

The LONESTAR™ spectrometer is a powerful chemical monitor suitable for fast, accurate, real-time identification and monitoring of taints in final product, packaging materials and in storage and handling facilities.

Incorporating Owlstone's proprietary FAIMS technology, the fully portable self contained instrument offers the flexibility to provide both rapid alerts and detailed sample analysis.

- Measures product and ingredient quality in < 2 mins
- Detects concentrations as low as 10 ppt
- Fully portable device for point-of-use measurement
- User reprogrammable for different taints or markers

Tribromoanisole (TBA) has been identified as a cause of contamination within the food and pharmaceutical industries, in some cases leading to product recalls. Imparting moldy, musty odors to the product, TBA has been linked to customer complaints of nausea, stomach pains, vomiting and diarrhea.

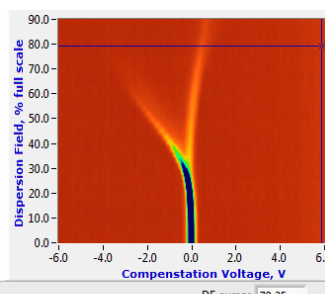
TBA is the product of a reaction between tribromophenol or TBP (commonly present in wood preservatives, fungicides and flame retardants) and natural microbial activity. Once present, TBA rapidly spreads to contaminate plastics, paper, board, wood and other structures, thus transferring easily to contained products.

Rapid, accurate detection of TBA and TBP is therefore critical in the identification and isolation of contaminated material from the production and distribution process.

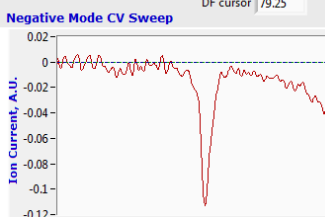
Providing real-time screening in a portable, easy-to-use unit, the LONESTAR™ is capable of rapid, highly sensitive and selective detection of both TBA and TBP.

The LONESTAR™ generates a precise, repeatable reading of contamination level in a single, rapid measurement, eliminating the risks associated with subjective and off line measurement methods.

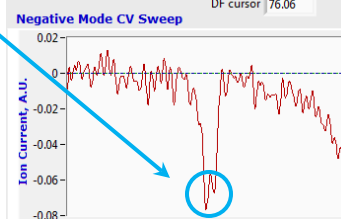
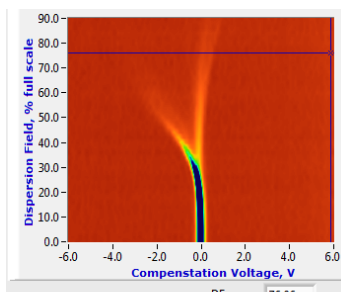
TBA in cardboard



Spectra generated in headspace of clean cardboard sample

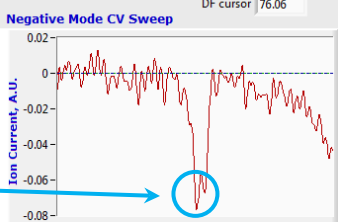
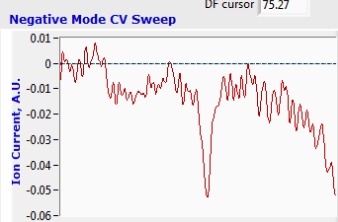
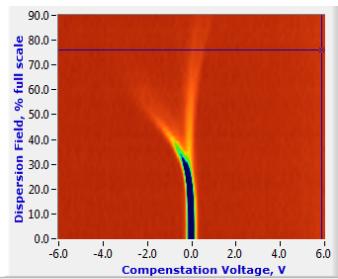
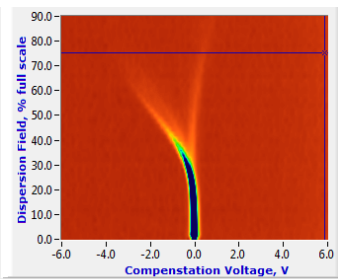


Spectra generated in headspace of TBA contaminated cardboard at <100ppt



TBA in wood

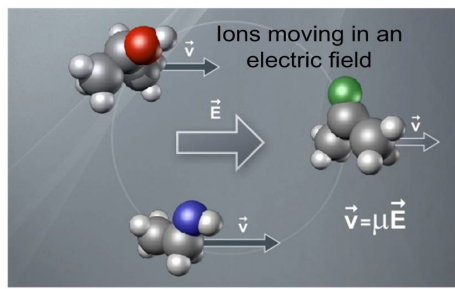
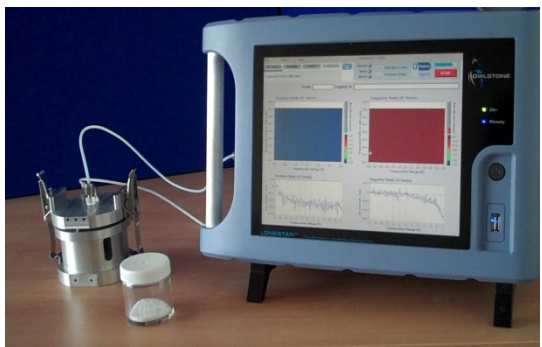
Spectra generated in headspace of clean wood sample



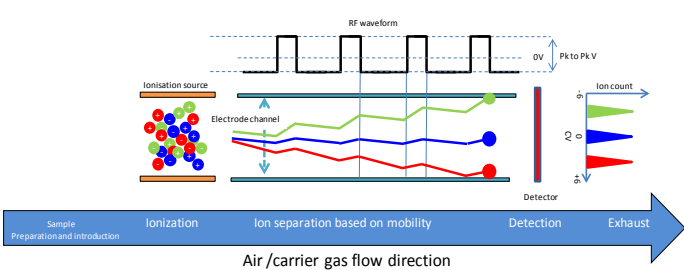
Spectra generated in headspace of TBA contaminated wood at 50ppb



Owlstone's modular sampling systems facilitate the screening of a wide variety of samples including whole bottles, final product, packaging and processing materials.



Operating Principle



Field Asymmetric Ion Mobility Spectrometry (FAIMS)- is a novel variant of Ion Mobility Spectrometry- which is a proven method for the trace detection of VOCs in a variety of security and process control applications. FAIMS produces a spectrum based on the differential ion mobility of each chemical present in the surrounding air. This method is similar in principal to a quadrupole mass spectrometer in that both a DC field and a RF field are utilized to separate ions, the difference being is that FAIMS does this at atmospheric pressure using the ions differential mobility parameter for separation and identification where as MS is under vacuum and uses the ion's mass to charge ratio for separation. FAIMS yields significant selectivity without the need for a GC column enabling real-time applications and a greater level of reliability and repeatability by virtue of its solid state design.

For further information on how the LONESTAR™ spectrometer may help in your application, please contact:

US Office:
 400 Rella Boulevard
 Suite 160
 Suffern, NY 10901
 Tel: +1 845 533 4225
 Fax: +1 845 533 4232

UK Office:
 127 Cambridge Science Park
 Milton Road
 Cambridge, England
 CB4 0GD
 Tel +44 1223 428200
 Tel+ 44 1223 428201

sales@owlstonenanotech.com sales@owlstone.co.uk