

EnviroNote 1130 - June 2023

# Analysis of Total Sulfur in Soils by LECO Combustion IR in Environmental Samples



**The Eurofins Environment Testing Melbourne laboratory is now proudly NATA accredited for determination of Total Sulfur in Soils by LECO Combustion IR (Infrared Light).**

Sulfur is an important industrial chemical that is used in a variety of applications, including the production of fertilisers, chemicals, and petroleum products. LECO is a well-known manufacturer of analytical instruments and equipment, including instruments for the analysis of sulfur content in various materials. Total soil sulfur (including sulfate and sulfide) is determined by the combustion of a ceramic boat containing a sample of known mass and combustion accelerant (vanadium pentoxide) at 1350°C in a stream of O<sub>2</sub>, releasing the sulfur and converting it to sulfur dioxide (SO<sub>2</sub>). Any water vapour generated is removed, and the resulting gases are collected and equilibrated.

Eurofins Environment Testing is able to report levels of sulfur down to 0.01% or 100 mg/kg on a dry weight basis. Sulfur content in soils is important in characterising land used for agriculture in terms of the quality of the soil, as well as acid sulfate soils assessment.

Sulfur is an essential plant nutrient. Arable land should be tested for sulfur content to determine viability for crops. Sulfur content in ore during

mining and extraction processes to extract metals is important to control metallurgical process kinetics and to monitor and control process waste. Metal sulfides are ideal as they are electrically conducting and will therefore allow electrochemical reactions to recover the desired metals.

LECO is a widely used technique for the determination of total sulfur because it is fast, accurate, and precise. It involves combustion of the sample in an oxygen-rich environment, followed by detection of the sulfur dioxide produced. The amount of sulfur dioxide produced is directly proportional to the amount of sulfur in the sample.



The LECO Combustion IR can report levels of sulfur down to 0.01% or 100 mg/kg

**Contact our Expert Teams Today**

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Our laboratories are proudly accredited for a wide range of organic and inorganic chemistry analyses and microbiological testing.