

Diffusive Sampler for Benzene

Enclosed: diffusive samplers for BTX (Benzene, toluene, Xylenes) and forms for noting monitoring site and exposure times. The samplers are marked with a passam code.

Installation of monitoring site

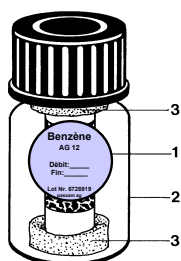
The diffusion tubes are placed, with the open end in a shelter to protect them from light and to minimize the influence of strong wind. In the absence of other requirements samplers should be exposed at heights of 2 - 3 m above the ground in positions of unrestricted air movement. In order to avoid sampling in the O₃ depleted boundary layer close to walls, preferred sites are free standing columns, lamp posts etc. The samplers should not be easily reached by unauthorized persons and be located in situations where loss through theft or vandalism are unlikely.

Description of monitoring site

The concentration value is representative only for the immediate sampling site. To interpret ambient values it is important to have a precise description of the monitoring site, and if possible a photographic documentation

Performing a measurement

ORSA tubes are shipped in glass jars. To activate the sampling system, the tubes are removed from the jar and mounted horizontally with the metallic clip in the protection shelter.



After exposure, the tubes are returned into the transportation jar and tightly sealed.

passam ag

Laboratory for Environmental Analysis

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Sampling record

The transportation jars are labelled with a code. This code together with the site identification are noted in the record. As well as the starting and ending time.

Project: Airport IAP (Example) sampler: ORSA

Site Code	Code passam	Start Date	Time	End Date	Exposure time	hours	Remarks
Main entrance	IAP2	19.6.01	12:00	17.7.01	12:00	672	
Police station	IAP4	19.6.01	12:10	17.7.01	12:10	672	dirty
Lane 2	IAP16	19.6.01	12:25	17.7.01	12:55	672.5	

The ORSA tubes themselves are not coded. It is absolutely necessary to return the samplers in the corresponding jar according to the record.

Note: For proper identification of samplers and correct assignment to monitoring site passam code has to be noted on the record.

Storage and mailing

Exposed samplers can be stored at room temperature in a dark place.

Exposed samplers should be sent back to the laboratory for analysis within one month.

Calculation of results

The ambient concentration is calculated according to the following formula:

$$C_u = \frac{m_d - m_b}{SR \cdot t}$$

C_u : ambient concentration [µg/m³]
 m_d : mass absorbed [µg]
 m_b : blank [µg]
 SR: sampling rate [ml/min]
 t : exposure time [min]

Sampling rate used is 6.44 ml/min at 20°C

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