

# Separation Science & Thermal Analysis Section (SS & TAS), ACD

## Elemental Analyser

**Instrument** : Eurovector – EA 3000  
**Method** : Combustion & GC detection  
**Range (at 500 µg)** : C, H, N, S, O - 0.01% – 100%  
**Repeatability C, H, N, S and O** : 1.6, 0.1, 2.0, 1.5 and 0.8%  
**Sample size** : 500µg to 2500µg  
**Minimum detection limit** : 100µg

Samples are taken in tin containers and combusted at 9000C in presence of limited quantity of oxygen (99.995%pure) and the gases formed after oxidation and reduction are separated by Porapak QS and determined by TCD kept at 1150C. High purity helium is used as carrier gas. For oxygen estimation samples are taken in silver containers and pyrolysed at 11000C and formed gases purified by passing through filters and separated by a molecular sieve 5A column and detected by TCD kept at 900 C. Both solid as well as liquid samples can be analysed.

### Types of sample analysed.

Organo metallic compounds, Masonite, Poly aniline, pea powder, Ammonium thorium carbonate, Manure and soil samples, Resin and Jute etc.

