficiency4. Improves nitrification efficiency | <ol style="list-style-type: none">1. Increased Bioreactor Aeration Basin pH2. Increased Bioreactor Alkalinity3. Lower SVI (Sludge Volume Index) | <ol style="list-style-type: none">1. Basin pH profile2. Soluble Alkalinity3. Higher F/M (Food/Mass) Ratio4. Lower Mixed Liquor Suspended Solids5. Blower Run Times | <ol style="list-style-type: none">1. Increased Oxygen Uptake Rate2. Lower Aeration Energy Costs3. Lower SVI4. Lower Solids Production |

Thioguard is the only liquid phase treatment, when used in the collection system, that can enhance the treatment process at the Wastewater Treatment Plant.

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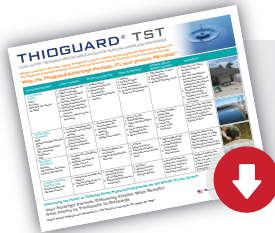
EFFECTIVE, ENVIRONMENTALLY SAFE TOTAL SYSTEM TECHNOLOGY FOR MUNICIPAL WASTEWATER

THIOGUARD BENEFITS IN YOUR COLLECTION SYSTEM

Odors | Corrosion | FOG (Fats, Oil, Grease) | Air Relief

| HOW IT WORKS | WHAT TO LOOK FOR | HOW TO MEASURE | OPTIMAL RESULT/BENEFIT/ SAVINGS |
|--|--|--|--|
| <ol style="list-style-type: none">1. Increases wastewater pH2. Buffers long-range3. Absorbs and complexes odor compounds4. Facilitates chemical and biological breakdown of FOG5. Minimizes gas evolution6. Neutralizes acid/ prevents corrosion7. Reduces collection system gas binding | <ol style="list-style-type: none">1. Reduced odors2. Increased Surface pH3. Reduced FOG accumulations4. Decreased Pump Station runtimes | <ol style="list-style-type: none">1. Odalogs2. Surface pH paper3. Visual Inspection4. Pump out frequency5. Air Relief Valve Discharge Volume and Frequency | <ol style="list-style-type: none">1. 95% reduction in odors2. Surface pH >43. Minimal/No FOG4. Reduced PS Energy Costs |

Customers can "dial in" the desired level of treatment. Optimal acid neutralization prevents premature infrastructure corrosion and/or replacement, and adds numerous benefits downstream. Thioguard can reduce FOG related SSOs. Thioguard has been proven to reduce pumping costs on long force mains.



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Premier Magnesia, LLC is a global market leader in magnesia-based products and solutions.



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