REPORT NUMBER

#### 16-060-4179 v2 REPORT DATE SEND TO Mar 08, 2016 7294 RECEIVED DATE Feb 24, 2016





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# **REPORT OF ANALYSIS**

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

For: (7294) CALCIUM PRODUCTS INC AG LIME

	Level Found		Reporting		Analyst-	Verified-
Analysis	As Received	Units	Limit	Method	Date	Date
Sample ID: 1 Lab Number: 2496767	Date Sampled: 2016-02-17	,				
Moisture	3.6	%	0.1	SM 2540 G-(1997) *	bjs0-2016/02/25	mgn8-2016/02/29
Calcium (total)	21.6	%	0.01	MWL ME PROC 26 *	cvs7-2016/02/25	mgn8-2016/02/29
Magnesium (total)	12.2	%	0.01	MWL ME PROC 26 *	cvs7-2016/02/25	mgn8-2016/02/29
Total neutralizing value (CaCO3 eq)	99.3	%	0.1	AOAC 955.01 *	acm2-2016/02/26	mgn8-2016/02/29
ECCE	56.0	%	0.1	Calculation *	Auto-2016/02/26	Auto-2016/02/29
% passing 4 sieve	99.6	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/02/26	mgn8-2016/02/29
% passing 8 sieve	86.5	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/02/26	mgn8-2016/02/29
% passing 30 sieve	50.8	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/02/26	mgn8-2016/02/29
% passing 60 sieve	34.2	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/02/26	mgn8-2016/02/29
% passing 100 sieve	26.8	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/02/26	mgn8-2016/02/29
% passing 200 sieve	19.4	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/02/26	mgn8-2016/02/29
% retained pan	19.4	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/02/26	mgn8-2016/02/29

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.

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

	Level Found	Reporting		An	alyst-	Verified-	
Analysis	As Received	Units	Limit	Method	Da	te	Date

This report was reissued on 2016-03-08 10:31:47 by mjs5 for the following reason: report format.

All results are reported on an AS RECEIVED basis.

For questions please contact:

Rob Ferris Account Manager raf4@midwestlabs.com (402)829-9871

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## **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.

### Fertilizer Prep AOAC 957.02

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

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