

# Air measurement using passive samplers

## Sampling: Badge type

## Instructions

### Introduction

Air pollution measuring using passive badge type samplers consists of sampling at measuring sites and the subsequent analysis in our accredited laboratory. During sampling the passive sampler collects pollutants over the entire exposure period. The amount and concentration of the sampled pollutants is then determined using ion- or gas chromatography or spectrophotometry.

This document describes the **sampling procedure using tube types passive samplers** for **CH<sub>2</sub>O** (SP06), **SO<sub>2</sub>** (SP10), **NH<sub>3</sub>** (SP11), **NO<sub>2</sub>** (SP15), **H<sub>2</sub>S** (SP18), **NO<sub>2</sub> SO<sub>2</sub>** (SP19), **O<sub>3</sub>** (SP20), **HCl** (SP21), **HF** (SP22) and **CO** (SP23)

### Measuring site set up

The passive samplers are exposed for a predefined period in a **protective shelter**. This shelter is optimized to protect the samplers from weather- and other disturbances. It offers space for two pcs. of badge type samplers and if required for additional tube- or glass type samplers.

We recommend to instal the shelters at the selected monitoring sites at heights **of 2 m – 2.5 m allowing free air flow**. Suitable fixation points are street lamps, posts or self-assembled wooden posts. The fixation itself can done by cable ties, strings or wires ensuring they shelters are not prone to vandalism or theft.



### Sampling



The passive samplers must remain open for the entire exposure period:

#### Start sampling

- 1) Remove transparent cap (store safely)
- 2) Insert sampler into the brackets inside the shelters. The opening must point downwards

#### End sampling

- 3) Detach samplers from shelter
- 4) Reseal samplers with stored transparent cap (step 1) and prepare protocol

## Documentation

For each gas/ sampler type the .xls file [sampler protocol](#) is completed:

General Customer Information:	
1 Organisation / Company:	
Customer ID:	
Contact Person:	
Measurement Campaign:	
Measurement Period:	
Report sent to (e-mail):	
Remark:	

2 Sampler type:	NO2 tube (SP01)
Protective filter used?	<input type="checkbox"/>

3 measuring site	4 active sampler label	5 exposure				6		7 optional information comments
		start date	start time	end date	end time	Temp [°C]	P [hPa]	
Monitoring Site 1		24.12.2021	13:00	07.01.2022	12:45	10°		Pole height = 2.8 m
Monitoring site 2		24.12.2021	13:00	07.01.2022	12:30	12.5°		double measurements

- 1). Organisational information
- 2). Dropdown selection of sampler type
- 3). Designation of unique measuring sites
- 4). Provided label on sampler (equals customer code plus consecutive number)
- 5). Start- and end date plus corresponding daytimes
- 6). Optional: mean temperature and air pressuring during exposition
- 7). Optional: especial remarks or comments

## Shelf life, exposure times and storage

The following exposure times and storage conditions must be adhered to:

	CH <sub>2</sub> O	CO	NH <sub>3</sub>	H <sub>2</sub> S	SO <sub>2</sub>	O <sub>3</sub>	HCL/ HF	NO <sub>2</sub> / NO <sub>2</sub> SO <sub>2</sub>
Exposure time [weeks]	1 - 2	1 - 2	2 - 4	2 - 4	2 - 4	1 - 4	2 - 4	8h - 48h; or 1 - 4
Storage	fridge				dark in resealable plastic bag			

Information about the respective shelf lives prior and after exposition are indicated on the provided sampler labels or on our [website](#). The sampler must be stored in dark places without significant temperature variation: fridge or resealable plastic bag. Avoid extreme heat as for example in vehicles parked in the direct sunlight.

## Return for laboratory analysis

Passive sampler to [passam AG, Schellenstrasse 44, 8708 Männedorf, Schweiz](#)  
[Sampling protocol](#) by E-Mail to [passam@passam.ch](mailto:passam@passam.ch)

