

REQUEST FOR LABORATORY ANALYSIS

Beer & Hops

ALAB SERVICE AGREEMENT

6 University Avenue, INN249, Wolfville, Nova Scotia B4P 2R6

p: 902 698 1012 e: alab@acadiau.ca w: alab.acadiau.ca



Client Information

Name: _____ Organization: _____
Email for Results: _____ Address: _____
Email for Invoice: _____ Phone: _____

- ALAB collects non-identifiable data for ongoing statistical analysis and academic-related activities to better characterize products and improve our service offerings.
 - ALAB is required to report on its activities, including the names of clients using ALAB services. If you would like to exclude your company name from reporting activities, please notify ALAB staff via email - alab@acadiau.ca. Please note that company-specific testing results are confidential and will not be released.
- Please check this box if you are using the results of this analysis for product research & development.**

Sample Volume – minimum volumes listed. If multiple tests are required, please enquire about volume required.

- Beer/mead/wort – Minimum 150 mL, Calories and Carbohydrates require 1 full can (355/473 mL)
 - Liquor Corporation Panel testing requires one full retail packaged product.
- Hops – Obtain a representative sample of ~100g. Dry cones (10% moisture), pellets, or wet hops accepted.
 - Representative samples should be taken from at least 4 locations depending on sample type
 - In the yard – select from different plants and locations
 - Post-harvest/palletization – select from bottom, top, and sides of piles
 - Post bagging/baling – choose samples from multiple bags or bales and positions within

Samples will be retained for a maximum of 5 business days after results have been sent.

If you have any detailed instructions, requests not covered by the sample submission form, or other questions or concerns regarding sample analysis, contact ALAB at 902-698-1012 or alab@acadiau.ca

For ALAB Use:			Batch numbers
Temperature Rec'd & Stored	R:	S:	
Date & Time Rec'd			
Received by			
Logged?			Data Send Date
Comments & Notes	Order ID:		

Sample Type abbreviations: Beer-**B**, Wort- **W**, Hops, Pelleted - **P**, Hops, Leaf – **L**, Brewing Water – **BW**

Client Sample ID	Sample Type	Comment									
Ex. Lager-Batch1	B	Pre-canning sample									
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Analyses Required – Continued on pg. 3	Sample ID										
	Price*	1	2	3	4	5	6	7	8	9	10
pH ^{AT}	\$8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Density/Specific Gravity ^{AT}	\$8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity ^{AT}	\$8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conductivity ^{AT}	\$8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
YAN	\$37	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chill Haze	\$25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol by Volume ^{AT}	\$31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single Higher Alcohol; specify	\$61	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol Profile; see below	\$104	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Higher Alcohols	\$185	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total SO ₂ ^{AT}	\$37	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Acidity ^{AT}	\$31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sugar Profile ^{AT}	\$49	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calories and Carbohydrates (includes ABV & Protein) -See pg3	\$104	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrition Panel --See pg3	\$190	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protein	\$13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organic Acid Profile	\$55	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individual organic acid; specify	\$31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sorbic Acid ^{AT}	\$25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volatile Acidity	\$31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iso-Alpha Acids (IBU) Specify IsoAA, Rho, or Tetra	\$37	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Colour (Specify SRM or EBC)	\$19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caffeine ^{AT}	\$59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethyl Carbamate ^{AT}	\$158	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Analyses Required	Price*	1	2	3	4	5	6	7	8	9	10
Metals (As, Cd, Co, Cu, Pb) ^{AT}	\$104	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single Metal ; specify	\$55	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cations (Na, Ca, K, Mg, Fe)	\$61	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single Cation (specify)	\$49	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anions (F, Cl, Br, NO ₂ , NO ₃ , SO ₄ , PO ₄)	\$83	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single Anion (specify)	\$44	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Synthetic Dyes ^{AT} (9 analytes)	\$73	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LC Panel – See pg 4	\$250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hops: Alpha and Beta Acids	\$55	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hops storage index	\$19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hops Moisture content	\$37	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hops Package	\$85	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

AT: Accredited Test HST not included in pricing See Pg 4 for bulk rates

ALAB Packages:

Beer/Wort/Brewing Water

- Basic Analyses:
 - pH^{AT} - pH Meter - \$8
 - Density/Specific Gravity^{AT} - Digital Density Meter - \$8
 - Turbidity^{AT} - Nephelometer - \$8
 - Conductivity^{AT} - Conductivity meter - \$8
- YAN (Yeast Assimilable Nitrogen) - Enzymatic Kit - \$37
- Chill haze - ASBC 27-1b Nephelometric method - \$25
- Alcohol by volume^{AT} – Alcolyzer (NIR/Density) - \$31
- Higher Alcohols - GC-FID – Acetaldehyde, Ethyl acetate, Methanol, 1-Butanol, 1-Propanol, Isobutanol, Isoamyl alcohol, Ethyl lactate - \$185
 - Note: For products containing less than 30 g/L sugar
- Methanol - GC-FID - \$59
 - Note: For products containing less than 30 g/L sugar
- Alcohol Profile - GC-FID- Acetaldehyde, Ethyl acetate, Methanol - \$94
 - Note: For products containing less than 30 g/L sugar
- Total SO₂^{AT} - Skalar Continuous Flow Analyzer - \$37
- Total Acidity^{AT} (g/L Lactic acid) - Skalar Continuous Flow Analyzer - \$31
- Sugar Profile^{AT} (beer & wort) - HPLC-RI - Fructose, Glucose, Sucrose, Maltose, Lactose - \$49
- Calories and Carbohydrates - ASBC methods, ABV^{AT} & protein measurement included - \$104
 - Note: Total carbohydrate value is given, if total sugar value is also required, please add sugar profile (\$49) to your request.
- Nutrition Panel - \$190
 - **Includes:** % ABV^{AT}, Calories and carbohydrates as above, total sugar^{AT}, cations (sodium, calcium, magnesium, potassium, iron), and protein.
 - **Note 1:** The report will include a statement that fat is not expected in this product. If the presence of fat is uncertain, we can subcontract this test for an additional fee.
 - **Note 2:** ALAB does not issue formal nutrition facts tables (NFTs). NFTs can be created from values on the COA.
- Protein - ASBC spectrophotometric method - \$13

- Organic Acid Profile - HPLC-UV-Vis - Tartaric, Malic, Lactic, Acetic, Citric, Succinic Acids - \$55
- Individual Organic acid - HPLC-UV-Vis - \$31
- Sorbic Acid^{AT} - HPLC-UV-Vis - \$25
- Volatile Acidity - HPLC-UV-Vis - \$31
- Iso-Alpha Acids - IBU measurement by HPLC-UV-Vis - \$37
- Colour Analysis (beer and wort) - Spectrophotometer – ASBC-Beer10 - SRM or EBC Values - \$19
- Caffeine^{AT} - HPLC-UV-VIS - \$59
- Ethyl Carbamate^{AT} - GC-MS/MS - \$158
- Metals^{AT} (Arsenic, cadmium, cobalt, copper, lead) - ICP-MS - \$104
- Single Metal - ICP-MS - \$55
- Cations (Sodium, Calcium, Magnesium, Potassium, Iron) - ICP-MS - \$61
- Single Cation - ICP-MS - \$49
- Anions (Fluoride, Chloride, Bromide, Nitrate, Nitrite, Sulfate, Phosphate) - Ion Chromatography - \$83
- Single Anion – Ion Chromatography - \$44
- Synthetic Dyes – Quantitative: Indigo carmine^{AT}, tartrazine^{AT}, allura red^{AT}, amaranth^{AT}, sunset yellow^{AT}, fast green^{AT}, brilliant blue^{AT}, erythrosin B^{AT}. Presence/Absence: Patent blue V - \$73
- Liquor Corporation Panel - \$250
 - Includes: Alcohol^{AT}, total sugar^{AT}, ethyl carbamate^{AT}, arsenic^{AT}, cadmium^{AT}, cobalt^{AT}, Lead^{AT}. Please provide 1 bottle/can of retail packaged product.
 - **Note:** To ensure that the Certificate of Analysis (CoA) provided for the Liquor Corporation Panel will be accepted by the jurisdiction/country you want to be listed with, it is your responsibility to check the listing requirements.

Hops

- Alpha and Beta acids- Solvent extraction and HPLC-UV-VIS - \$55
- Hops Storage Index - Solvent extraction and spectrophotometry - \$19
- Moisture Content - Air oven - \$37
- Hops Package - Alpha and Beta Acids, HSI, Moisture - \$85

Bulk rates

Submission of 5 or more samples will result in a 5% discount, 10 or more samples will be discounted 10%. Bulk rates only apply to same-type analysis submitted simultaneously. Bulk rates do not apply to the Liquor Corporation Panel and assays priced at less than \$20/assay.

Turnaround Times

Typical turnaround time is 3-10 business days after receipt of samples and forms. Volume of testing may affect turnaround times.

Submitting Samples

Step 1 Complete the ALAB Service Agreement form on pages 1 & 2 (either by hand or in Acrobat using the fill and sign function).

Step 2 Print the completed ALAB Service Agreement form and place inside a suitable shipping box containing the sample(s). Juice or samples that are fermenting must be shipped/delivered on ice.

Step 3 Clearly label the sample(s) with your Client Sample ID indicating the type of product and a number
Note: a minimum of 150 mL of each sample is required – see page 1

Step 4 Affix the shipping label below to the box. Wrap bottles individually if mailing.

Step 5 Mail or drop off the sample(s) – please email ahead of time if dropping off samples.
Drop off at David Huestis Innovation Pavilion (between 9:00 and 4:30, or by special arrangements)
Enter main doors of Elliott Hall (6 University Ave.). Take the stairs on the left to the second floor McCain Commons. Cross the walkway to Room 249 (alab). If no one is there, leave the package outside the lab – please email alab@acadiau.ca or text 902-698-1012 to notify the lab technician that it has been left.

Step 6 ALAB staff will analyze the sample(s) within the standard turnaround time.

Step 7 ALAB staff send results when the analysis is completed and will invoice to the client at the end of the month, payment is requested immediately.

Shipping Label:

SHIP TO:



ALAB

Acadia University

15 University Avenue
Wolfville, NS, Canada
B4P 2R6