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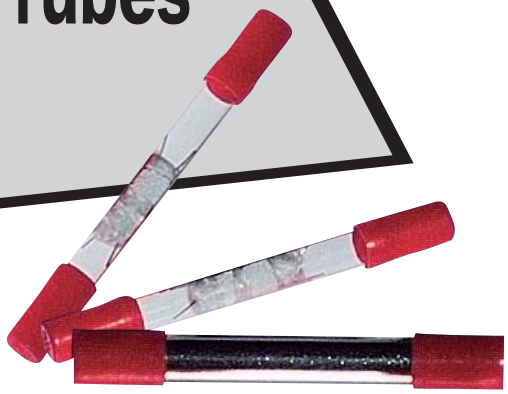
Thermal Desorption Sorbent Tubes

For Sub-ppb VOC Measurements



- **High sensitivity**
- **High recovery**
- **Reusable**

Thermal Desorption

SKC sorbent technology research has produced superior materials for the collection of organic compounds for thermal desorption.

Thermal desorption techniques offer the advantage of greatly improved analytical sensitivity. Because a solvent is not used, the collected sample is not diluted and, in most cases, analytical recovery is so close to 100% that desorption efficiency corrections are not required.

Sorbents

To be suitable for thermal desorption, sorbents must meet exacting specifications that include:

- Low contaminant background
- High thermal stability
- Sufficient adsorptive strength to retain components of interest, but release them quickly when heat is applied

Recent developments in sorbent technology have provided some superior materials for the collection of organic compounds for thermal desorption.

Anasorb® 747 *(20/40 mesh size and 980 m^2/gm surface area)*
This beaded active carbon has the capacity for organic vapors similar to petroleum-based and coconut-shell charcoals. It also can be used to sample nonpolar organic compounds.

Anasorb GCB1 *(20/40 mesh size and 100 m^2/gm surface area)*
Anasorb Graphitized Carbon Black 1 (GCB1) has a moderate surface area and is equivalent to Carbopack B (60/80). This sorbent has proven to be valuable for sampling compounds of intermediate to high volatility.

Anasorb GCB2 *(20/40 mesh size and 10 m^2/gm surface area)*
This sorbent has a low surface area and is equivalent to Carbopack C (60/80). Anasorb GCB2 is useful in collecting semi-volatile organic compounds (SVOCs).

Carbosieve S-III *(60/80 mesh size and 975 m^2/gm surface area)*
This carbon-based molecular sieve has properties similar to the obsolete Anasorb CMS and replaces it in SKC thermal desorption tubes. Carbosieve S-III has a high capacity/breakthrough volume for small molecules and is moderately hydrophilic. It can be used for the lower boiling compounds such as halogenated hydrocarbons and alcohols.

Chromosorb® 106 *(60/80 mesh size and 700 to 800 m^2/gm surface area)*
A porous polymer sorbent, Chromosorb 106 is used to trap low-boiling hydrocarbons, benzene, labile compounds, and volatile oxygenated compounds. This hydrophobic sorbent is the least polar polymer in the Chromosorb family and is functionally similar to Anasorb 727.

Tenax® TA *(20/35 or 35/60 mesh size and 30 to 35 m^2/gm surface area)*
Tenax TA is a traditional sorbent (porous polymer) for trapping medium to high boiling compounds; it is especially useful for low concentrations because of its low background. Tenax TA is hydrophobic and is suitable for use in EPA Method TO-17 or IP-1B and other thermal desorption applications.

Tenax GR *(20/35 mesh size and 35 m^2/gm surface area)*
This Tenax/graphite composite extends the range of Tenax to lower boiling compounds. It retains the ability of Tenax to be cleaned easily to a very low background and is widely used in thermal desorption applications.

SKC

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Thermal Desorption Sorbent Tubes

For Sub-ppb VOC Measurements

Thermal Desorption Tube Selection for Perkin Elmer or Markes International Thermal Desorber Tubes

SKC offers single and multiple-bed thermal desorption tubes that meet the requirements of EPA Method TO-17 for the determination of VOCs in ambient air. All SKC thermal desorption tubes are sealed with PTFE end caps and marked with a permanent serial number. SKC thermal desorption tubes are available conditioned or unconditioned. These tubes measure 0.25-inch OD x 3.5-inch length (6.35-mm OD x 88.9-mm length) and are available in glass or stainless steel. Glass transport tubes and Swagelok® fittings are available as accessory items.

Applications	Sorbent	SS Conditioned Cat. No.	SS Unconditioned Cat. No.	Glass Conditioned Cat. No.	Glass Unconditioned Cat. No.
ASTM D6196	Anasorb GCB1*	**226-356**	**226-356-UP**	—	—
ASTM D6196 MDHS 72	Tenax TA	**226-357**	**226-357-UP**	**226-360**	**226-360-UP**
ASTM D6196 MDHS 72	Chromosorb 106	**226-358**	**226-358-UP**	—	—
EPA TO-1, IP-1B	Tenax TA	**226-340**	**226-340-UP**	**226-339**	**226-339-UP**
EPA TO-2	Carbosieve S-III	**226-341**	**226-341-UP**	—	—
EPA TO-17	Anasorb GCB1*/Carbosieve S-III	**226-349**	**226-349-UP**	**226-346**	**226-346-UP**
EPA TO-17, NIOSH 2549	Anasorb GCB2*/Anasorb GCB1*/Carbosieve S-III	**226-350**	**226-350-UP**	**226-347**	**226-347-UP**
EPA TO-17	Tenax GR/Anasorb GCB1*	**226-348**	**226-348-UP**	**226-345**	**226-345-UP**

Accessories

Description	Cat. No.
Glass Transport Tubes, for 3.5-inch (88.9-mm) length tubes, pk/5	**226-300**
Swagelok Fittings, for 0.25-inch (6.35-mm) OD tubes, set of 2	**P50291**
PTFE Ferrules, set of 2	**P30121**

** Anasorb GCB1 is equivalent to Carbopack B; Anasorb GCB2 is equivalent to Carbopack C.*

SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to http://www.skcinc.com/warranty.asp.

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