

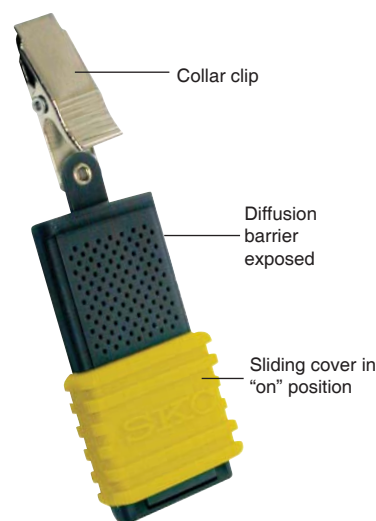
UMEX²⁰⁰

Passive Sampler

Sulfur Dioxide and Nitrogen Dioxide Sampling

- **Validation range extended below new TLV-TWA for NO₂**
- **Same chemistry as active OSHA Method ID-182**
 - Accurate, reliable personal sampling
- **Ready to use**
- **Lightweight sampler clips easily in the breathing zone**
- **Economical**
 - No pump or training required
 - Low-cost sampler
 - Sample medium and blank/correction in one unit
- **Safe — no glass or chemical liquids in the sampler**
- **Accurately measures personal workplace exposure to sulfur dioxide and/or nitrogen dioxide from 15 minutes to 24 hours**
- **Validated for 24-hour ambient air sampling of NO₂/SO₂ to complement federal EPA reference methods (see Performance Profile on reverse side)**

The SKC UME^X 200 Passive Sampler effectively collects sulfur dioxide (SO₂) using a sampling rate of 15.2 ml/min and/or nitrogen dioxide (NO₂) at 17.3 ml/min. The sample medium (tape treated with triethanolamine [TEA]) and a “blank/correction” section of tape are contained in one sampler saving time and money. The lightweight UME^X 200 clips easily in the breathing zone for personal sampling or in an area for ambient air sampling. The single-use samplers are provided in individual aluminized pouches that can be used to transport the sampler to a laboratory. The label on the outside of each pouch contains the shelf-life date for easy inventory management.



UMEX²⁰⁰ Sampler with sliding cover in “on” position

Using the UME^X 200 Passive Sampler

Sampling with the UME^X 200 Passive Sampler for sulfur dioxide and/or nitrogen dioxide is easy and requires no pump or training. Simply remove the sampler from the pouch, record sampling information, and slide the cover to the “on” or sampling position. Clip the sampler on a worker for personal sampling up to 8 hours or in an area for ambient air sampling up to 24 hours. When sampling is complete, slide the cover to the “off” position, place the sampler back in the pouch immediately, and seal. Send the sampler to an accredited laboratory for analysis by ion chromatography (IC) with conductivity detection. The UME^X 200 sampler is designed for single use only. Do not reuse UME^X samplers.



UMEX²⁰⁰ Passive Sampler

Sulfur Dioxide and Nitrogen Dioxide Sampling

Potential Sources of Workplace Exposure to SO₂ and NO₂

Sulfur dioxide is used in industry as a(n):

- Intermediate in the manufacture of sulfuric acid
- Bleaching agent
- Disinfectant
- Fumigant
- Solvent
- Refrigerant
- Food preservative
- Reagent in the manufacture of magnesium, sodium sulfite, and other chemicals

Other sources are:

- Copper smelting
- Processing or burning coal or fuel oils
- Manufacture of paper and fertilizers

Nitrogen dioxide is used in:

- Agricultural silos
- Arc or gas welding, especially in confined space
- Electroplating plants
- Food and textile bleaching
- Jewelry manufacturing
- Nitric acid production
- Nitrogen fertilizer production
- Nitro-explosive production
- Pickling plants

Other UME^X Passive Samplers Available

The same convenient and economical UME^X design is also available for sampling formaldehyde/other aldehydes (UME^X100). Contact SKC for more information or visit www.skcinc.com.

Performance Profile

Sampling Rate: SO₂: 15.2 ml/min with a relative standard deviation of 16.5%
NO₂: 17.3 ml/min with a relative standard deviation of 11.5%

Validated Concentration

Range: SO₂: 0.4 to 8 ppm, 15 minutes to 24 hours
NO₂: 0.05 to 8.5 ppm, 15 minutes to 24 hours

Analysis Method for

SO₂ and/or NO₂: Solvent extraction and ion chromatography with conductivity detection

Lower Detection Limits: SO₂: 15 minutes: 170 ppb
8 hours: 5.3 ppb
24 hours: 1.8 ppb
NO₂: 15 minutes: 200 ppb
8 hours: 6.3 ppb
24 hours: 2 ppb

Shelf-life: 18 months from date of manufacture at ambient temperature

Storage: *Before use:* Ambient temperature
After use: Analyze within 3 weeks. Can be stored at ambient temperature or at ≤ 39.2 F (4 C)

Accuracy: SO₂: ± 30%
NO₂: ± 26%

Temperature Effects: No effect on sampling rate from:
SO₂: 20 to 25 C
NO₂: 22 to 40 C

Humidity Effects: No effect from 20 to 80% relative humidity

Wind Effects: No effect from 5 to 100 cm/sec

Interferences: None identified

Dimensions: 3.4 x 1.1 x 0.35 in
(8.6 x 2.8 x 0.89 cm)

Weight: 0.38 oz (10.9 gm)

Slide Cover: Yellow

Ordering Information

Description	Cat. No.
UMEX ²⁰⁰ Passive Sampler for Sulfur Dioxide and/or Nitrogen Dioxide,*† individually packaged in aluminized pouch, pk/10	500-200

* Limited shelf-life. Do not store with food.

† Designed for single use only. Do not reuse UME^X samplers.

