



# Operating Instructions

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## Breath-gas Analysis Bags Cat. Nos. 249-01 and 269-01



SKC Breath-gas Analysis Bags are ideal for collecting and storing human breath samples. The samples are subsequently analyzed for volatile organic compounds (VOCs) or volatile sulfur compounds (VSCs). Breath-gas Analysis Bags are constructed of FlexFoil® PLUS or Tedlar® material. The special stainless steel breath-gas fitting with plastic mouthpiece allows easy sample collection and facilitates sample removal by gas-tight syringe for gas chromatography (GC) analysis.

### Guidelines for Bag Sampling

 ***Wear gloves when handling the bag and fittings (photos are shown without gloves for clarity).***

1. Long-term storage of samples in bags is not recommended.
2. SKC sample bags are designed for sampling air at atmospheric pressure only. Attempting to pressurize the bag can result in bag rupture and sample loss. Do not ship bag samples by air freight in a non-pressurized cargo cabin. Bags can burst under such conditions.
3. All federal and state packaging and transporting regulations apply.
4. Failure to follow warnings and cautions voids any warranty.
5. **Do not reuse sample bags.**
6. Due to the physical properties of the FlexFoil bag material, minor crimps and creases may appear on bags during manufacturing, quality testing, and user handling. These marks only affect the aesthetics of the bag and not its performance. FlexFoil bags exhibiting minor crimps and creases are not subject to replacement or refund as functionality is not affected.
7. Do not use sample bags to sample compounds with boiling points > 249.9 F (121 C).
8. SKC bag fitting valves are extremely durable but are not intended for use as handles or hanging devices. This type of handling may damage the seal, causing leakage. This is considered to be misuse and will void the SKC warranty.

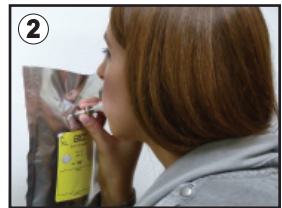
## Preparing the Fitting

1. Remove the clean, **single-use** plastic mouthpiece from packaging.
2. Attach the plastic mouthpiece to the stainless steel breath-gas fitting on the bag by gently pushing the narrow end of the mouthpiece down onto the fitting until snug.

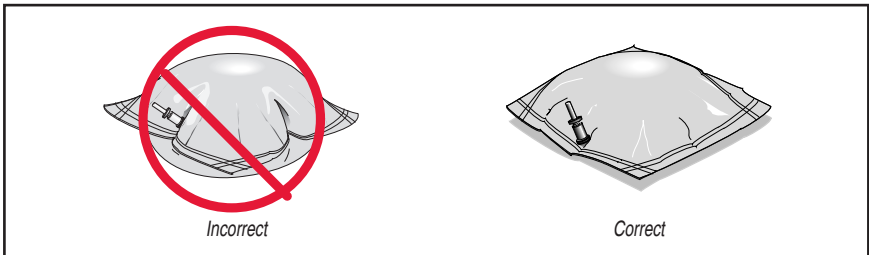


## Sampling

1. Open the fitting by placing the bag on a flat surface and turning the knurled disc on the stainless steel fitting counterclockwise a maximum of two revolutions. The fitting is now open.
2. Provide breathing instructions to the test subject. Have subject place lips on the plastic mouthpiece and blow accordingly to collect the desired sample volume.



 **Do not over-inflate the sample bag (see below).**



3. **Immediately** remove the mouthpiece from the lips of the test subject and close the breath-gas fitting by turning the knurled disc clockwise until snug. The fitting is now closed.
4. Remove plastic mouthpiece by grasping the stainless steel breath-gas fitting with one hand and gently pulling/twisting the plastic mouthpiece with the other hand.
5. The single-use mouthpieces may be disposed of in regular trash.



## Shipping

1. If sending the bag(s) containing the breath-gas sample(s) to a laboratory for analysis, place bag(s) in the original packaging and ship.

## Removing the Sample from the Bag

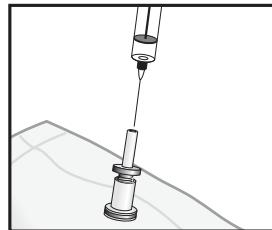


The outside diameter of the syringe needle should not be larger than 12 gauge (0.109 inch).



Do not allow the syringe needle to puncture the bag material when piercing the septum.

1. Using a gas-tight syringe and needle, carefully insert the needle into the septum port in the center of the stainless steel breath-gas fitting and pierce the septum.
2. Use the syringe to withdraw the sample.
3. Analyze the sample.



## Reference

Mochalski, P., Wzorek, B., Sliwka, I., and Amann, A., Suitability of Different Polymer Bags for Storage of Volatile Sulfur Compounds Relevant to Breath Analysis, *Journal of Chromatography B*, Vol. 877, Issue 3, Jan. 15, 2009, pp. 189-196, <http://dx.doi.org/10.1016/j.jchromb.2008.12.003>

## Ordering Information

Description		Cat. No.
1-liter Breath-gas Bags, includes 5 bags	Tedlar	249-01
and 5 individually packaged clean mouthpieces	FlexFoil PLUS	269-01
Replacement Mouthpieces, pk/10		P20054

SKC sample bags for other applications are available in Tedlar, Standard FlexFoil, and FlexFoil PLUS material with fittings made of stainless steel, polypropylene, or PTFE in sizes up to 100 liters. SKC also manufactures custom sample bags. Contact SKC at 724-941-9701 or [skcorder@skcinc.com](mailto:skcorder@skcinc.com).

*For sample bag stability data, see <http://www.skcinc.com/instructions/1805.pdf>.*

For more information or assistance with applications, contact  
SKC Technical Service at [skctech@skcinc.com](mailto:skctech@skcinc.com).

## 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>.

**[www.skcinc.com](http://www.skcinc.com)**