



## Methane via sorbent trap

### Summary

Precise and rapid determination of total mercury in Methane via Sorbent trap can be performed using DMA-1 Direct Mercury Analyzer. Such an instrument requires no sample wet chemistry or pre-treatment.

Once a sorbent trap is introduced into the instrument, analysis is completed in five minutes. Direct analysis of mercury, using the integrated sequence of Catalyst Conversion, Amalgamation, and Atomic Absorption Spectrophotometer.

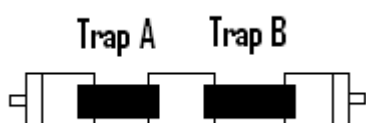
### Instrumentation

#### *Direct Mercury Analyzer apparatus and supplies*

Milestone DMA-1, 640-12 and 1640-12 terminal with DMA-1 software or DMA-1 PC software, Milestone sorbent trap

Analytical balance, spatula, pipette, or appropriate mechanical pipette and volumetric flask (Class A), 50 or 100 ml.

### Sorbent trap :



Trap A: Hg collection

Trap B: blank

Flow rate during sampling: 200 ml/min

Total time (hours) : 20

Total volume (liters) :4

Note: use a MFC (Mass Flow Control) to determine the volume of gas.

Note the above mentioned parameters: flow rate time and volume are guidelines and may be modified according to your needs.

### Procedure

1. Introduce the sorbet trap A into the System.
2. Introduce the volume amount.
3. Run the DMA-1 program to completion.
4. Introduce the sorbet trap B into the System.
5. Run the DMA-1 program to completion.

### DMA-1 program

N° step	Time	Temperature
1	00:01:00	200°C
2	00:02:00	650°C
3	00:01:00	650°C
Max start temp: 200°C		
Purge: 60 sec		

### Results

Sample 1	µg/m <sup>3</sup>	RSD %
Trap A	0.0146±0.0006	3.91
Trap B	0.0005	-

### Conclusion

The DMA-1 Mercury Analyzer successfully processed Methane via Sorbent trap. Total analysis time per sample was less than 5 minutes, including the time employed to introduce the sample through the DMA-1.