

A2LA Assessor Environmental Method Checklist

Total Organic Halides (TOX)

Item	Section 1 - Personnel	Reference	Yes-No or NA	
1.1	Does the analyst(s) interviewed meet the job description position requirements, training and qualifications for performing the test? Supervisor: _____ Technician: _____	(G25)6.1		

Item	Section 2 - Equipment & Facilities	Reference	Yes-No or NA	
2.1	Is a carbon adsorption system and microcoulometric titration system available for the analysis?	(SW846)9020B,4.0 (1994)		
2.2	Is a carbon adsorption system, neutron bombardment reactor and gamma ray detector available for the analysis?	(SW846)9022,4.0 (1986)		
2.3	Is glassware cleaned with chromate cleaning solution, hot water wash, tap water rinse, distilled water rinse and heated at 400°C for 15 to 30 minutes (Not volumetric glassware)?	(SW846)9020B,3.1 (1994)		

Item	Section 3 - Method	Reference	Yes-No or NA	
3.1	Is the purity of the activated carbon verified before use?	(SW846)9020B,3.2 (1994)		
3.2	Is the column rinsed with nitrate solution?	(SW846)9020B,7.3.3 (1994)		
3.3	Is the carbon efficiency checked for each newly prepared batch of carbon, documented and is the efficiency within 10% of the standard value for the microcoulometric analysis?	(SW846)9020B,7.2.1 (1994)		
3.4	Is the carbon efficiency checked for each newly prepared batch of carbon, documented and the efficiency within 5% of the standard value for the neutron activation analysis?	(SW846)9022,7.2.1 (1986)		
3.5	Is the sample positioned for 2 min in the 200°C zone of the pyrolysis tube?	(SW846)9020B,7.4.5 (1994)		

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3.6	Is the sample moved to the 800°C zone for 6 to 10 minutes, until complete?	(SW846)9020B,7.4.6 (1994)		
3.7	Is the instrument calibrated with radioactive standards (e.g. cobalt-60 and radium-226) for the neutron activation method?	(SW846)9022,7.2.3 (1986)		
3.8	Are peak locations monitored to ensure there is no electronic drift?	(SW846)9022,7.2.3 (1986)		
3.9	Are the time intervals between samples and the "dead" time of each sample recorded for later use in the calculations?	(SW846)9022,7.5.2 (1986)		
3.10	Are the samples and standards counted at the same distance from the detector?	(SW846)9022,8.8 (1986)		
3.11	Are measurements less than 10% of the two-column total measurement (adsorption column breakthrough evaluation)?	(SW846)9020B,7.6 (1994)		

Item	Section 4 - Sample Handling Practices	Reference	Yes-No or NA	
4.1	Are the samples collected in amber, glass bottles, free of headspace?	(SW846)9020B,6.2 (1994)		
4.2	Is residual chlorine reduced during sampling by adding 5 mg sodium sulfite crystals per liter of sample?	(SW846)9022,7.1.2 (1986)		
4.3	Are particulates removed from the sample, and the method of removal recorded with the data?	(SW846)9020B,3.3 (1994)		
4.4	Are samples preserved with H ₂ SO ₄ , to pH <2, cooled to 4°C, when analysis is not started immediately and analyzed within 28 days?	(SW846)9020B,6.2 (1994)		
4.5	Are samples adjusted to pH < 2 with nitric acid prior to adding the sample to the reservoir for neutron activation analysis?	(SW846)9022,7.1.4 (1986)		

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Item	Section 5 - Quality Control Practices	Reference	Yes-No or NA	
5.1	Are all samples run in duplicate?	(SW846)9020B,8.2 (1994)		
5.2	Are two blanks run every eight analytical determinations?	(SW846)9020B,8.3 (1994)		
5.3	Is a nitrate wash (method blank) run every ten determinations?	(SW846)9020B,7.2.2 (1994)		
5.4	Is an independent check standard performed after calibration?	(SW846)9020B,8.4 (1994)		
5.5	Is a matrix spike performed between every 10 samples?	(SW846)9020B,8.5 (1994)		
5.6	Is the relative standard deviation 20% at concentrations greater than 25 µg/L?	(SW846)9020B,9.2 (1994)		
5.7	Are duplicate calibration standards and blanks run at the start of testing?	(SW846)9020B,7.2.3 (1994)		
5.8	Is the calibration standard analyzed after 10 determinations?	(SW846)9020B,7.2.3 (1994)		
5.9	Are control limits for the standard established and within 10% of the standard value?	(SW846)9020B,7.2.3 (1994)		