

Materials List for:

# A Lipid Extraction and Analysis Method for Characterizing Soil Microbes in Experiments with Many Samples

Lawrence G. Oates<sup>1</sup>, Harry W. Read<sup>2</sup>, Jessica L. M. Gutknecht<sup>3</sup>, David S. Duncan<sup>1</sup>, Teri B. Balsler<sup>4</sup>, Randall D. Jackson<sup>1</sup>

<sup>1</sup>Department of Agronomy and Great Lakes Bioenergy Research Center, University of Wisconsin - Madison

<sup>2</sup>Department of Soil Science, University of Wisconsin - Madison

<sup>3</sup>Department of Soil, Water, and Climate, University of Minnesota

<sup>4</sup>Faculty of Science and Engineering, Curtin University

Correspondence to: Lawrence G. Oates at [oates@wisc.edu](mailto:oates@wisc.edu)

URL: <https://www.jove.com/video/55310>

DOI: [doi:10.3791/55310](https://doi.org/10.3791/55310)

## Materials

Name	Company	Catalog Number	Comments
RapidVap	Labconco	7900000	Evaporative system
RapidVap	Labconco	7491400	Sample block
Chem-resistant vacuum pump	Labconco	7584000	Vacuum pump
Chemical trap cannister	Labconco	7815300	Trap cannister
Solvent insert	Labconco	7515200	Solvent trap insert
Diaphragm pump	Welch	7398000	DryFast vacuum pump
Water bath	Fisher	15-462-15Q	2 well water bath
Gas chromatograph	Various	N/A	For sample analysis
Centrifuge	Various	N/A	For sample separation
Freeze Dryer	Various	N/A	For sample lyophilization
Repipet (6)	BrandTech	4720440	For dispensing reagents
Vortex	Fisher	02-215-365	Analog vortex mixer
Teflon centrifuge tubes	Thermo/Nalgene	3114-0030	Teflon sample tubes
Caps	Thermo/Nalgene	DS3131-0020	Caps for teflon tubes
Test tube	Corning	9825-16	16x100mm tubes
Test tube	Corning	9825-16xx	16x150mm tubes
Caps	Corning	9998-15	15-415 thread black phenolic caps w/PTFE liner
Pasteur pipets	Fisher	13-678-20B	14.6cm
500 uL glass syringe	Fisher	13684106LC	Hamilton 81217
Amber vials	Agilent	5182-0716	4mL Amber vials
Caps	Agilent	5182-0717	Blue screw caps
Inserts	Agilent	5181-3377	400uL flat bottom glass inserts
<b>Standards</b>			
19:0 ethyl nonadecanoate (Ethyl nonadecanoate)	VWR	TCN0459-5G	Analytical standard
<b>Chemicals</b>			
Dipotassium phosphate (K <sub>2</sub> HPO <sub>4</sub> - ACS grade or better)	Various	N/A	For making Phosphate-Buffer
Potassium phosphate monobasic (KH <sub>2</sub> PO <sub>4</sub> - ACS grade or better)	Various	N/A	For making Phosphate-Buffer
Methanol (CH <sub>3</sub> OH - HPLC grade or better)	Various	N/A	For making Reagents 1 & 2

Sodium hydroxide (NaOH - ACS grade or better)	Various	N/A	For making Reagents 1 & 4
Hydrochloric acid (6N HCL)	Various	N/A	For making Reagent 2
Hexane (HPLC grade or better)	Various	N/A	For making Reagent 3
MTBE (Methyl tert-butyl ether - HPLC grade or better)	Various	N/A	For making Reagent 3