

EXTRACTION NEEDLE FOR COLLECTING VOLATILE ORGANIC COMPOUNDS IN AIR

NeedlEx

Needle Extraction

Characteristics

■ Excellent reproducibility and simple operation

Simply connect a NeedlEx needle to an AP-20 or AP-20N pump and collect a gas sample. Target compounds can be extracted selectively and rapidly.

■ Extended storage possible

Extracted gases can be stored in NeedlEx needles for approximately 10 days by sealing both ends of needles using Teflon plugs.

■ No costly specialised tools required for adsorption and desorption

Gas chromatograph injection port heat is used for the desorption of extracted gases.

■ Reusable

By conditioning for approximately 3 minutes, NeedlEx needles can be reused approximately 25~30 times.



NeedlEx types

■ Alcohol type

Short chain alcohols including methanol and ethanol, as well as low boiling point compounds such as acetone and acetaldehyde can be concentrated by factors of 50 and greater.

■ Organic solvent type

Organic solvents such as ethyl acetate, isobutyl alcohol, methyl isobutyl ketone, toluene, xylene, styrene, etc.

■ Fatty acid type

Fatty acids such as n-butyric acid, isobutyric acid, isovaleric acid, and propionic acid. (The polymer used in this type is a highly heat-resistant polymer selected for its superior fatty acid adsorption and desorption capabilities.)

■ Trimethylamine type

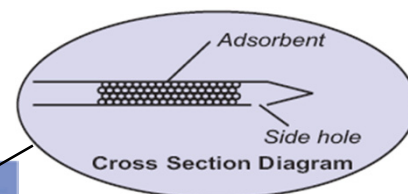
Short chain amines such as trimethylamine.



Connecting to a sampling pump

Specifications

Inner diameter : 0.5 mm
Outer diameter : 0.7 mm
Length : 85 mm



Accessories

Name	Q'ty	Notes
Model AP-20 Sampling Pump	1 set	Sampling volumes are 50 mL and 100 mL.
Model AP-20N Sampling Pump	1 set	Sampling volumes are 10 mL, 50 mL and 100 mL.
Gas-tight syringe	1 pc	SGE Luer lock type (volume: 1 mL).



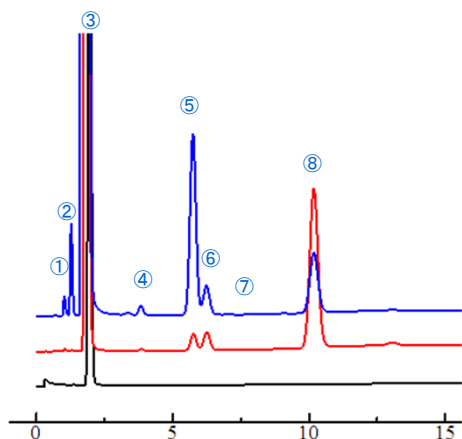
KOMYO RIKAGAKU KOGYO K.K.

1-8-28 Shimonoge, Takatsu-Ku,
Kawasaki-City, Kanagawa, 213-0006, Japan
Tel: +81-44-833-8911
Website: www.komyokk.co.jp/english/
Email: qa@komyokk.co.jp

APPLICATION CHROMATOGRAMS

Alcohol type

Analyses of headspace gas of wine (100 mL sampling)



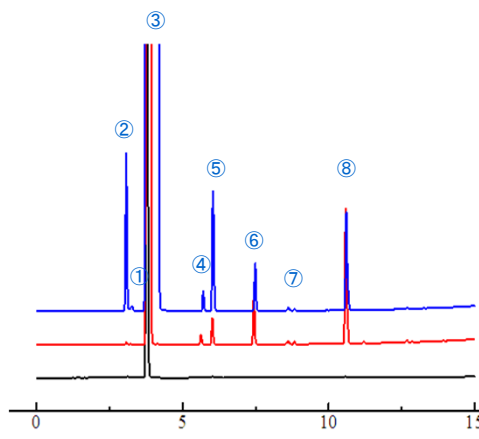
Column: Thermo-1000 5%
Sunpak-A 50/80 mesh
2.1 m x 3.2 mm I.D.
Column temp.: 140°C~200°C
Program rate: 10°C/min
Injection: 0.5 mL (250°C)

- ① Methanol
- ② Acetaldehyde
- ③ Ethanol
- ④ n-Propanol
- ⑤ Ethyl acetate
- ⑥ Isobutanol
- ⑦ n-Butanol
- ⑧ Isoamyl alcohol

Alcohol type

Organic solvent type

Before extraction

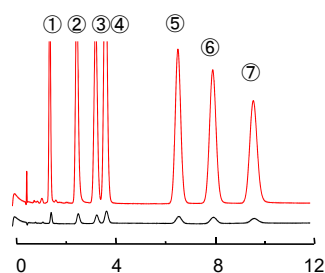


Column: ULBON HR-1701, 30 m x 0.32 mm I.D., df: 0.25 µm
Column temp.: 50°C (2 min. hold)~250°C
Program rate: 10°C/min
Injection: 0.3 mL (250°C)
Split ratio: 10:1
Carrier gas: He 1.7 mL/min

Organic solvent type

Organic solvents

(20 mL sampling)



- ① Ethyl acetate (4.6 ppm)
- ② Isobutyl alcohol (4.8 ppm)
- ③ Methyl isobutyl ketone (3.6 ppm)
- ④ Toluene (4.2 ppm)
- ⑤ m-Xylene (3.6 ppm)
- ⑥ o-Xylene (3.7 ppm)
- ⑦ Styrene (3.9 ppm)

Desorbed gas

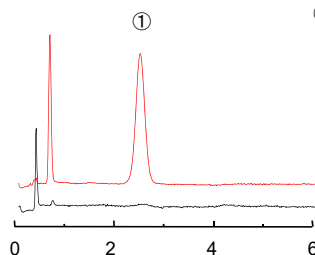
Before extraction

Column: 12% SBS-120
on SHINCARBON A 80/100
Glass 3 m x 3 mm I.D.
Column temp.: 120°C
Injection: 1 mL (200°C)
Detector: FID (200°C)
Carrier gas: N₂ 50 mL/min

Trimethylamine type

Trimethylamine in headspace gas of dry chicken manure

(100 mL sampling)



- ① Trimethylamine (0.3 ppm)

Desorbed gas

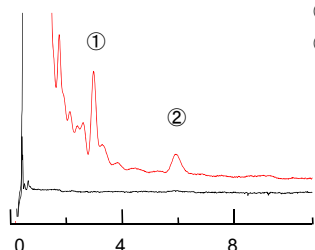
Before extraction

Column: 2+2% Thermo-3000+KOH
on Sunpak-N 60/100 mesh
Glass 2.0 m x 3 mm I.D.
Column temp.: 150°C
Injection: 1 mL (250°C)
Detector: FID (250°C)
Carrier gas: N₂ 50 mL/min

Fatty acid type

Fatty acids in headspace gas of shoes

(300 mL sampling)



- ① Acetic acid (35 ppb)
- ② n-Butyric acid (7 ppb)

Desorbed gas

Before extraction

Column: 5% Thermo-3000
on SHINCARBON A 60/80
Glass 1.5 m x 3 mm I.D.
Column temp.: 120°C
Injection: 1 mL (250°C)
Detector: FID (250°C)
Carrier gas: N₂ 60 mL/min



KITAGAWA
Model AP-20N
Sampling Pump

Distributed by:



EURO-GAS MANAGEMENT SERVICES LTD

Churston House, Bascombe Road,
Churston Ferrers, Devon, TQ5 0JJ, UK

Tel: +44 (0)1803 844414

Website: www.euro-gasman.com

Email: sales@euro-gasman.com