

# Certificate of Analysis

Glutamic Acid OAS  
CatNo B1405 - CertificateNo 406625

## General

This Organic Analytical Standard (OAS) consists of a purified and homogeneous batch of Glutamic Acid for use as a routine working microanalytical standard for the determination of Carbon, Hydrogen and Nitrogen.

## Certified Values and Uncertainty

The uncertainty in the certified value is expressed as expanded uncertainty, U, at 95% confidence and is calculated in accordance with ISO/IEC17025 according to GUM (Guidelines to Uncertainty in Measurement). Confidence limits include those due to sampling variation, weighing, calibration and measurement errors. The certified values are based upon the results of 15 determinations.

The certified values for Carbon, Hydrogen and Nitrogen were determined by elemental analyser calibrated to Cystine 143d from National Institute of Standards and Technology (NIST), Maryland, USA.

<i>Element</i>	<i>Certified Value</i> (% w/w)	<i>Uncertainty</i> (+/- %)	<i>Theoretical</i> (%w/w)
Carbon	40.92	0.21	40.81
Hydrogen	6.16	0.06	6.12
Nitrogen	9.57	0.10	9.52

## Expiration of Certification

The certification of this OAS is valid until 29-Sep-27 within the measurement uncertainties specified.

## Storage and Use

This OAS should be stored at temperatures between 20°C to 25°C and should be kept tightly sealed away from light and moisture. It is non-hygrosopic under normal conditions and can be used without preliminary drying.

## Certification Information

The technical aspects involved in the preparation, certification and issuance of this (In)Organic Analytical Standard (IAS/OAS) were carried out at Elemental Microanalysis Limited, Okehampton, Devon, EX20 1UB, UK, Tel +44 1837 54446, Fax +44 1837 54544, Email [info@microanalysis.co.uk](mailto:info@microanalysis.co.uk).

for and on behalf of  
Elemental Microanalysis Limited

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