

## Industrial Lime #1

Alden, IA

Ind. Lime #1 is a small particle sized granular CaCO<sub>3</sub> product processed from quarried high calcium limestone in Alden, IA with minimum calcium content of 38%.



## Particle Size Measurement -- Laser Diffraction

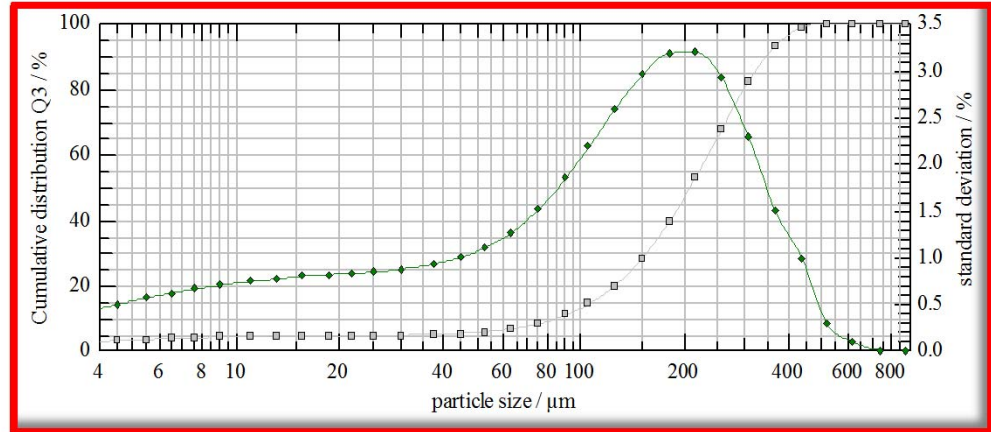
Average Particle Size = **207.17** microns

Ave particle size: half of the particles are above and half are below this point on the "S" shaped cumulative distribution graph.

**% Ca 39.27**  
**% CaCO<sub>3</sub> 98.18**

Typical Analyses		
Magnesium (Mg)	0.118	%
Silicon (Si)	0.07	%
Silica (SiO <sub>2</sub> )	0.14	%
Iron (Fe)	0.145	%
Sodium (Na)	0.021	%
Potassium (K)	0.009	%
Sulfur (S)	0.888	%
Manganese (Mn)	0.015	%
Phosphorus (P)	0.007	%
Chloride (Cl)	0.004	%
Chromium (Cr)	7	ppm
Aluminum (Al)	107	ppm
Boron (B)	10	ppm
Barium (Ba)	< 5	ppm
Lead (Pb)	< 5	ppm
Nickel (Ni)	< 5	ppm
Cobalt (Co)	< 5	ppm
Copper (Cu)	29	ppm
Zinc (Zn)	118	ppm
Cadmium (Cd)	< 5	ppm
Iodine (I)	2	ppm
Arsenic (As)	< 5	ppm
Beryllium (Be)	< 5	ppm
Selenium (Se)	0.252	ppm
Mercury (Hg)	< 0.050	ppm
Vanadium (V)	< 5	ppm
Molybdenum (Mo)	< 5	ppm
Fluorine (F)	< 1	ppm
Bismuth (Bi)	< 5	ppm
Antimony (Sb)	< 5	ppm

% Acid Solubility	
Average	<b>55.85</b>
Maximum	<b>60.83</b>
Minimum	<b>47.98</b>
H <sub>2</sub> O	< 0.5%
Bulk Density (lbs./cu.ft.)	
Loose:	<b>81</b>
Packed:	<b>89</b>



**μm = micron (1/1000 of a millimeter)**

Particle Distribution--U.S. Screen Comparison				
40 X 200 mesh product				
Micron Size	U.S. Screen	% Retained	% Passing	
2000	<b>10</b>	0.0	100.0	
1700	<b>12</b>	0.0	100.0	
1400	<b>14</b>	0.0	100.0	
1180	<b>16</b>	0.0	100.0	
1000	<b>18</b>	0.0	100.0	
710	<b>25</b>	0.0	100.0	
500	<b>35</b>	0.3	99.7	
425	<b>40</b>	1.9	97.8	
355	<b>45</b>	6.5	91.4	
300	<b>50</b>	10.6	80.8	
212	<b>70</b>	28.9	51.9	
180	<b>80</b>	12.5	39.4	
150	<b>100</b>	11.3	28.1	
75	<b>200</b>	20.0	8.1	
10	<b>Pan</b>	8.1		
		100.0		

cumulative distribution (laser diffraction)			
Microns	% Passing	Microns	% Passing
875	100	52.5	5.56
735	100	45	5.07
615	99.99	37.5	4.71
515	99.94	30	4.49
435	98.59	25	4.40
365	93.17	21.5	4.39
305	82.20	18.5	4.39
255	67.62	15.5	4.38
215	53.07	13	4.34
180	39.39	11	4.24
150	28.07	9	4.06
125	19.71	7.5	3.83
105	14.13	6.5	3.61
90	10.74	5.5	3.32
75	8.10	4.5	2.93
62.5	6.49		