

Technical Data Sheet: TDS 1

DIF 100 RTU - NITROGEN DIOXIDE (NO₂)

This tube is designed for passively monitoring gaseous airborne Nitrogen dioxide.



Description: Acrylic tube fitted with coloured and white thermoplastic rubber caps. The coloured cap contains the absorbent.

The concentrations of Nitrite ions and hence NO₂ chemically adsorbed are quantitatively determined by UV/ Visible Spectrophotometry with reference to a calibration curve derived from the analysis of standard nitrite solutions (UKAS Accredited Methods).

Suitable for carrying out spatial or localized assessments for NO₂ in ambient air or workplace monitoring. It can be used for co-location projects alongside an automatic analyzer to obtain bias correction factors.

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

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

Absorbent: Two preparations of Triethanolamine (TEA) absorbent are available:

20% Triethanolamine / De-ionised Water - *GREY CAP

50% Triethanolamine / Acetone – *RED CAP

Recommended Exposure Periods: 2 -4 weeks.

Air Velocity: Influence of Wind Speed < 10% between 1.0 and 4.5 msec⁻¹ (* based on original data).

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:

- 20% TEA/Water – less than 1.5 ug m^{-3} over a 4-week exposure period. Specific values available upon request.
- 50% TEA/Acetone – less than 2 ug m^{-3} over a 4-week exposure period. Specific values available upon request.

Analytical Expanded Measurement Uncertainty: available upon request.

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

Reference document: ED48673043 Issue-1A Feb 2008 – AEA Energy and Environment

Special Factors: Potential interference from Nitrous Acid , Peroxy Acetyl Nitrate, which could increase levels of nitrate.