

Materials List for:

# Split Point Analysis and Uncertainty Quantification of Thermal-Optical Organic/Elemental Carbon Measurements

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## Materials

Name	Company	Catalog Number	Comments
10% oxygen gas in helium	Local gas supplier	---	Primary or certified standard preferred
5% methane gas in helium	Local gas supplier	---	Primary or certified standard preferred
Distilled, de-ionized water	Harleco	6442-85	ASTM D1193-91 Type II or Type I (preferred)
Filter punch tool	Sunset Laboratories Inc.	---	Included with carbon analyzer
Filter removal tool	Sunset Laboratories Inc.	---	Included with carbon analyzer
Glass jar (4 oz.)	ULINE	S-17982P-BL	Or suitable equivalent; borosilicate glass preferred
Helium gas	Local gas supplier	---	Ultra-high purity (> 99.999%) or better preferred
High-accuracy thermal gas mass flow meter	Bronkhorst	EL-FLOW Prestige	For accurate measurement of sample volume (see <b>Protocol</b> step 5)
High-purity sucrose	Sigma Aldrich	S9378	Purity ≥ 99% <sub>m/m</sub> or higher preferred
Lint-free tissues	Kimtech	34155	Or suitable equivalent
MatLab Runtime (R2016a or newer)	MathWorks Inc.	mathworks.com	Search "runtime compiler" and install appropriate version for the operating system
Non-powdered, disposable, plastic gloves	VWR	89428-752	Or suitable, properly-sized equivalent
OCECgo software	Carleton University, Energy and Emissions Research Lab.	GitHub Repository	Source and build distributions of the software are available on GitHub
Oxygen trap	Supelco	22449	Or suitable GC-quality equivalent
Pipette	Eppendorf	312000020	Model: Research® Plus 0.5 - 10 µL - Or any single-channel, adjustable volume, manual pipette
Pipette tips	Eppendorf	022492012	Model: epT.I.P.S.® Standard, 0.1 - 20 µL
Precision scale / balance	AND	FX-3000IWP	Precision balance with capacity > 1 kg
Quartz filters	Pall	7202	Model: Tissuquartz 2500 QAT-UP - 47 mm
Semi-continuous thermal-optical organic/elemental carbon analyzer	Sunset Laboratories Inc.	---	Model 4 semi-continuous analyzer