

Radiello® Passive Air Sampling System

Environmental, Industrial and Personal Exposure Assessment

New, Innovative, High Performance, High Resolution, Simple, Reliable, Cost Effective.

The Radiello Passive Air Sampling System provides an effective means of sampling gases for industrial, environmental, indoor, outdoor, personal exposure and risk assessment applications. As a passive sampler, the device does not require any electrical power. Its light weight and small size, high and constant sampling rate make it the ideal platform for determining gaseous concentrations.

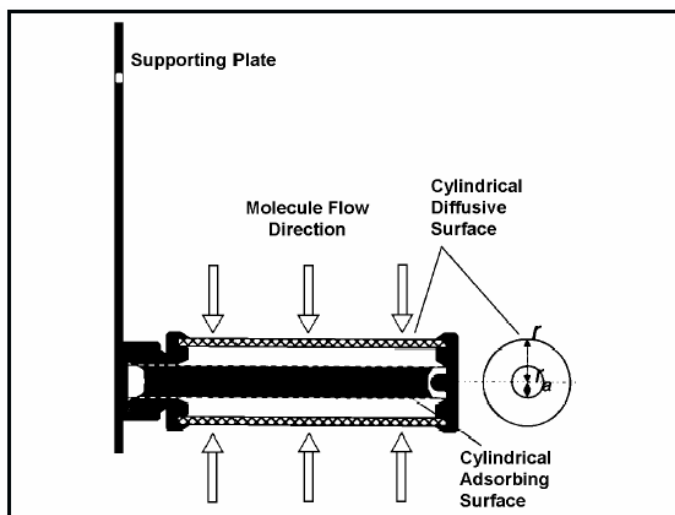
The device provides a cost effective means of determining the concentration of numerous gaseous compounds. Typical fields of use include indoor air quality, and environmental monitoring in urban and background areas. Siting of the sampler is facilitated by the fact that it does not require electricity.

The system is very sensitive with typical detection limits ranging from **0.01µg/m³ to 0.1µg/m³**.

Typical Exposure Periods	Workplace	Environmental
BTX (Thermal Desorption Analysis)	1 hr - 8 hr	1 hr - 1 wk
VOC's (CS2 Desorption Analysis)	5 min - 8 hr	8 hr - 2 wk
Ammonia	15 min - 8 hr	8 hr - 2 wk
NO2 and SO2	4 hr - 8 hr	8 hr - 1 wk
Hydrogen Sulphide	1 hr - 8 hr	2 hr - 2 wk
Ozone	8 hr	8 hr - 1 wk
Hydrogen Fluoride	15 min - 8 hr	2 hr - 1 mo
Hydrogen Chloride	15 min - 8 hr	2 hr - 2 wk
Aldehydes	15 min - 8 hr	8 hr - 1 wk
Phenols and Cresols	1 hr - 8 hr	1 hr - 1 wk
Anaesthetic Gases	8 hr	N/A



Pictured above: Radiello System - Diffusive Body, Supporting Plate, Adapter and Collection Cartridge in the Sealed Glass Tube.



For each Gaseous Component there is a specific collection cartridge and sampling protocol. The sampling procedures are easily carried out by end users in the field.

The sampler's patented radial design results in very high sampling rates, with negligible sensitivity to wind and air turbulence, enabling short-term, high resolution measurements.

The innovative cylindrical diffusive barrier used in the Radiello sampler (synthesized microporous polyethylene) provides for a very consistent gas sampling rate over extended periods of time.

More information over the page -

Leeder Consulting offer a range of specialised high-tech, non-routine and on-site services. Access to leading edge technology and expertise in Australia and overseas guarantees results when and where you require. To discuss your requirements or for more information call us now.



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Radiello Passive Air Sampling System — Regulatory Status and Recent Projects.

The overall reliability of the Radiello sampling device has been tested by the European Reference Laboratory for Air Pollution (ERLAP). The results were judged “Excellent”, since measurements carried out by six different European laboratories showed an overall relative uncertainty lower than that offered by the best field instrumentation presently available.

The system is included in **ISO 16200-2** for the sampling and analysis of volatile organic compounds, and conforms to the CEN/TC 264 WG 11 standard.



Pictured left is the Radiello Sampler mounted horizontally for ambient sampling.

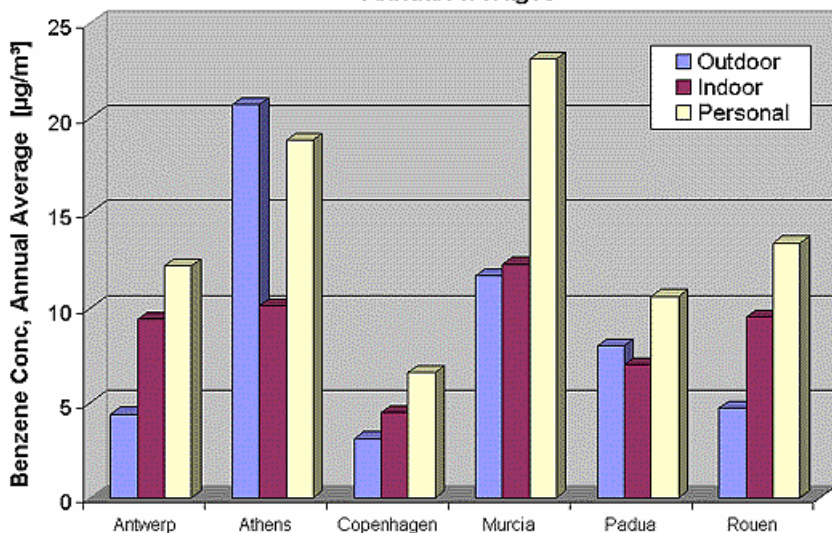
Pictured Right are Radiello samplers mounted in the optional outdoor shelter which protects the samplers when located outdoors.



Recent International Projects.

The Radiello sampling system has been widely used throughout Europe and the United States. Significant recent projects include the “Resolution Project”, the “MACBETH Project” (Monitoring of Atmospheric Concentration of Benzene in European Towns and Homes) and the “Auto Oil”, Vehicle Pollution Monitoring Study. The MACBETH Project is briefly described in the following.

Benzene Concentrations in European Cities
Annual Averages



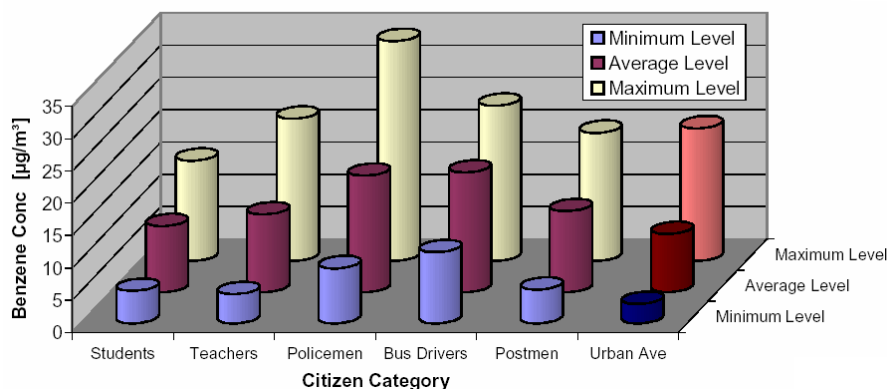
MACBETH (Monitoring of Atmospheric Concentration of Benzene in European Towns and Homes) is part of the European Commission’s ongoing “Life Program”.

Hundreds of sampling sites have been chosen in each of the towns of Antwerp, Athens, Copenhagen, Murcia, Padova and Rouen. **6,205 samples** were collected equally distributed over the six towns. The samples included 3,147 environmental data, 1,559 personal exposure data and 1,499 home pollution data.

Due to the innovative methodological approach, it is possible to draw highly space-resolved isolevel maps of benzene concentration on each of the monitored towns, providing a powerful decisional tool for the planning of traffic and road networks.

More information on the MACBETH Project at <http://pc4.fsm.it:81/padova/homepage.html>.

Exposure Levels of Selected Categories
European Averages



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