

## THIOGUARD OX – A THIOGUARD® INNOVATION

All the Benefits of Thioguard,  
Now Available in Powdered Form

### A SAFER, MORE COST-EFFECTIVE ALTERNATIVE TO BULK HYDRATED LIME, QUICKLIME OR SODA ASH

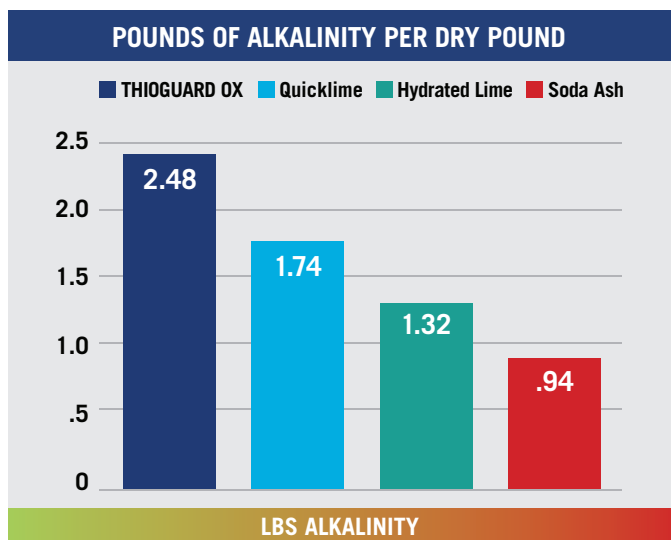
**THIOGUARD OX** is a proven, premium quality, technical-grade magnesium oxide, manufactured through a proprietary process for application in municipal water and wastewater treatment. **THIOGUARD OX** is mined and processed exclusively by Premier Magnesia, LLC in the USA.

### NO CAPITAL EXPENDITURES NECESSARY

Your existing storage and feed system can be used to deliver **THIOGUARD OX** without costly modifications. You can begin reaping the benefits of **THIOGUARD OX** without up-front costs.

### SUPERIOR HANDLING

**THIOGUARD OX** is manufactured to an exacting particle size and specific surface area to provide the highest reactivity, and superior handling. This provides consistent performance, LESS CAKING AND “CLUMPING”, and better dispersion, which is critical to treatment plant operations, while reducing sludge generation.



### POUND FOR POUND THIOGUARD OX DELIVERS MORE ALKALINITY

**THIOGUARD OX** has the highest available surface area and reactivity as a result of Premier's proprietary manufacturing process. Wastewater treatment is performed in a sensitive biological environment wherein operation is performed at near-neutral or slightly alkaline conditions, requiring the highest reactive grade magnesium oxide available. Less reactive grades are incapable of sufficiently neutralizing acid generated in these environments, and will pass through the system unused or accumulate as sludge. **THIOGUARD OX** results in improved plant performance and reduced operating costs.



## MULTIPLE BENEFITS & TOTAL SYSTEM TREATMENT

**THIOGUARD OX** is available at distribution terminals throughout the USA, and delivers Total System Treatment with multiple additional benefits. When compared to quicklime, there is no “slaking” required. **THIOGUARD OX** is the practical choice that provides a safer, more cost-effective alternative.

## LIME SOFTENING/SLUDGE GENERATION

Lime produces calcium carbonate in wastewater, which acts as a coagulant for hardness and particulate matter. Lime may potentially increase the volume of waste sludge up to 50 percent.

## THE PRACTICAL CHOICE: THIOGUARD OX

EFFECT	THIOGUARD OX	HYDRATED LIME	QUICKLIME	SODA ASH
Sustainable pH	YES	NO	NO	NO
pH Spikes Above 9.0	NO	YES	YES	YES
Alkalinity Supplements Above 25 mg/L without pH Spikes	YES	NO	NO	NO
Produces Sludge	NO	YES	YES	NO
Metabolic Stimulant	YES	NO	NO	NO
Enhances Clarification and Dewatering	YES	YES	YES	NO
Improves Cake Solids	YES	MAYBE	MAYBE	NO
<b>HAZARDOUS TO HANDLE</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>

## THIOGUARD OX IS CLEARLY SUPERIOR TO HYDRATED LIME, QUICKLIME AND SODA ASH

**THIOGUARD OX**, hydrated lime, quicklime, and soda ash each have different physical and chemical properties that affect how each reacts with the systems to which they are added.

COMPARISON GUIDE FOR COMMON ALKALIS					
ALKALI	MAGNESIUM OXIDE	MAGNESIUM HYDROXIDE	CALCIUM OXIDE	CALCIUM HYDROXIDE	SODIUM CARBONATE
Chemical Formula	MgO	Mg(OH) <sub>2</sub>	CaO	Ca(OH) <sub>2</sub>	Na <sub>2</sub> CO <sub>3</sub>
Lbs Dry Product required to Nitrify 1 Lb Ammonia	2.86	4.14	4.0	5.28	7.57
Molecular Weight	40	58	56	74	106
Common Name	<b>THIOGUARD OX</b>	Mag. Hydroxide, Milk of Magnesia	Lime, Quicklime	Hydrated Lime, Slaked Lime, Milk of Lime	Soda Ash
Alkalinity, Lbs CaCO <sub>3</sub> Equivalent Per Lbs Dry Solids	2.48	1.68	1.74	1.32	.94

## VISIT [THIOGUARD.COM](http://THIOGUARD.COM) TO LEARN HOW THIOGUARD OX CAN IMPROVE PLANT PERFORMANCE AND REDUCE OPERATING COSTS



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

**THIOGUARD OX** is a registered trademark of Premier Magnesia, LLC



OWNED, MINED AND  
PRODUCED IN THE USA  
ISO 9002:1994

**THIOGUARD.COM**

