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) DIFFUSION TUBE

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 a filter to prevent the ingress of particulates. This tube is designed to simultaneously passively monitor gaseous NO_2 and SO_2. Analysis of exposed tubes is carried out by Ion Chromatography (ISO Accredited Methods).

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.

Recommended Exposure Periods: 2 – 4 weeks.

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).

Limit of detection:

NO2: Less than 0.5 ugm^{-3} over a 4-week exposure period.
SO2: Less than 1.5 ugm^{-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.

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