

ULTRA Passive Samplers

Convenient alternative to canisters and thermal desorption (TD) tubes

► **Results comparable to canisters for EPA Method TO-15** (*see data on page 3*)

- No cleaning and certification costs
- Lower purchase price
- No expensive shipping

► **Choice of 5 sorbents for environmental air sampling, including semi-volatile organic compounds**

- Anasorb® GCB1
- Tenax® TA
- Chromosorb® 106
- Charcoal (solvent desorption)
- Carboxpack X

► **Sub-ppb level detection, highly sensitive thermal desorption**

- Rates 15 times higher than tube-style passive monitors for lower detection limits

► **Passive alternative to EPA TO-17 — no pump required**

► **Slide cover for easy on/off sampling**

► **Validated sampling (uptake) rates**

- See www.skinc.com/samplingguide/passive

► **Built-in blank/correction sorbent section available**

► **Sample integrity**

- Sonically welded housing seals the sampler
- Manufactured in an ultra-clean environment
- Extensive cleaning and QC procedures

► **Higher uptake rate than passive TD tubes** (*see data on page 3*)

► **Side-by-side comparison studies demonstrate excellent sampling correlation with canisters!**

**User-filled option
extends shelf-life!**



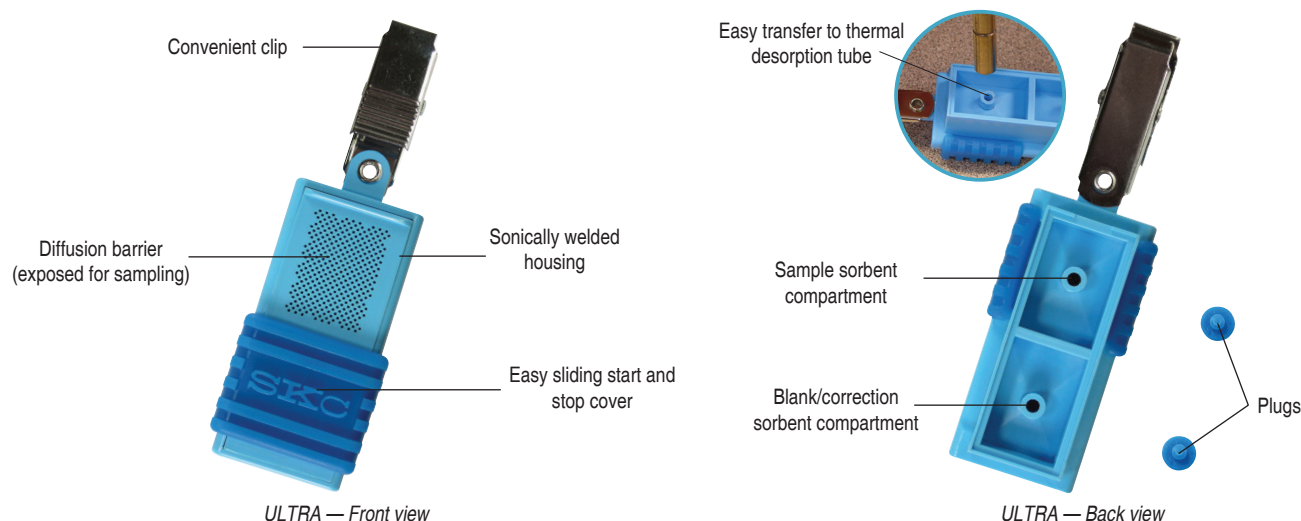
The patented* ULTRA® samples by diffusion and provides low parts per billion (ppb) to parts per trillion (ppt) detection of compounds, including semi-volatile organic compounds (SVOCs). ULTRA Passive Samplers are an economical alternative to stainless steel canisters for EPA TO-15 sampling and show excellent sampling correlation in side-by-side studies with canisters (*see page 3*). ULTRA Passive Samplers have a higher uptake rate than passive TD tubes (*see page 3*). Operation is as easy as sliding the cover open to start sampling and closing it to stop sampling. ULTRA is available prefilled with sorbent. User-filled ULTRA Passive Samplers[‡] are available for extended shelf-life.

* U.S. Patent No. 6,607,581

‡ For user-filled ULTRA samplers, see www.skinc.com/ultra



ULTRA Passive Samplers



Ordering

| ULTRA Passive Samplers prefilled with thermally purged sorbent, pk/5: | Cat. No. | Cat. No. |
|--|----------|------------|
| Anasorb GCB1, [#] 370 mg in each compartment or vial | 690-101 | 690-101-NB |
| Chromosorb 106, [#] 285 mg in each compartment or vial | 690-103 | 690-103-NB |
| Tenax TA, [#] 253 mg in each compartment or vial | 690-104 | 690-104-NB |
| Charcoal, [#] 500 mg in each compartment or vial (solvent desorption) | 690-105 | 690-105-NB |
| Carbopack X, [#] 400 mg in each compartment or vial | 690-106 | 690-106-NB |

[#] Recommended storage at ≤ 39.2 F (4 C). Limited shelf-life. Contact SKC. ‡ Comparable to Carbopack B † Contact SKC for additional information on sampling rates for Chromosorb 106.

| ULTRA user-filled with thermally purged sorbent: User fills sampler with sorbent supplied in vials for extended shelf-life | Cat. No. |
|---|----------|
| ULTRA Sampler , empty sampler housing only, packaged in reusable pouch <i>Requires sorbent vials listed below; select sorbent appropriate for the application</i> | 690-200 |
| Sorbent Vials, pk/2 Contain purged sorbent (< 25 ng typical background level per vial) | |
| Anasorb GCB1 in vial, [#] 370 mg in each vial | 690-201 |
| Chromosorb 106 in vial, [#] 285 mg in each vial | 690-203 |
| Tenax TA in vial, [#] 253 mg in each vial | 690-204 |
| Charcoal in vial, 500 mg in each vial, for solvent desorption | 690-205 |
| Carbopack X in vial, [†] 400 mg in each vial | 690-206 |

[#] Recommended storage at ≤ 39.2 F (4 C). Limited shelf-life. Contact SKC. [†] Recommended storage at ≤ 39.2 F (4 C). Limited shelf-life; a 6-month shelf-life from date of shipment is guaranteed.
‡ Comparable to Carbopack B † Contact SKC for additional information on sampling rates for Chromosorb 106.

| Sampling Accessories | Cat. No. |
|---|----------|
| Rate Reducer , 12 holes, lowers sampling rate for extended sampling time and higher concentrations | 690-300 |
| Transfer Funnel , for filling sampler housing with sorbent from vials, for ULTRA only | 690-301 |
| Stand for Indoor Sampling | 690-302 |
| Shelter for Outdoor Sampling | 690-303 |

| Analysis Accessory | Cat. No. |
|---|----------|
| Thermal Desorption Tube , Perkin Elmer, 0.25 x 3.5 inches (OD x L), includes screens and end caps | P226530 |
| Analysis Transfer Funnel , facilitates transfer of sorbent from vial to 0.25-inch OD thermal desorption tube | 590-264 |

ULTRA Passive Samplers

Compare ULTRA Passive Sampler and Canisters

Side-by-side studies using ULTRA Passive Samplers (Anasorb GCB1) and stainless steel canisters demonstrate excellent sampling correlation.

| Compound | ULTRA (µg/m³) | Canister (µg/m³) |
|----------|---------------|------------------|
| Benzene | 4.2 | 4.5 |
| | 2.1 | 2.0 |
| | 1.9 | 1.6 |
| | 6.67 | 6.8 |
| | 1.58 | 1.5 |

| Compound | ULTRA (µg/m³) | Canister (µg/m³) |
|-------------------|---------------|------------------|
| Perchloroethylene | 1.1 | 1.6 |
| | 2.3 | 2.2 |
| | 32.9 | 30.0 |
| | 1.37 | 2.0 |
| | 2.85 | 2.6 |

| Compound | ULTRA (µg/m³) | Canister (µg/m³) |
|----------|---------------|------------------|
| Toluene | 30.0 | 26.0 |
| | 20.3 | 19.0 |
| | 44.0 | 46.0 |
| | 10.8 | 8.8 |
| | 6.1 | 3.8 |

| Compound | ULTRA (µg/m³) | Canister (µg/m³) |
|------------|---------------|------------------|
| m,p-Xylene | 21.2 | 19.2 |
| | 5.52 | 5.6 |
| | 34.1 | 36.7 |
| | 3.7 | 2.51 |
| | 5.7 | 5.1 |

| Compound | ULTRA (µg/m³) | Canister (µg/m³) |
|----------|---------------|------------------|
| o-Xylene | 7.55 | 7.9 |
| | 1.16 | 0.93 |
| | 1.96 | 1.9 |
| | 8.3 | 6.2 |
| | 13.3 | 11.0 |

Sampling Rates and Minimum Reporting Levels for Long-term Sampling

Sampling Rates and MRLs^Δ for ULTRA with Charcoal (Solvent Desorption)

| Compound | Sampling Rate (ml/min) | | Sampling Period/ Upper Limit (days) | Maximum Recommended Concentration (ppb) | Indoor [§] MRL ^Δ (µg/m³) | | Outdoor [§] MRL ^Δ (µg/m³) | |
|-------------------------|------------------------|---------|--|---|--|--------|---|--------|
| | Indoor | Outdoor | | | 7 Day | 30 Day | 7 Day | 30 Day |
| Benzene | 10.70 | 16.0 | 30 | 113 | 3.98 | 0.43 | 1.24 | 0.29 |
| Ethyl benzene | 9.02 | 12.9 | 30 | 85 | 1.10 | 0.26 | 0.77 | 0.18 |
| Toluene | 8.90 | 14.5 | 30 | 500 | 1.12 | 0.26 | 0.69 | 0.16 |
| Methyl tert-butyl ether | 9.84 | 13.6 | 30 | 60 | 2.0 | 0.456 | 1.45 | 0.34 |
| o-Xylene | 8.11 | 11.9 | 30 | 80 | 1.22 | 0.29 | 0.83 | 0.195 |

^Δ MRL — minimum reporting level: These can vary with each laboratory; check with the laboratory.

[§] Indoor — low velocity conditions (< 5 cm/sec), outdoor — 5 to 200 cm/sec, low air velocities, typically found in indoor air, result in lower uptake rates in passive samplers

Compare ULTRA Samplers to Passive TD Tubes

| Sampler | ULTRA Passive Sampler | Passive TD Tubes |
|---------------------------|---|---|
| Sampling Rate for Benzene | 16.0 ml/min | 0.67 ml/min |
| Sampling Time | 8 to 24 hours | 14 days |
| Desorption | Transfer to TD tube | Direct insertion into thermal desorber |
| Recommended Applications | Environmental air monitoring, vapor intrusion | Compliance fence-line monitoring of petroleum refineries according to EPA 325 |

Learn more at www.skcinc.com!