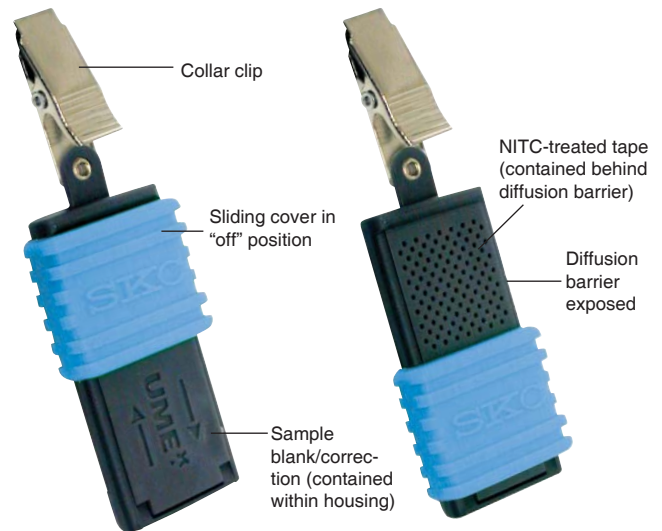


# UMEX<sup>400</sup> Passive Sampler

Easy, Economical, and Reliable Collection of Amines

- Same chemistry as active OSHA Method 60
- Accurate and reliable
- Validated sampling rates for:
  - Methyl amine
  - Dimethyl amine
  - Isopropyl amine
  - Allyl amine
  - n-Butyl amine
- Economical and easy to use
  - No pump or training required
  - Sample medium and blank/correction in one sampler
- Highly sensitive and specific analysis method
- Small and unobtrusive
- Simple-to-use “on/off” sliding cover
- Safe
  - No glass or chemical liquids in the sampler
- Concentration range from 0.5 to 10 ppm
- Use for personal or area sampling



UMEX<sup>400</sup> Sampler with sliding cover in “off” position

UMEX<sup>400</sup> Sampler with sliding cover in “on” position

## Description

The UME<sup>400</sup> Passive Sampler for Amines was developed in collaboration with the National Institute of Working Life in Umea, Sweden for the accurate and stable collection of ppm-level aliphatic amines. Constructed of tough polypropylene, the UME<sup>400</sup> contains a tape treated with 1-Naphthyl-isothiocyanate (NITC) — the same chemistry as active OSHA Method 60, but with the convenience of passive sampling. The single-use samplers are provided in individual aluminized pouches that can be used to transport the sampler to a laboratory after sampling. For convenience and quality control assurance against contamination, each sampler incorporates a “blank/correction” section in addition to the active sampling section so there is no need to send extra samplers to the laboratory. The shelf-life date is printed on a label on the outside of each pouch for easy inventory management. The UME<sup>400</sup> Sampler includes a clip for attachment to a worker’s collar for personal sampling or in an appropriate location for area sampling.



# UMEX<sup>400</sup> Passive Sampler

Easy, Economical, and Reliable Collection of Amines

## Using the UMEX<sup>400</sup> Passive Sampler

Sampling with the UMEX<sup>400</sup> Sampler is very easy and requires no pump or training. Simply remove the badge from the pouch, record sampling information on the back of the sampler, and slide the cover to the "on" position. Clip the sampler on a worker for personal sampling or in an appropriate location for area sampling for up to 8 hours. When sampling is complete, simply slide the cover to the "off" position, place the sampler back in the pouch, and seal. Send the sampler to an accredited laboratory for analysis by high-performance liquid chromatography with UV detection (HPLC-UV). The UMEX<sup>400</sup> sampler is designed for single use only. Do not reuse UMEX<sup>400</sup> samplers.

### UMEX<sup>100</sup> for Formaldehyde and Other Aldehydes

UMEX<sup>100</sup> contains tape treated with 2,4-dinitrophenylhydrazine (DNPH) for the passive collection and analysis of formaldehyde. Analysis is by high-performance liquid chromatography (HPLC). UMEX<sup>100</sup> meets the specifications of OSHA Method 1007, conforms to EU ISO 16000-4-2004, and is referenced in EPA IP-6C. **Contact SKC for details or visit [www.skcinc.com](http://www.skcinc.com).**

### UMEX<sup>200</sup> for Sulfur Dioxide and/or Nitrogen Dioxide

UMEX<sup>200</sup> uses tape treated with triethanolamine (TEA) for the passive collection and analysis of sulfur dioxide and/or nitrogen dioxide. Analysis is by ion chromatography (IC) with conductivity detection. **Contact SKC for details or visit [www.skcinc.com](http://www.skcinc.com).**

#### Reference:

Lindahl, R., Levin, J.O., and Andersson, K., "Determination of Volatile Amines in Air by Diffusive Sampling, Thiourea Formation, and High-performance Liquid Chromatography," *Journal of Chromatography*, 643, 1993, pp. 35-41

#### Note: UMEX<sup>400</sup> was developed in collaboration with:

Jan O. Levin  
Arbetslivsinstitutet  
National Institute for Working Life  
Programme for Chemical Exposure Assessment  
Box 7654, SE 907 13  
Umea, Sweden

#### SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to <http://www.skcinc.com/warranty.asp>.

## Performance Profile

<b>Sampling Rates:</b>	See table below
<b>Concentration Range:</b>	0.5 to 10 ppm
<b>Detection Principle:</b>	Formation of a stable amine derivative, made from a reaction of the amine with NITC
<b>Analysis Method:</b>	Analysis by HPLC with UV detection at 254 nm
<b>Accuracy:</b>	± 25% for all amines except methyl amine ± 35% for methyl amine
<b>Shelf-life:</b>	12 months from date of manufacture in freezer
<b>Storage:</b>	<b>Before use:</b> ≤ 39.2 F (4 C) <b>After use:</b> Samples can store at ambient temperatures for 14 days <i>For storage greater than 14 days, store at ≤ 39.2 F (4 C).</i>
<b>Temperature Effects:</b>	No effect on sampling rate from 50 to 86 F (10 to 30 C)
<b>Humidity Effects:</b>	No effect on sampling rate from 10 to 80% relative humidity (RH)
<b>Wind Velocity Effects:</b>	No effect from 5 to 100 cm/sec
<b>Interferences:</b>	None found; highly specific for amines
<b>Validation:</b>	Partial
<b>Dimensions:</b>	3.4 x 1.1 x 0.35 in (8.6 x 2.8 x .89 cm)
<b>Weight:</b>	0.38 oz (10.8 g)
<b>Slide Cover:</b>	Blue

## Sampling Rates

Compound	Sampling Rate <sup>‡</sup> (ml/min)	RSD
Methyl amine	18.4	14.0
Dimethyl amine	18.2	5.8
Isopropyl amine	13.9	9.5
Allyl amine	22.4	7.7
n-Butyl amine	18.1	9.2

‡ Partial validations; see the *Passive Sampling Guide* at [www.skcinc.com/PassiveGuide/default.asp](http://www.skcinc.com/PassiveGuide/default.asp)

## Ordering Information

Description	Cat. No.
<b>UMEX<sup>400</sup> Passive Sampler for Amines,*†</b> individually packaged in aluminized pouch, pk/10	<b>500-400</b>

\* Limited shelf-life; storage at ≤ 39.2 F (4 C) required. Do not store with food.

† Designed for single use only. Do not reuse UMEX<sup>400</sup> samplers.

