

**Certificate of Analysis
Part No. B2381
Carbon and Sulphur in
Limestone Standard**

Certificate Number 616B
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% Carbon
Mean = 2.81
Standard Deviation = 0.05
Expanded Uncertainty = 0.10
(k=2, 95% confidence) (n=73)

%Sulphur
Mean = 0.027
Standard Deviation = 0.005
Expanded Uncertainty = 0.010
(k=2, 95% confidence) (n=85)

The intended use is for Carbon and Sulphur determination using induction and resistance type combustion furnaces with infra-red detection. Accelerants like vanadium pentoxide (V_2O_5) were used in the resistance furnace. Tungsten metal and iron chip were used in the induction analysis.

Standards Employed for traceability

NCS	DC28001 (S), DC73326 (C/S), DC28008 (S), DC14014a (S)
NIST	1D (C)
ALPHA	AR4013lot51999, AR4014lot42899, AR4012lot52199, AR4006lot411B

Notes

The mean analytical values were derived by data sets showing trace-ability to the above mentioned NMI and Alpha standards, and reported in mass fraction. The precision values represent the estimated uncertainty derived from the data sets and may not represent your testing capabilities. Refer to your test method or instrument manufacturer for the expanded method derived uncertainty if needed.

There were limited primary standards of this type of matrix available at the time of certification. Sample size and minimum sample size for this data was 300mg nominal. Refer to your instrument manufacturer for typical sample analysis size. This bottle contains 25g of fine powder to be used directly from the bottle without preparation, and has an indefinite shelf life.

The material used in production of this standard was sampled in accordance with ARI 032. The samples used for round robin testing were selected in accordance with ARI 014. The above values relate only to the material used to produce this standard.

Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event shall Elemental Microanalysis Ltd be liable for incidental or consequential damages.

This is a Certified Reference Material (Working Standard)), and is traceable to the above-mentioned standard. For good laboratory practice it is recommended that all standards be verified prior to use.

Elemental Microanalysis Limited

Certified December 28, 2016