
Comparison of Ambient VOCs sampling techniques

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- Ambient Air Sampling
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Air Sampling Classification

- Active
- Passive
- Whole Air sampling
- Specific compound
- Sampling bag
- Canister
- Sorbent tube
- Impinger
- Direct reading

Canister



Canister

- Active / Passive sampling
- Whole air sampling
- Grab (<30 sec) / Time integrated sampling
- Suitable for lower concentration (ppt-ppb)
- 30,000 baht/can
- Stable for one month or more
- Sample Introduction
 - Preconcentrate by thermal desorption
 - Sampling to other media



Canister

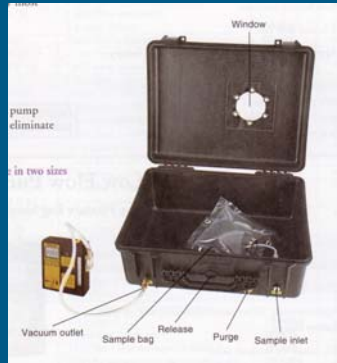
Advantage

- Qualitative / Quantitative analysis
- Possible to dilute or preconcentrate sample
- Multiple analysis can be done

Disadvantage

- Difficult leak control
- Expensive

Sampling bag



Sampling bag

- Active sampling (Positive and negative Sampling)
- Whole Air Sample
- Grab (few minute) / Time integrated sampling
- Suitable for higher concentration (ppb-ppm)
- 2,000 – 3,000 baht/bag
- Stable only few days
- Sample Introduction
 - Preconcentrate by thermal desorption
 - Directly inject
 - Sampling to other media



Sampling bag

Advantage

- Qualitative / Quantitative analysis
- Multiple analysis can be done

Disadvantage

- Easily leak while traveling
- Shortterm storage

Sorbent tube




Sorbent Tube

- Active /Passive sampling
- Time integrated sampling
- Wide range concentration depend on Sorbent capacity and rate of sampling
- Few hundreds – thousands baht/ tube
- Stable for longer time
- Sample Introduction
 - Thermal desorption
 - Solvent Extraction

Sorbent tube

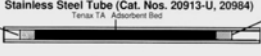
SAVE THIS DATA SHEET!
It Contains Important Information About This Product.

**Tenax® TA Thermal Desorption Tubes
Glass Tube (Cat. Nos. 20896, 20970-U, 20988)**
Tenax TA Adsorbent Bed



712-0266

Stainless Steel Tube (Cat. Nos. 20913-U, 20984)
Tenax TA Adsorbent Bed



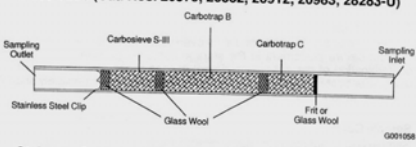
784-0837

*This material eliminates adsorbent bed shifting during use.

Tenax TA Adsorbent
Tenax TA is a porous material based on 2,6-diphenylene oxide polymer. It is used to trap volatile and semi-volatile compounds with an upper temperature limit of 320°C. The material has a low affinity for water and methanol. Typically a carbon molecular sieve is present as a backstop adsorbent when combined for very volatile analytes in a smaller

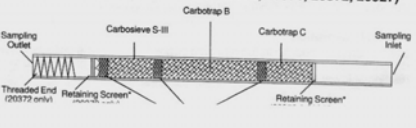
This Data Sheet Contains Important Information About This Product.

**Carbotrap 300 Multi-Bed Thermal Desorption Tubes
Glass Tube (Cat. Nos. 20379, 20382, 20912, 20983, 28283-U)**



0001058

Stainless Steel Tube (Cat. Nos. 20370, 20371, 20372, 20927)



Sorbent Tube

Advantage

- Smallest equipment used can be used as personal sample
- More Productivity
- Specific to selected compounds

Disadvantage

- Break through
- Toxic solvent used

Selection of Sampling method

- Compound of interest
- Sampling site
- Expected Concentration
- Number of Samples
- Equipment Available

Development of Environmental and emission standard of VOCs

- Preliminary DATA collection
- Qualitative and Quantitative Analysis
- Industrial estate and Bangkok vicinity
- Expect concentration : subppb
- 12 Sampling site per month
- GC-MS + Canister preconcentrator