

**MAGNESIUM HYDROXIDE SLURRY**

INVITATION TO BID – REQUISITION NO. 2019-1121

ADDENDUM NO. ONE (1) – DATED OCTOBER 31, 2019

The information given in this addendum is in addition to or supersedes conflicting information to the invitation to bid and is hereby made a part of the request.

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The bid document has been updated to include the attached specification sheet, which must be completed and submitted along with the bid form.

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A question was asked about the projected quantity.

Use of magnesium hydroxide is new for the Orange Beach Wastewater Treatment Plant, so limited historical usage data is available. It is roughly estimated that the City will purchase around 45,000 gallons annually, but the City reserves the right to purchase more or less than the estimated quantity.

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Please be sure to acknowledge receipt of this addendum on your bid form.

## Magnesium Hydroxide Slurry - Wastewater Treatment Chemical

Parameters	City's Specifications		Manufacturer's Product Data	
	Maximum	Minimum	Maximum	Minimum
<b>Slurry Basis</b>				
Mg(OH) <sub>2</sub> contained lb/gal	8.0	6.9		
<b>Dry Solids Basis</b>				
Mg(OH) <sub>2</sub> , wt%	<del>                    </del>	98%	<del>                    </del>	
<sup>1</sup> CaO, wt%	1.5%	<del>                    </del>		<del>                    </del>
SiO <sub>2</sub> , wt%	0.30%	<del>                    </del>		<del>                    </del>
Fe <sub>2</sub> O <sub>2</sub> , wt%	0.21%	<del>                    </del>		<del>                    </del>
<sup>2</sup> Median Particle Size, Micron	5.0	1.0		
Specific Surface Area, m <sup>2</sup> /g	20	8		
Lbs. Alkalinity/Gallon	<del>                    </del>	11	<del>                    </del>	
% Passing 325 Mesh Sieve	<del>                    </del>	99%	<del>                    </del>	
<sup>3</sup> Stabilized Residual Test, Grams	4.0	<del>                    </del>		<del>                    </del>
NaOH Equivalent	1 lb Equivalent to 0.73 lb Mg(OH) <sub>2</sub>		1 lb = ____ lb Mg(OH) <sub>2</sub>	
Na <sub>2</sub> CO <sub>3</sub> Equivalent	1 lb Equivalent to 0.55 lb Mg(OH) <sub>2</sub>		1 lb = ____ lb Mg(OH) <sub>2</sub>	
<b>Physical Properties of Slurry</b>				
Solids, Weight Percent %	65	54		
<sup>4</sup> Viscosity, cps	500	100		
<p><sup>1</sup> This requirement is to prevent water softening and prevent the participation of magnesium and calcium that results in sludge production and reduced reactivity/reduced alkalinity.</p> <p><sup>2</sup> This ensures sufficient surface area for reactivity within the wastewater.</p> <p><sup>3</sup> TP-112 14 Hour Stability Residual Test; this is to prevent feed tank handling and WWTP problems associated with instability of low grade magnesium hydroxide slurry produced from uncalcined brucite, uncalcined dolomite, dolime, brucitic marble, or any caustic-enhanced or lime-enhanced versions of the former.</p> <p><sup>4</sup> Brookfield RVT Viscometer #3 spindle @ 100rpm, 60 seconds at 70°F.</p>				