

# Application Article 211

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## TVOC used for monitoring toxic gases in laboratory environment

**The problem:** dangerous leaks and contamination within laboratories

### Introduction

Toxic gases can often be found in laboratories, due to the type of work that is done within a laboratory environment. Importantly, those responsible for working in laboratories are beginning to realise the implications and impact that toxic air-borne substances can have on the health of the laboratory workers and the tests being conducted.

### Problems Found Within The Industry

One challenge that is often faced in this type of environment is the constant connection and disconnection of apparatus, which will enhance the potential for dangerous leaks and other types of contamination. Entry protection into most laboratories is often an essential requirement too. For both these reasons a gas detector is an important tool in monitoring any sign of toxic gases.



### TVOC Chosen To Monitor Toxic Laboratory Gases

Ion Science has recently sold a TVOC fixed photoionisation detector (PID) to a major UK based laboratory, who has recognised the impact of the problems associated with toxic gases in laboratories.

Altogether, a total of ten laboratories have been fitted out with the TVOC, which are being used for the detection of total volatile organic compounds (VOC's).

### Why The TVOC Was Chosen

One of the main advantages of the TVOC is that it utilises a diffusive sample technique which results in less contamination, compared to pumped systems. This in turn reduces lamp cleaning and servicing requirements. The TVOC is simple to install, service and calibrate. It requires no hot work permit and the PID sensor is accessible and changeable in a matter of seconds.

Within the laboratories, the TVOC has been connected to the supervisory system that is already being used.

In particular, the TVOC was chosen over a number of competitor products as the detector interfaces easily with the existing building management system that is already being used within the laboratory.

The TVOC also offers a wide VOC detection coverage which was particularly important to the end user. TVOC also allows for continuous, uninterrupted monitoring – another important feature for the customer.

### Other Applications for the TVOC

Although TVOC on this occasion has been used within a laboratory environment, there are a number of other application areas for the product, which include:

- Air intakes
- Ventilation out lets
- Solvent filter (Filter break through) · Chemical storage

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