



Dutch  
Metrology  
Institute

# Facts Sheet Proficiency Test

## VOC's in Air Quality

### Contact details:

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### Samples:

The participating labs receive a set of 4 air samples + 1 or 2 blanks. Each sample contains different concentration levels of a mixture of 10-16 VOC are selected out of a total of 60 (Aliphatic hydrocarbons, Aromatic hydrocarbons, Halogenated hydrocarbons, Oxygenated hydrocarbons).

Each participant can choose out of sample tubes packed with active charcoal for solvent desorption (100/50 mg - NIOSH type) and/or sample tubes desorption (be provided by the participants themselves) suitable for thermal analysis.

Typical concentration ranges per component for both types of sample tubes are:

- Charcoal tubes: 1 to 50 µg;
- Thermal desorption tubes: 10 to 200 ng.

Loading of the tubes is done by sampling of an accurately known volume of a gas mixture that is produced with traceable dynamic techniques (ISO 6145). This method is applied by VSL since many years for the preparation of certified reference materials for the measurement of VOC in air. As a quality check for the correctness of the preparation, control samples are analyzed.

The participating lab will *identify* the components present in the sample and report the measured concentration and possibly the relative uncertainty. To help the identification step, a number of components, namely Benzene, Toluene, o-Xylene and 1,2,4-Trimethylbenzene, will always be included in each sample.

### Reference laboratory:

VSL, the Dutch National Metrology institute (traceability of the reference values is guaranteed).

### Estimate number of participants:

Minimum number of participants: 6 per sample type

### Measurements protocol:

Will be provided by e-mail after shipment of the samples, participants has 4 weeks to perform the analysis.

### Evaluation:

Evaluation by  $E_n$  value.

All participants will receive a report of the Proficiency Test within four weeks after ending the comparison cycle.

### Accreditation:

The organisation of this Interlaboratory Comparison is in accordance with the requirements of the ISO/IEC-17043.

### Confidential statement:

"VSL keeps all data regarding the performance of individual participants, or groups of participants, strictly confidential. Data is accordingly protected and stored in areas on networks with restricted access. The relationship between results and the laboratories that submitted them will never be disclosed. Only the laboratory is granted access to its performance through the assigned code number."

### Fee & Schedule:

The frequency is once a year. Contact us for specific schedule and fee details.

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### Requirement 5.9 ISO/IEC 17025:

*Assuring quality of testing and calibration results:* The laboratory will have quality control procedures for monitoring test validity and calibrations undertaken. This monitoring will be planned and validated and may include the following: *participation in interlaboratory comparisons or proficiency-testing programmes.*