

Technical Data Sheet: TDS 3A

DIF 900 RTU - ACID GASES

This tube is designed for passively monitoring airborne acid gases such as HF, HCL, HNO₃, HBr, HPO₄ and H₂SO₄.



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

The concentrations of fluoride, chloride, nitrate, bromide, phosphate and sulfate ions are quantitatively determined by Ion Chromatography with reference to a calibration curve derived from the analysis of standard solutions. (Analysis carried out in accredited laboratories, in accordance with ISO 17025).

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

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

Recommended Exposure Periods: 2 –4 weeks.

Uptake Rates:

Chloride: $67.8 \times 10^{-6} \text{ m}^3 \text{ hr}^{-1}$.

Fluoride: $96.8 \times 10^{-6} \text{ m}^3 \text{ hr}^{-1}$.

Bromide: $46 \times 10^{-6} \text{ m}^3 \text{ hr}^{-1}$.

Air Velocity: Influence of wind speed < 10% between 1.0 and 4.5 msec⁻¹ (* 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 over 2 week exposure		
	ugm ⁻³	ppb
Fluoride	1.17	1.37
Chloride	4.01	2.65
Nitrate	1.63	0.65
Bromide	0.3	0.08
Phosphate	1.38	0.34
Sulfate	3.85	0.97

Analytical Expanded Measurement Uncertainty: +/- 12.1%

Working range: 4 – 200 ugm⁻³.

Special Factors: Potential interference from acidic aerosol particles.