

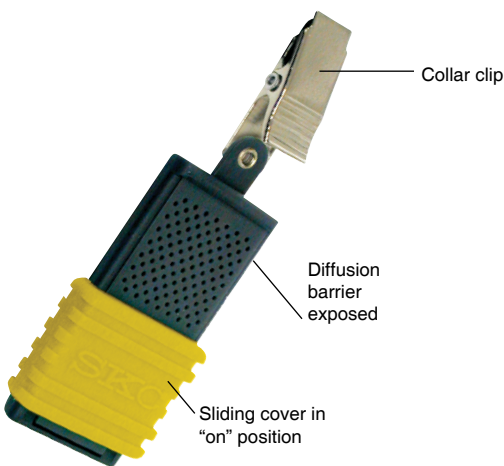
UMEx²⁰⁰ Passive Sampler

Sulfur Dioxide and Nitrogen Dioxide Sampling

The SKC UMEx²⁰⁰ 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]) is contained in this easy-to-use sampler. The lightweight UMEx²⁰⁰ clips easily in the breathing zone for occupational sampling or in an area for environmental monitoring. 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.

Using the UMEx²⁰⁰ Passive Sampler

Sampling with the UMEx²⁰⁰ 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 occupational sampling up to 8 hours or in an area for environmental monitoring 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 (CD). Nitrogen dioxide can be analyzed on the same UMEx²⁰⁰ Sampler as sulfur dioxide. The UMEx²⁰⁰ sampler is designed for single use only. Do not reuse UMEx²⁰⁰ samplers.



UMEx²⁰⁰ Sampler with sliding cover in "on" position

- 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
- Safe — no glass or chemical liquids in the sampler
- Validated sampling of 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*)

See more information and ordering on reverse side!

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 min to 24 hrs NO₂: 0.051 to 8.5 ppm, 15 min to 24 hrs
Analysis Method for SO₂ and/or NO₂:	Solvent extraction and ion chromatography with conductivity detection
Lower Detection Limits:	SO₂: 15 min: 1.8 ppm 8 hrs: 52 ppb 24 hrs: 17.4 ppb NO₂: 15 min: 200 ppb 8 hrs: 6.3 ppb 24 hrs: 2 ppb
Shelf-life:	18 mos from date of manufacture at ambient temperature
Storage:	<i>Before use:</i> Ambient temperature <i>After use:</i> Ambient temperature or at ≤ 39.2 F (4 C) and analyze within 3 weeks
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 (RH)
Wind Velocity 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

Potential Sources of Occupational and Environmental 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

Ordering Information

Description	Cat. No.
UMEX²⁰⁰ Passive Sampler for Sulfur Dioxide and/or Nitrogen Dioxide [†]	
pk/10	500-200
pk/25	500-200A
Stand for Area Sampling	690-302
Shelter for Outdoor Sampling	690-303

* Limited shelf-life

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

Other UME^x Passive Samplers Available

The same convenient and economical UME^x design is also available for sampling formaldehyde/other aldehydes (**UMEX¹⁰⁰**), amines (**UMEX⁴⁰⁰**), and ammonia (**UMEX³⁰⁰**). Contact SKC for more information or visit www.skcinc.com.