

# A convenient method of parallel task-based and long-term pumped sampling

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# Parallel sampling

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## Purposes of Monitoring:

- Assessing compliance with exposure limits – which may require pumped sampling for multiple components.
- Investigation of exposures: may need task-based measurements in addition to longer-term measurements

# Parallel sampling (2)

Compliance monitoring: Embalming fluid exposure assessment...

- Methanol, pumped onto silica gel sorbent (20 ml/min)
- Formaldehyde, pumped onto doped filter (400 ml/min)
- (plus Ethanol and Phenol, by passive sorbent tube)

Exposure Investigation, e.g. to solvent:

- may need Long-Term sample (for comparison with LTEL)
- plus shorter task-based sample(s) to assist with analysis of exposure pattern

# Parallel sampling (3)

## Problems:

- 1 Multiple analytes & sampling trains can require more than one pump  $\Rightarrow$  “User acceptability” issues
- 2 If using multiple samplers on one pump: changes in airflow on one can/will affect flow on others

## Solution:

Maintain constant vacuum (i.e. pressure) in sampling line  
and

set a constant flow through individual samplers by means  
of needle valves

(n.b this is nothing original...)

(...and HSL does not endorse any product or manufacturer!)

# Differing sample heads



# Differing sorbents



# Long-term and task-based samples



# Equipment:

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**Pumps, constant vacuum devices and multiple sample heads are available from a variety of manufacturers and suppliers...**

# Thank you

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Any questions?  
(apart from couldn't you get any better  
pictures?!)

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