

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 with Triethanolamine. The concentrations of Nitrite ions and hence NO₂ chemically adsorbed are quantitatively determined by U.V. / Visible Spectrophotometry with reference to a calibration curve derived from the analysis of standard nitrite solutions.

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.

Tube Dimensions : 71.0mm length x 11.0mm internal diameter

Absorbent : Two types of Triethanolamine absorbent are available:

20% Triethanolamine / Deionised Water - * GREY CAP

50% Triethanolamine / Acetone – *BLUE CAP

Colours of the absorbent cap can be changed to suit customer requirements.

Recommended Exposure Periods : 2 –4 weeks

Uptake Rate : $68.8 \times 10^{-6} \text{ m}^3 \text{ hr}^{-1}$

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

Storage : Store in a dark, cool environment between 5-10 degrees centigrade

Shelf Life : 16 weeks from preparation date

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

Analytical Expanded Measurement Uncertainty : +/- 3.69% (Variable)

L.O.D. : 0. 4ppb (0. 34ugm³) over a 2 week exposure period

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

BS EN 838 :1996

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