

**CALCIUM PRODUCTS INC
2520 N LOOP DR STE 7100
AMES IA 50010-8279**

REPORT OF ANALYSIS

For: (7294) CALCIUM PRODUCTS INC
FERTILIZER ANALYSIS
P25168

Analysis	Level Found		Reporting			Analyst- Date	Verified- Date
	As Received	Units	Limit	Method			
Sample ID: AGL00315 Lab Number: 2430159 Date Sampled: 2015-08-05							
Moisture	4.3	%	0.1	SM 2540 G-(1997) *	bjs0-2015/08/11	mgn8-2015/08/13	
Calcium (total)	19.6	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13	
Magnesium (total)	12.2	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13	
Total neutralizing value (CaCO3 eq)	94.8	%	0.1	AOAC 955.01 *	acm2-2015/08/11	mgn8-2015/08/13	
ECCE	63.8	%	0.1	Calculation *	Auto-2015/08/11	Auto-2015/08/13	
% passing 4 sieve	99.9	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 8 sieve	94.3	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 60 sieve	48.4	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 20 sieve	69.2	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 30 sieve	63.8	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 80 sieve	42.1	%	0.0	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 100 sieve	40.1	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 200 sieve	28.5	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
Sample ID: AGL00415 Lab Number: 2430160 Date Sampled: 2015-08-05							
Moisture	5.5	%	0.1	SM 2540 G-(1997) *	bjs0-2015/08/11	mgn8-2015/08/13	
Calcium (total)	16.9	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13	
Magnesium (total)	9.74	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13	
Total neutralizing value (CaCO3 eq)	81.1	%	0.1	AOAC 955.01 *	acm2-2015/08/11	mgn8-2015/08/13	
ECCE	51.3	%	0.1	Calculation *	Auto-2015/08/11	Auto-2015/08/13	

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Sample ID: AGL00415	Lab Number: 2430160 (con't)					
% passing 4 sieve	99.4	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 8 sieve	90.7	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 60 sieve	43.5	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 20 sieve	64.8	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13
% passing 30 sieve	59.6	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13
% passing 80 sieve	38.8	%	0.0	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 100 sieve	37.4	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 200 sieve	30.8	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
Sample ID: ALDEN P	Lab Number: 2430161 Date Sampled: 2015-08-05					
Moisture	0.1	%	0.1	SM 2540 G-(1997) *	bjs0-2015/08/11	mgn8-2015/08/13
Calcium (total)	39.2	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13
Magnesium (total)	0.13	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13
Total neutralizing value (CaCO ₃ eq)	97.1	%	0.1	AOAC 955.01 *	acm2-2015/08/11	mgn8-2015/08/13
ECCE	95.6	%	0.1	Calculation *	Auto-2015/08/11	Auto-2015/08/13
% passing 4 sieve	100	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 8 sieve	99.9	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 60 sieve	97.5	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13
% passing 20 sieve	99.8	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13
% passing 30 sieve	99.7	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13

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Sample ID: ALDEN P	Lab Number: 2430161 (con't)						
% passing 80 sieve	94.3	%	0.0	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 100 sieve	92.4	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 200 sieve	72.9	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
Sample ID: ALDEN 98 G	Lab Number: 2430162		Date Sampled: 2015-08-05				
Moisture	0.5	%	0.1	SM 2540 G-(1997) *	bjs0-2015/08/11	mgn8-2015/08/13	
Calcium (total)	36.4	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13	
Magnesium (total)	0.12	%	0.01	MWL ME PROC 26 *	cjm4-2015/08/10	mgn8-2015/08/13	
Total neutralizing value (CaCO ₃ eq)	93.8	%	0.1	AOAC 955.01 *	acm2-2015/08/11	mgn8-2015/08/13	
ECCE	93.2	%	0.1	Calculation *	Auto-2015/08/11	Auto-2015/08/13	
% passing 4 sieve	100	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 8 sieve	100	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 60 sieve	98.9	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 20 sieve	100	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 30 sieve	99.8	%	0.1	ASTM D 422 *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 80 sieve	96.7	%	0.0	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 100 sieve	95.1	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	
% passing 200 sieve	81.5	%	0.1	ASTM E 276-13 (mod) *	eas2-2015/08/11	mgn8-2015/08/13	

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REPORT NUMBER

15-225-4186

REPORT DATE
Aug 13, 2015
RECEIVED DATE
Aug 07, 2015

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ISSUE DATE
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Analysis	Level Found As Received	Units	Reporting Limit	Method	Analyst- Date	Verified- Date
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All results are reported on an AS RECEIVED basis.

For questions please contact:

Rob Ferris
Account Manager
rob.ferris@midwestlabs.com (402)829-9871

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P25168**Detailed Method Description(s)****SM 2540 G**

Analysis follows MWL WC 060 which is based on SM 2540 G. A sample is weighed placed in a vacuum drying oven to drive off the moisture and re-weighed. The sample is then placed in a muffle furnace at 550°C, cooled, and re-weighed. The residue remaining is the ash and the mass lost is the volatile matter.

ICP Analysis Fertilizers AOAC 985.01 (mod)

Analysis follows MWL ME 026 which is based on AOAC 985.01. Samples have been prepared using MWL WC 056 which is based on AOAC 957.02 using mineral acids and heat. Sample analysis involves moving the sample extract into the ICP where it is nebulized and introduced into the high temperature plasma which energizes the electrons of the dissolved minerals/metals. As the energized electrons of the minerals/metals return to ground state, energy is released as light. The emitted wavelength(s) and light intensities are used to identify and quantitate the minerals/metals in the sample

AOAC 955.01

Analysis follows MWL WC 039 which is based on AOAC 955.01. A sample is treated with an excess of acid and then back-titrated with a known base to a phenolphthalein end point

Calculation

Analytical results are entered into applicable formulas to provide a calculated result which is reported.

Wet Sieve

Sample analysis follows MWL WC 070 which is based on ASTM E 276. A known mass of a solid is obtained and a pre-determined set of sieves obtained. The sample is placed on the upper most (largest screen size) and the sample washed with water to wash the materials through the sieves. The material retained on the individual sieves is removed and weighed and the percent of the total passing through the sieve is calculated and reported.

ROTAP 2 MIN

Sample analysis follows MWL PR 093 which is based on ASTM D 422. A known mass of sample is placed on one or more sets of standard sieves and the stack shaken for an established period of time. After shaking, the material retained on a specific sieve is weighed. The result can be reported as the amount retained on a sieve or passing through a sieve.

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For: (7294) CALCIUM PRODUCTS INC
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Fertilizer Prep AOAC 957.02

Samples are prepared using a combination of nitric acid and heat. The heating takes place in a block digester

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