

MEMORANDUM

To: AIR QUALITY CONSULTANTS

From: John Sliwinski
OSB Lab

Re: SW846 Sampling Guidelines and Method Limits

Date: 12 March 2002

There are two main references for sampling air and gas emissions using adsorbent materials and thermal desorption: EPA TO (TOXIC ORGANICS) and EPA SW846. A less known method is available from the MOE VOLATILE ORGANIC COMPOUNDS MONITORING NETWORK. EPA TO-17 is an advisory guideline method for sampling a broad range of VOCs in ambient air. EPA SW846 methods are designed specifically for combustion source emissions for compliance purposes not characterization of process streams.

All of the above references provide technical information about Good Field and Laboratory Practice to yield acceptable results – this includes integration of field and laboratory procedures. Recent observations at OSB Lab have suggested that EPA SW846 methods are not being used properly for the type and concentration of VOCs that can be collected using these procedures.

The attached VOCs/VOST section references provide direction to valid data. The laboratory cannot control input but has a responsibility under certain paragraphs to judge acceptability of what has been submitted for analytical determination. Particular attention needs to be paid to those sections discussing concentration range and chemical saturation interferences both target and non-target parameters.

US EPA SW846 VOCs/VOST SECTION REFERENCES

METHOD	0030 TENAX/ CHARCOAL	0031 TENAX/ ANASORB 747	0040 TEDLAR BAG	5040 5040A ANALYSIS (DELETED)	5041 5041A ANALYSIS	8240 8240A 8240B GC/MS (DELETED)	8260 8260A 8260B GC/MS
Definition and Application	1.1.1 30° to 100°C	1.2 -15° to 121°C	1.1, 1.5	1.2	1.1,1.2	1.2	1.1
Other VOCs	1.1.2	1.4	—	—	1.3, 1.4, 1.5	—	1.3
Method Limits	1.1.4	1.5	3.0, 6.2, 6.3, 6.4	—	—	—	1.4
Concentration Range	1.2.2	1.6	—	—	1.6	—	—
Sensitivity	1.2.2, 4.4.2.2	1.7, 8.2.8	—	—	1.6	—	9.9, 9.10
Probe Temperature	2.1.1	2.1, 4.1.1	4.2.1	—	—	—	—
Cleaning	3.4, 3.5, 3.6	3.1, 4.3, 6.0	6.1.1	—	—	—	—
Saturation Concentration	—	3.2	7.7	—	3.3, 3.4, 3.5, 3.7, 3.8, 7.16.6, 7.16.7, 7.16.8	—	7.5.11
Interferences	—	—	3.0	—	3.8, 7.15.3	—	3.0
Contamination in Tubes	3.1.1, 3.1.2, 4.4.1, 4.4.2	5.2, 7.0	—	—	3.1, 6.2, 7.18.4	—	—
Storage	—	6.5.3, 7.1.3	6.2	—	6.7	—	—
Blank Discretion	4.4.2.5	7.1.2	—	—	7.18.4	—	—
Blanks	4.8	6.6	8.2	—	3.1, 3.2	—	—