ANALYT MESSTECHNIK



INSTRUCTIONS FOR USE

SKC Tedlar Sample Bags, Dual Stainless Steel Fittings

Preparing, filling and closing a gas sample bag with dual stainless steel fittings, then shipping it and drawing the sample off with a syringe, for SKC Tedlar sample bags of the 231 series.

AMTC-IN-0048

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About this document

The bags described here have two stainless steel fittings with separate jobs: an inlet valve, through which the bag is flushed and filled, and a septum fitting, through which a syringe needle draws the sample off again.

These instructions apply to SKC Tedlar sample bags with dual stainless steel fittings (231 series); the sizes and catalogue numbers are in Bags covered by these instructions (p. 12). Bags with a single polypropylene or a single stainless steel fitting have guides of their own.

Read Product and supplied items (p. 6) and Before use (p. 7) first. Procedure (p. 9) takes you through flushing, filling and closing the bag step by step, After use and sample handling (p. 11) covers the way to the laboratory and the removal of the sample with a syringe, and Ordering information (p. 12) lists the bags and the accessories.

Keep these instructions for the lifetime of the product. The current revision is on the product page at analyt-mtc.com.

How these instructions mark information

NOTICE

Practices not related to personal injury — damage to the product, the process or the sample.

Note
Information that helps understanding; never a hazard.

Document information

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Revision history

Rev.	Date	Change
2	October 2026	Quality programme: new document type, number and identity pages.
1	October 2026	First issue.

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CHAPTER 1

Safety

Read the safety messages in this chapter before you use the bags. Every safety message in these instructions is a NOTICE: it protects the sample and the bag. Each message also appears at the step it belongs to.

Intended use

The 231 series bags take one sample of air or gas each, at atmospheric pressure. An air sample pump fills the bag through the inlet valve, and a needle and syringe draw the sample off through the septum fitting for laboratory analysis.

Choose a bag whose film and fittings suit the compounds you sample. Do not use the bags above 225 °F (107 °C), the rating of the O-rings in the fittings, or for compounds that boil above 249.8 °F (121 °C). Use each bag for one sample only. Carrying the bag by its fittings or valve, or hanging it from them, is misuse: it can damage the seal.

Handling the bags

NOTICE

Tubing of any other material adsorbs part of the sample on its walls. That part never reaches the bag. Connect the bag to the pump with PTFE tubing.

NOTICE

The bags are made for samples at atmospheric pressure. A pressurised bag can burst, and the sample is lost. Do not pressurise a bag. For the same reason, send filled bags by air only in a pressurised cargo hold. National and local regulations for packaging and transport apply.

NOTICE

Carrying the bag by its fittings or valve, or hanging it from them, can damage the seal. The bag then leaks, and such handling counts as misuse. Do not carry the bag by its fittings or valve, or hang it from them.

NOTICE

When you push the needle through the septum, it can go on into the bag film. It then punctures the film and damages the bag. Keep the needle tip inside the septum area.

NOTICE

A reused bag can carry residue of the previous sample, so the result is then invalid. Use each bag for one sample only. Do not reuse bags.

Shipping the bags

NOTICE

In an unpressurised cargo hold, filled bags can burst. The sample is then lost. Send filled bags by air only if the cargo hold is pressurised.

CHAPTER 2

Product and supplied items

The bag and its fittings

The bag has two stainless steel fittings:

- **Inlet valve.** The bag is flushed and filled through it. PTFE tubing from the pump pushes over the **stem** that protrudes from its top. Pulling the stem up closes the valve. A **knurled thumbscrew** on the side of the fitting locks the valve.
- **Septum fitting.** The sample is taken out through it. A syringe needle pushed into its port pierces the septum inside.



Figure 2-1. Dual stainless steel fittings. Left: septum fitting. Right: inlet valve with its stem.

CHAPTER 3

Before use

A sample bag is a single-use container for one sample of air at atmospheric pressure. Choose a bag that suits the compounds, connect it with PTFE tubing only, keep within the temperature limits, and get it to the laboratory within two days.

Rules for bag sampling

Note
Before you sample, make sure that both the bag film and the fittings are suitable for the compounds you want to collect.

NOTICE

Tubing of any other material adsorbs part of the sample on its walls. That part never reaches the bag. Connect the bag to the pump with PTFE tubing.

Note
Temperature limit. Do not use the bag above 225 °F (107 °C). The O-rings in the fittings are rated for no more.

Note
Boiling point limit. Do not use the bags for compounds with a boiling point above 249.8 °F (121 °C).

NOTICE

The bags are made for samples at atmospheric pressure. A pressurised bag can burst, and the sample is lost. Do not pressurise a bag. For the same reason, send filled bags by air only in a pressurised cargo hold. National and local regulations for packaging and transport apply.

Note
Analyse within 48 hours. Bags are not suitable for storing mixtures of air contaminants for a long time. Have the sample analysed within 24 to 48 hours of sampling.

NOTICE

A reused bag can carry residue of the previous sample, so the result is then invalid. Use each bag for one sample only. Do not reuse bags.

NOTICE

Carrying the bag by its fittings or valve, or hanging it from them, can damage the seal. The bag then leaks, and such handling counts as misuse. Do not carry the bag by its fittings or valve, or hang it from them.

CHAPTER 4

Procedure

Flush the bag, connect it to the exhaust port of the sample pump, lock the valve open, sample, and close the valve before the bag is more than 80 % full.

Preparing the bag

1. **Flush the bag.** Flush the bag with purified air or nitrogen at least three times before you use it.
2. **Connect the pump.** Push one end of a piece of PTFE tubing onto the exhaust port of the air sample pump, and the other end onto the stem on top of the inlet valve. The pump then blows the sampled air into the bag.



Figure 4-1. Bag connected to the exhaust port of a sample pump.

Taking the sample



> **Note**
> **Temperature limit.** Do not sample compounds that exceed the temperature rating of the O-rings in the fittings, 225 °F (107.2 °C).

> **Note**
> **Boiling point limit.** Do not sample compounds with a boiling point above 249.8 °F (121 °C).

3. **Lock the valve open.** Turn the knurled thumbscrew clockwise until it is snug.
4. **Fill the bag.** Switch the pump on. The pump fills the bag.

5. **Stop at 80 %.** Do not fill the bag to more than 80 % of its maximum volume. A correctly filled bag still lies flat at its sealed edges; a bag blown up into a tight dome is over-filled.

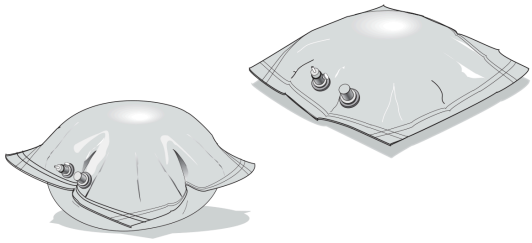


Figure 4-2. Left: over-inflated — wrong. Right: correctly filled.

Closing the bag

6. **Switch the pump off.** When sampling is complete, switch the pump off.
7. **Unlock the valve.** Turn the knurled thumbscrew counter-clockwise to loosen it, by no more than two turns.



> **Note**
> Hold the tubing on the stem as you pull the stem up, so that it does not come off.

8. **Close the valve.** Pull the valve stem up.
9. **Lock the valve closed.** Turn the knurled thumbscrew clockwise until it is snug. The sample is sealed in the bag.

CHAPTER 5

After use and sample handling

Shipping the bags

Send filled bags to the laboratory without delay: the sample should be analysed within 24 to 48 hours of sampling, and bags are not made for storing samples for a long time. The national and local regulations for packaging and transport apply.

NOTICE

In an unpressurised cargo hold, filled bags can burst. The sample is then lost. Send filled bags by air only if the cargo hold is pressurised.

Removing the sample from the bag

Note

Needle size. Use a needle no thicker than 22 gauge: an outside diameter of 0.028 in at most.

NOTICE

When you push the needle through the septum, it can go on into the bag film. It then punctures the film and damages the bag. Keep the needle tip inside the septum area.

1. Insert the needle of the syringe carefully into the port of the septum fitting.
2. Push it on until it pierces the septum.
3. Draw the sample into the syringe.



Figure 5-1. Needle entering the septum fitting.

Disposal

Dispose of used bags and their packaging under local regulations.

CHAPTER 6

Ordering information

Order from Analyt-MTC with the order codes.

Bags covered by these instructions

Bag size	Pack	Order code
1 litre	10	231-01
3 litres	10	231-03
5 litres	10	231-05
10 litres	10	231-10
25 litres	5	231-25
50 litres	5	231-50
75 litres	5	231-75
100 litres	3	231-100

Single bags (pack of 1) of 1 and 5 litres: ask Analyt-MTC. Replacement septa and PTFE tubing are listed under Accessories (p. 12). SKC sample bags are also made of FlexFoil PLUS and Standard FlexFoil film and with polypropylene or PTFE fittings, in sizes from 0.5 to 100 litres; for custom bags, ask Analyt-MTC. Analyt-MTC can also provide stability data for samples stored in bags.

Accessories

Description	Pack	Order code
Replacement septa for the dual stainless steel fittings	10	231-9-04
PTFE tubing, 3/16 in (4.76 mm) ID, 1/4 in (6.35 mm) OD. Fits over all SKC bag fittings and the Grab Air pump exhaust, and into the Pocket Pump TOUCH quick-connect adapter	10 ft	231-9-23
PTFE tubing, 1/16 in (1.59 mm) ID, 1/8 in (3.18 mm) OD. Fits inside the bag fitting	10 ft	231-9-21
PTFE tubing, 1/4 in (6.35 mm) ID, 5/16 in (7.94 mm) OD. Fits the sample inlet port of the Vac-U-Chamber	10 ft	231-937
	50 ft	231-924

CHAPTER 7

Service and contacts

SKC Tedlar Sample Bags are made by SKC. Analyt-MTC is your contact for them.

Ordering and support

ANALYT-MTC Messtechnik GmbH

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www.analyt-mtc.com

Ordering and questions

Analyt-MTC supplies the bags, replacement septa and PTFE tubing, and answers your questions about bag sampling, other bag materials and fittings, custom bags and the storage stability of samples in bags. Order with the catalogue numbers in these instructions. Warranty and returns follow the terms of Analyt-MTC.

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