

SAMPLE SETUP GUIDE

Sampling Train — VOC Chek 575 Series Passive (Diffusive) Samplers

Passive sampling is the collection of airborne gases and vapors at a rate controlled by a physical process such as diffusion, **without** the use of an air sampling pump. Passive (diffusive) samplers rely on the movement of contaminant molecules across a concentration gradient (i.e., molecules diffuse from an area of high concentration in air to an area of low concentration onto the sampler). This rate of diffusion can be calculated mathematically and determined experimentally for individual chemicals. SKC provides diffusion or sampling rates for many organic vapors that can be sampled with SKC VOC Chek 575 Series Passive Samplers. This Sample Setup Guide demonstrates how to collect a sample and defines the critical sampling information that should be sent to a laboratory for analysis when using SKC VOC Chek 575 Series Passive Samplers.

Introduction

SKC offers VOC Chek 575 Series Passive Samplers with a choice of sorbents. Choose the passive sampler with the sorbent best suited for the chemical(s) of interest. Refer to the SKC Passive Sampling Guide at www.skcinc.com for more information. Note that U.S. OSHA diffusive methods typically specify the use of SKC Cat. No. 575-002 samplers. These samplers contain a versatile sorbent that can collect a variety of compounds thus simplifying OSHA inventory needs. Either the Cat. No. 575-001 or 575-002 sampler can be used for many compounds.

Consult the SKC Passive Sampling Guide to determine minimum and maximum sample times. If the maximum sample time is less than the typical 8-hour workday, two or more passive samplers should be used to measure chemical levels over the entire work shift. Samplers may be left on the worker during breaks or lunch if they are part of the 8-hour workday and if they occur in the work area. Otherwise, remove and seal samplers with the provided cap during breaks/lunch. When the worker returns to work, resume sampling by removing the cap to expose the perforated face of the sampler. Reclip the sampler on the worker's collar. Note time that sampling was stopped and then restarted.



1. Sample Collection

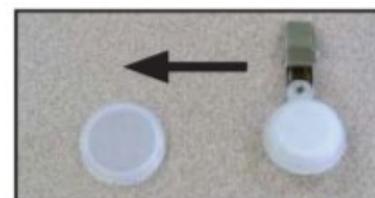
Remove the sampler with cap in place from the sealed pouch.



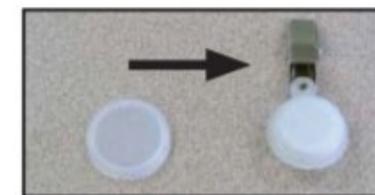
Write the date, start time, and sampler ID number (found on the sampler) on the label on the pouch.



Remove the cap on the front of the sampler and set aside for later use. Clip the sampler to the worker's collar or shirt pocket as close to the breathing zone as possible. Ensure small holes are facing out and that the worker's clothing does not cover the sampler.



At the end of the desired sampling period, unclip the sampler from worker's clothing. Replace the cap on the front of the sampler. This will cover the small holes and stop further sample collection.



Write the stop time on the label on the pouch. Measure and record ambient temperature and atmospheric pressure and include in information sent to the laboratory.



2. Sampler Storage and Shipment to Analytical Laboratory

575-001 and 575-002

Before use: Store at ambient temperature.

After use: For sample storage information, refer to the method for the chemical of interest. **Expedited shipping is recommended. See Storage.**

575-005

Before use: Store at < 39.2 F (4 C).

After use: Store at < 39.2 F (4 C) for up to 3 weeks. **Expedited shipping is recommended.**

575-006

Before use: Store at ambient temperature.

After use: Up to 2 weeks at ambient temperature or refrigerator temps (< 4 C)

Blank samples (samplers that are opened and then immediately capped) should also be included for quality control purposes.

3. Critical Information to Include in Sample Shipment

The laboratory will need to know the air volume for each of the chemicals of interest. Calculate as follows:

$$\text{Chemical sampling rate supplied by SKC (ml/min)} \times \text{Sampling time (min)} = \text{Air volume (ml or L)}$$

The laboratory will determine the total micrograms found on the sampler for each of the chemicals of interest. Air volume for each compound will be used to report the chemical concentration in air as parts per million (ppm).

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