



## Operating Instructions

863 Valley View Road, Eighty Four, PA 15330 USA  
Tel: 724-941-9701 Fax: 724-941-1369 e-mail: skctech@skcinc.com

# SKC 575 Series Passive Samplers for Organic Vapors



SKC 575 Series Passive Samplers are small ready-to-use badges that provide superior collection of organic vapors without the use of a sample pump. SKC has scientifically validated the sampling rates for many chemicals and other critical sampling parameters of the 575 Series Passive Samplers to meet OSHA/ASTM/ANSI requirements. SKC 575 Series Passive Samplers have been identified as a viable alternative to active sampling in six OSHA methods.

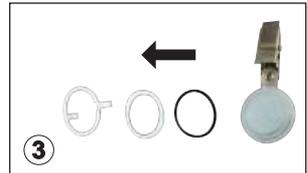
### Performance Profile

<b>Sorbent/Amount:</b>	575-001: Charcoal, 350 mg 575-002: Anasorb <sup>®</sup> 747, 500 mg 575-003: Anasorb 727, 300 mg
<b>Housing material:</b>	Nylon
<b>Diameter:</b>	1.4 in (3.5 cm)
<b>Length (including clip):</b>	2.5 in (6.3 cm)
<b>Depth:</b>	0.6 in (1.5 cm)
<b>Concentration range:</b>	Varies - dependent upon chemical of interest
<b>Analysis:</b>	Solvent desorption, Gas Chromatography/Flame Ionization Detector (GC/FID)
<b>Shelf-life:</b>	2 years at < 39.2 F (4 C)
<b>Storage:</b>	<b>Before use:</b> Store at ambient temperature. For low-level measurements, SKC recommends storage at < 39.2 F (4 C). <b>After use:</b> For sample storage information, refer to the method for the chemical of interest. Expedited shipping is recommended. <i>See Storage.</i>
<b>Sample time:</b>	Validated for 15-min and 8-hr occupational exposure sampling. Lab and field studies conducted with several compounds show suitability for 24-hr air sampling.
<b>Sampling rate:</b>	Dependent upon chemical of interest. <i>For compound-specific sampling rates, visit <a href="http://www.skcinc.com">www.skcinc.com</a> and click on Sampling Guides.</i>

# Sampling

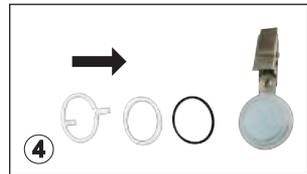
Select the passive sampler with the sorbent best suited for the chemical of interest. Visit [www.skinc.com](http://www.skinc.com) and click on *Sampling Guides* to determine the recommended sampler for a specific compound.

1. Remove sampler from sealed pouch. Retain and set aside all other parts, including the desorption efficiency tube(s).
2. Write the start time, date, and a user-assigned sampler ID number on the label on the back of the sampler. On a sheet of paper, record the temperature and atmospheric pressure at the sampling site.
3. Remove the lock, cap, and O-ring from the sampler and set aside. Clip sampler to worker's clothing in the breathing zone. Ensure small holes are facing out.



**Note:** Sample the entire workshift to obtain a true 8-hour exposure. If breaks/lunch are part of the 8-hour workday or occur in the work area, samplers may remain sampling. If desired, the sampler can be removed for breaks/lunch and sealed with the provided cap. When the worker returns to the work area, replace the sampler on the worker's clothing and remove the cap. Note the times the sampler is removed from and placed back on the worker to ensure accurate air volumes.

4. At the end of the desired sampling period, unclip the sampler from worker clothing. Push the O-ring, cap, and lock (removed during Step 3) onto the side of the sampler containing the holes.
5. Write the stop time on the label on the back of the sampler.
6. Carefully package and send the sampler, all other parts, and sampling site information including temperature and atmospheric pressure to an AIHA-accredited laboratory for analysis. If using an in-house laboratory, refer to the analysis instructions included in this package.



## Storage

**Before use:** Store at ambient temperature. For low-level measurements, SKC recommends storage at < 39.2 F (4 C) for lower backgrounds and optimum results.

**After use:** For sample storage information, refer to the method for the chemical of interest. SKC recommends expedited shipment of samples due to the unstable nature of some compounds.

## Analysis

Solvent desorption, Gas Chromatography/Flame Ionization Detector (GC/FID)  
See *Analysis Instructions online at [www.skinc.com/instructions/37009.pdf](http://www.skinc.com/instructions/37009.pdf).*

*A listing of AIHA-accredited laboratories analyzing SKC 575 Series Passive Samplers is available at [www.skinc.com](http://www.skinc.com). Click on Laboratories.*

## Validation

SKC 575 Series Passive Samplers for organic vapors have been validated to the rigorous NIOSH and ANSI testing protocols.

**Full** - Passed all NIOSH Partial validation protocol and factorial study, including interfering compounds; most rigorous test; includes all parameters affecting sampling accuracy

**Bi-level** - A key member of a homologous series passed Full validation, all others passed Partial. Validity shown by Guild et. al. (*see References*).

**Partial** - Passed NIOSH protocol for sampling rate, desorption efficiency, humidity effects, reverse diffusion, and storage stability (reactive compounds).

**Calculated** - Uptake Rate -  $D \times (A/L)$ . "D" is a diffusion coefficient calculated from the Hirschfelder Equation. "A/L" is a constant based on the geometry of the sampler.

For compliance sampling, it is recommended that only those passive samplers with agency, Full, or Bi-level validation be used. Passive samplers with lower validation levels should be used only if verified by sorbent tube methods.

## References

Cassinelli, M.E., Hull, R.D., Crable, J.V. and Teass, A.W., "Diffusive Sampling: An Alternative to Workplace Air Monitoring," A. Berlin, R.H. Brown and K.J. Saunders (Royal Society of Chemistry, London) (eds.), *NIOSH Protocol for the Evaluation of Passive Monitors*, 1987, pp. 190-202

Guild, L.V., Myrmel, K.H., Myers, G. and Dietrich, D.F., "Bi-Level Passive Monitor Validation: A Reliable Way of Assuring Sampling Accuracy for a Larger Number of Related Chemical Hazards" *Appl. Occup. Environ. Hyg.*, Vol. 7, No. 5, May 1992, pp. 310-317. Reprints available from SKC.

SKC 575 Passive Sampler Validation (Research) Reports. Available at [www.skinc.com](http://www.skinc.com). Click on Downloads and search.

## Ordering Information

Passive Sampler for:	Sorbent/Amount	Cat. No.	Qty.
Organic vapors	Charcoal, 350 mg	575-001	5
		575-001A	25
		575-001B	100
		575-001C	500
Organic vapors	Anasorb 747, 500 mg	575-002	5
		575-002A	25
		575-002B	100
		575-002C	500
Organic vapors	Anasorb 727*, 300 mg	575-003	5

\* Comparable to Chromosorb® 106

Desorption Efficiency Tubes, pk/10, for:	Cat. No.
575-001 Samplers	575-048
575-002 Samplers	575-049
575-003 Samplers	575-050

**www.skcinc.com**

*Notice: This operating instruction may not address all safety concerns (if any) associated with this product and its use. The user is responsible for determining and following the appropriate safety and health practices and regulatory limitations (if any) before using the product. The information contained in this document should not be construed as legal advice, opinion, or as a final authority on legal or regulatory procedures.*

Form #40087 Rev 1003