

## Technical Data Sheet: TDS 3A

### DIF 900 RTU - ACID GASES

This tube is designed for passively monitoring airborne acid gases such as Hydrogen fluoride, Hydrogen chloride, Nitric acid, Hydrogen bromide, Phosphoric acid and Sulphuric acid (HF, HCl, HNO<sub>3</sub>, HBr, HPO<sub>4</sub> and H<sub>2</sub>SO<sub>4</sub>).



**Description:** Acrylic tube fitted with green and white thermoplastic rubber caps. The coloured cap contains the absorbent. A one-micron porosity filter is fitted to prevent particulate ingress.

The concentrations of fluoride, chloride, nitrate, bromide, phosphate and sulphate ions are quantitatively determined by Ion Chromatography with reference to a calibration curve derived from the analysis of standard solutions (UKAS Accredited Methods).

Suitable for carrying out spatial or localised assessments of Acid Gases in ambient air or workplace monitoring.

Clips and straps are not included and must be ordered separately.

**Tube Dimensions:** 71.0mm length x 11.0mm internal diameter.

**Recommended Exposure Periods:** 2 –4 weeks.

**Air Velocity:** Influence of wind speed <10% between 1.0 and 4.5 msec<sup>-1</sup> (based on original data). No influence when filter is fitted.

**Storage:** Store in a dark, cool environment preferably between 5-10°C.

**Shelf Life:** 12 weeks from preparation date.

**Desorption Efficiency:** d = 0.98 (determined using N.I.S.T. Standard Analytes).

**Limit of detection:**

- HCl – less than  $3.5 \text{ ug m}^{-3}$  over a 4-week exposure period.
- HF – less than  $0.5 \text{ ug m}^{-3}$  over a 4-week exposure period.
- HBr – less than  $2.0 \text{ ug m}^{-3}$  over a 4-week exposure period.
- $\text{H}_3\text{PO}_4$  – less than  $2.5 \text{ ug m}^{-3}$  over a 4-week exposure period.
- $\text{NO}_3^-$  – less than  $2.0 \text{ ug m}^{-3}$  over a 4-week exposure period.
- $\text{H}_2\text{SO}_4$  – less than  $2.0 \text{ ug m}^{-3}$  over a 4-week exposure period.
- **Specific values available upon request.**

**Analytical Expanded Measurement Uncertainty:** Available upon request.

**Working range:**  $4 - 200 \text{ ug m}^{-3}$ .

**Relevant Standards:** BS EN 13528 Parts 1-3 : 2002/3.

**Special Factors:** Potential interference from acidic aerosol particles.