Environmental Division
Ormantine
USA Ltd., Inc.

Technical Data Sheet: TDS 3

DIF 500 RTU-RA - COMBINED NITROGEN DIOXIDE (NO_2) AND SULFUR DIOXIDE (SO_2) PASSIVE SAMPLER

This tube is designed to simultaneously passively monitor gaseous NO_2 / SO_2.

Description: Acrylic tube fitted with a green and white thermoplastic rubber caps. The green cap contains the absorbent and the white cap is fitted with filter to prevent the ingress of particulates.

Analysis of exposed tubes is carried out by Ion Chromatography (Analysis carried out in accredited laboratories, in accordance with ISO 17025).

This tube is suitable for carrying out spatial or localized assessments for NO_2 / SO_2 in ambient air. It can be used for co-location projects alongside an automatic analyzer **but it is not recommended for bias comparison measurements**, for this application, separate NO_2 and SO_2 diffusion should be employed.

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

Uptake Rate: NO_2: 68.8 x 10^{-6} m^3 hr^{-1} SO_2: 57.0 x 10^{-6} m^3 hr^{-1}.

Air Velocity: Influence of wind speed: Sampling rate does not vary 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).

Analytical Expanded Measurement Uncertainty: +/- 12.1 %.

Limit of Detection: NO_2: 0.1 ppb (0.2 ugm^3) over a 2-week exposure period.
SO_2: 0.9 ppb (2.4 ugm^3) over a 2-week exposure period.

Special Factors: Potential interference from nitrous acid, peroxy acetyl nitrate, and sub-micron sulfur loaded particulates, which could increase levels of nitrate and sulfate.

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