

THERMAL DESORPTION COUPLED WITH GAS CHROMATOGRAPHY MASS SPECTROMETRY (TD-GC/MS)

MANUFACTURER : Markes International and Agilent Technologies

MODELS : UNITY 2 TD coupled to 7890A GC 5975C MS

Specifications

- UNITY 2 is a sample introduction system which permits to simultaneously analyse the broadest range of analytes from C2 to n-C40 and thermally labile compounds.
- 7890A GC 5975C MS are two instruments combined for the identification of organic volatile and semi-volatile compounds. Gas chromatography (GC) is used to separate the mixtures into individual components using a temperature-controlled capillary column. Mass spectrometry (MS) identifies the various components from their mass spectra.
- M-CTE250 micro-chamber/thermal extractor: four samples (chamber volume: 114 mL) can be tested simultaneously up to 250°C. Volatiles are collected on sorbent tubes for analysis by TD-GC/MS.
- Various sorbent tubes.
- NIST mass spectral library

Applications

- This analytical technique permits to identify volatile (VOC) and semi-volatile (SVOC) organic compounds released from a wide range of sample matrices.
- Material emissions (paint, coatings, adhesives...)
- Environmental (odour monitoring, indoor air quality, workplace air monitoring/industrial hygiene...)

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Example

A client has brought to the laboratory plastic trays with a strange garlic odor. The TD-GC/MS analysis has shown that this odor is most probably associated with diallyl disulphide, an organosulfur compound, present in the trays. This molecule is recognized to have a strong garlic odor.

