



Alliance Analytical Labs

Coopersville, MI

Analytical Services Catalog for Alcohol Related Testing

Including Beer, Wine and Distilled Spirits

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Alliance Analytical Laboratories hold accreditation as Certified Chemists by the Federal Alcohol & Tobacco Tax & Trade Bureau (TTB). Also our Chemistry & Microbiology Departments are staffed with PhD level analysts and offer food safety testing services required by the USDA, FDA, and GFSI standards, which are specifically designed for growers, packers, food producers and beverage distillers.

We can test and certify your irrigation and wash water, check for pesticide residue and confirm the safety of your supply chain, as well as, food and beverages. We also provide Primus GFS pre-audit, GMP and HACCP audit and consulting services to ensure your processes meet current food safety standards.

Alliance Analytical Laboratory is an internationally recognized food safety and beverage-testing laboratory, serving the farm-to-fork food and beverage industry segments. Alliance utilizes FDA, TTB, USDA, AOAC and Client Specified methods for testing criteria.

We know we can't earn you business until we have earned your trust. So the enclosed information is our first attempt at building that foundation. If you have any questions feel free to give us a call, we are here to help.



Test #	Amount of Sample Required	Analytical Test – Brewers and Beer Brewing	Price
B001	1 bottle/can or 355 mL	Alcohol By Volume – Determination of alcohol content in a given volume ran via Gas Chromatography, with the ability to report to the nearest 0.01% by weight.	\$33.00
B002	1 bottle/can or 355 mL	Real Extract – Determination of percent solids converted to alcohol and CO2 by the yeast. This precise calculation regards the specific gravity of beer and can be measured to the nearest 0.01% by weight using a pycnometer and analytical balance.	\$30.00
B003	1 bottle/can or 355 mL	Specific Gravity – Determination of a liquid's density compared to water. Factors include density of wort prior to and after fermentation, as well as sugar content, unfermented starches, hop materials, etc. This can be measured to 0.00001 @ 20° C utilizing a pycnometer.	\$22.00
B004	1 bottle/can or 355 mL	pH – Determination of pH, which is of vital importance for many of the chemical and biochemical reactions involved in the brewing process. Knowing the pH will help to ensure optimal extraction efficiency. Using a pH electrode your pH will be measured to the nearest 0.01.	\$12.00
B005	1 bottle/can or 355 mL	Color – Determination of the color of your brew helps to tell you and your consumers the style of what they are drinking. This information can allow for tweaking of the Maillard reaction and caramelization to achieve the desired color. Your color can be measured to the nearest Degree SRM utilizing UV-visible spectroscopy.	\$15.00
B006	1 bottle/can or 355 mL	Bitterness Units – The determination of your IBU to determine style and flavor to your brew, giving you a measurement that allows you to know your bitterness intensity. This analysis can also help you measure the iso-alpha acids and other bitterness compounds that are present. Your BU can be measured to 0.1 BU's utilizing UV-visible spectroscopy.	\$33.00
B007	2 bottles/cans or 710 mL	Value Package – Alcohol by Volume, Real Extract, Bitterness Units, and pH. This package will provide you with some of the critical information.	Available upon request
B008	6 bottles/cans or 2 Liters	Brewer's Package – Alcohol by Volume, Real Extract, Bitterness Units, pH, Specific Gravity, Color, and Calories. A more thorough analysis of your brew that can help with some of the fine-tuning or branding of your new brew, or assurance of the quality that you and your customers have come to expect.	Available upon request
B009	2 bottles/cans or 355 mL per testing	Longevity Package – The Brewer's Package that can be done at intervals of your choosing. Can be used for quality control, shelf life, reference, or any other reason you may have.	Available upon request

** Full Nutritional Profiles also available see page 08

Test #	Amount of Sample Required	Analytical Test – Hops for Brewers and Growers	Price
H001	1 quart bag	Hops Run – Includes analysis for Alpha acids, Beta acids, Cohumulone, Colupulone, Moisture and Dry Matter via HPLC.	\$33.00
H002	1 quart bag	Hops – Brewer's Quality – Analysis for Alpha Acids, Beta Acids, Cohumulone, Colupluone, Hops Storage Index, Moisture and Dry Matter.	\$35.00
H003	1 quart bag	Hops – Essential Oils – Oil panel that analyzes Myrcene, Humulene, Farnesene, Caryophyllene, Linalool, and Geraniol, as well as, Moisture Content and Dry Matter.	\$85.00
H004	1 quart bag	Hops – Pre-harvest – Includes analysis for Alpha Acids, Beta Acids, Moisture, and 10% moisture adjusted Alpha and Beta Acids.	\$33.00
H005	1 quart bag	Moisture Content – Determine the Moisture Content and Dry Matter percentages of your hops.	\$11.00

With the explosion of craft brewing selections, it is essential to have ingredients tested to assure they will meet the brew master's specifications. Hops are a primary ingredient in beer, providing important aroma, flavor and bittering properties. Alliance Analytical Labs is a TTB certified hops testing lab in Michigan.

Test #	Amount of Sample Required	Analytical Test – Distilleries and Distilled Spirits	Price
S001	500 mL	Apparent Proof - Determination of alcohol content of a sample. Can be done as long as the solids range meets the correct criteria (< 600mg / 100 mL). This method can produce results that are accurate to the nearest 0.1° Proof at 60° F.	\$70.00
S002	500 mL	True Proof (Distillation) - Determination of alcohol content through the use of distillation. This method is used when Apparent proof cannot be measured due to elevated solids content. This method can produce results that are accurate to the nearest 0.1° Proof at 60° F.	\$115.00
S003	500 mL	True Proof (Obscuration) – Determination of proof when the solid content is higher than 400mg/ 100mL and lower than 600mg/ 100 mL. The obscuration value is determined by measuring the apparent proof and adjusted for obscuration. This method can produce results that are accurate to the nearest 0.1° Proof at 60° F.	N/C*
S004	500 mL	Total Solids - Determination of solid material within your product. These solids can be detected to 0.1g/ 100L.	\$16.50
S005	500 mL	Specific Gravity - Determination of a liquid's density compared to water. Factors include density of wort prior to and after fermentation, as well as sugar content, unfermented starches, hop materials, etc. This can be measured to 0.00001 @ 20° C utilizing a pycnometer.	\$22.00
S006	500 mL	Total Acidity - Determination of acidity of your product, the acids detected and those that are expressed include Tartaric Acid, Citric Acid, Malic Acid, or Levo-Malic Acid. The acidity can be measured to 0.1g/ 100L.	\$24.20
S007	500 mL	Fusel Oils – Determination of by-products that are produced during fermentation. These by-products produce flavors and characteristics that are vital to monitor. Through the analysis of Fusel Oils we can test for: Ethyl Acetate, Methanol, n-Propanol, iso-Butanol, n-Butanol, and Amyl Alcohol. With the detection limit for some of these as low as 0.1 ppm.	\$75.00
S008	500 mL	Furfural – Determination of concentration of Furfural that is usually added to alcoholic beverages as coloring agents. These compounds are also found in charred oak barrels and can diffuse into substances stored inside of them. Furfural content can be measured to 0.1g / 100L.	\$50.00
S009	1 Liter	Value Package – Proofing, Total Solids, and Specific Gravity	Available upon request
S010	1 Liter	Distiller's Package – Proofing, Total Solids, Specific Gravity, Total Acidity, Fusel Oils, and Furfural.	Available upon request
S011	1 Liter per testing	Longevity Package – The Distiller's Package that can be done at intervals of your choosing. Can be used for quality control, shelf life, reference, or any other reason you may have.	Available upon request

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Test #	Amount of Sample Required	Analytical Test – Vintners and Wine Making	Price
W001	1 bottle	Alcohol by Volume - Determination of alcohol content in a given volume ran via Gas Chromatography, with the ability to report to the nearest 0.01% by weight.	\$30.00
W002	1 bottle	Total Acidity - Determination of acidity of your product, the acids detected and those that are expressed include Tartaric Acid, Citric Acid, Malic Acid, or Levo-Malic Acid. The acidity can be measured to 0.1g/ 100L.	\$24.20
W003	1 bottle	Citric Acid – Determination of Citric Acid, which is a natural component, that acts as a preservative and can add sour flavoring. Aside from its antimicrobial activity, it may also prevent browning. Our detection of citric acid is accurate to the nearest 0.1g/ L.	\$38.50
W004	1 bottle	Total Sulfites – Determination of free and bound sulfite/Sulfur Dioxide. These sulfites work to act as a preservative and protector in wine. Our analysis yields the ability to measure Sulfites to 1mg/ L.	\$16.50
W005	1 bottle	Residual Sugars – Determination of any sugar that is leftover after fermentation has ended. These residual sugars can also occur due to un-fermentability of certain types of sugars. Our analytical procedures allow detection to 0.01g/ 100mL.	\$112.20
W006	1 bottle	Sorbic Acid – Determination of Sorbic Acid that is added to wine, usually of the sweet variety, which acts as a preservative against fungi, bacteria, and yeast growth. We are able to detect Sorbic acid levels to the nearest 1mg/ L.	\$98.00
W007	1 bottle	Methanol – Determination of Methanol in your product, while occurring naturally this type of alcohol is closely regulated with maximum tolerance in wine being 0.1% by volume. We are able to detect methanol content to the nearest 0.01% v/v.	\$60.00
W008	2 bottles	Value Package – Alcohol by Volume, Sulfites, Residual Sugars, and Methanol.	Available upon request
W009	3 bottles	Vintner's Package – Alcohol by Volume, Total Acidity, Citric Acid, Total Sulfites, Residual Sugars, Sorbic Acid, and Methanol.	Available upon request
W010	3 bottles per testing	Longevity Package – The Vintner's Package that can be done at intervals of your choosing. Can be used for quality control, shelf life, reference, or any other reason you may have.	Available upon request

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Test #	Amount of Sample Required	Analytical Test – Kombucha	Price
K001	350 mL	Alcohol by Volume - Determination of alcohol content in a given volume ran via Gas Chromatography, with the ability to report to the nearest 0.01% by weight.	\$30.00
K002	100 mL	pH - Determination of pH, which is of vital importance for many of the chemical and biochemical reactions involved in the brewing process. Knowing the pH will help to ensure optimal extraction efficiency. Using a pH electrode your pH will be measured to the nearest 0.01.	\$12.00
K003	350 mL	Sugar Profile – Determination of sugar content through the use of HPLC, which analyzes your product for Glucose, Lactose, Maltose, Fructose, and Sucrose.	\$112.20
K004	500 mL	Mother Package – Alcohol by Volume, pH, and Sugar Profile	Available upon request
K005	500 mL per testing	Longevity Package – The Mother Package that can be done at intervals of your choosing. Can be used for quality control, shelf-life, reference, or any other reason you may have.	Available upon request

** Full Nutritional Profiles also available see page 08

Test #	Amount of Sample Required	Analytical Test – Nutritional Label	Price
N001	Sample Dependent	Alcohol By Volume - Determination of alcohol content in a given volume ran via Gas Chromatography, with the ability to report to the nearest 0.01% by weight.	\$33.00
N002	Sample Dependent	Ash – Determination of mineral content in your products through measuring the incomplete combustion. The substances found in ash are not limited to, but may include: Sodium, Potassium, Calcium, and other minerals.	\$12.00
N003	Sample Dependent	Calories and Carbohydrates – A calculation that uses various collected data to determine the caloric and carbohydrate content to a sample size.	\$13.20
N004	Sample Dependent	Real Extract – Determination of percent solids converted to alcohol and CO2 by the yeast. This precise calculation regards the specific gravity of beer and can be measured to the nearest 0.01% by weight using a pycnometer and analytical balance.	\$30.00
N005	Sample Dependent	Protein – Determination of protein within your product can be analyzed through the use of combustion or by digestion and titration.	\$25.85- \$31.35
N006	Sample Dependent	Sodium – Determination of sodium in your product through the use of a flame atomic absorption spectroscopy.	\$30.00
N007	Sample Dependent	Specific Gravity - Determination of a liquid's density compared to water. Factors include density of wort prior to and after fermentation, as well as sugar content, unfermented starches, hop materials, etc. This can be measured to 0.00001 @ 20° C utilizing a pycnometer.	\$22.00
N008	Sample Dependent	Sugar Profile – Determination of sugar content through the use of HPLC, which analyzes your product for Glucose, Lactose, Maltose, Fructose, and Sucrose.	\$112.20
N009	Sample Dependent	Value Package – Alcohol by Volume, Ash, Calories and Carbohydrates, Extract, Protein, Sodium, Specific Gravity, and a nutritional label.	\$150.00
N010	Sample Dependent	Full Service Package – Alcohol by Volume, Ash, Calories and Carbohydrates, Extract, Protein, Sodium, Specific Gravity, Sugar Profile, and a nutritional label.	\$220.00

Test #	Amount of Sample Required	Analytical Test – Microbiology and Water Testing	Price
M001	Sample Dependent	Total Plate Count – Determination of aerobic/anaerobic organisms along with a description of the cellular morphology.	\$13.50/\$24.20
M002	Sample Dependent	Yeast/Mold Plate Count – Determination of yeast or mold growth	\$15.50
M003	Sample Dependent	Yeast Identification – Determination of yeast cultures through a series of plates to determine which species is present.	Price on Request
M004	~355 mL	Partial Chemistry – Determination of the anions located within a sample, provides results for Chloride, Fluoride, Nitrate, Nitrite, Sulfate, Sodium, Hardness and Iron.	\$17.50
M005	1 Liter	Minerals – Determination of minerals within a sample, provide analysis of and detects Boron, Calcium, Copper, Iron, Magnesium, Manganese, Molybdenum, Phosphorus, Sodium, and Zinc.	\$11.00
M006	1 Liter	CMET2 - Determination of metals within a sample, which include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Selenium, and Zinc.	\$112.00
M007	1 Liter	ICP Scan – Determination of multiple elements within your sample, this is essentially an accurate detection of the following: Silver, Aluminum, Arsenic, Boron, Beryllium, Calcium, Cadmium, Cobalt, Chromium, Copper, Iron, Potassium, Lithium, Magnesium, Manganese, Molybdenum, Sodium, Nickel, Phosphorus, Lead, Antimony, Selenium, Silicon, Strontium, Titanium, Thallium, Vanadium, and Zinc. The ICP scan is excellent for the pre-screening of samples.	\$25.00
M008	1 Liter	Brewer's H₂O – Alkalinity, Bicarbonate, Carbonate, Calcium, Chloride, Conductivity, Hardness, Iron, Magnesium, Nitrate, pH, Phosphorus, Potassium, Sodium, Sulfate, Total Dissolved Solids, Total Suspended Solids, and Total Solids.	\$35.50
M009	2 Liters	Value Package – Brewer's H ₂ O, one Microbiology plating option, and ICP scan.	Available upon Request

Laboratory Policies - FAQ

- 1 **Do you also do...** : The answer is yes, if you have a test that needs to be done we will find a way to make it happen. We have a very talented staff with plenty of instrumentation knowledge to achieve the results you are looking for.
- 2 **Can I make this a RUSH?** : Yes, with the rush request we aim to turn samples around in 24-48 hours. There will be certain times for which this is impossible, but we will do our best. Normal sample turn around time will also vary due to those same constraints. With the RUSH sample, we do charge two times (2x) the samples original cost. If you are under a long-term contract with us, this may not apply to you, as we may have negotiated RUSH samples already.
- 3 **Is Consultation available?**: Yes, consultation is available, and at times it may be available without an additional fee. These fees may range from hourly to flat rate. If you have questions, feel free to ask, we will always do our best to keep you satisfied.
- 4 **Is this confidential?** : Yes, when you submit samples with Alliance Analytical you enter into a contract with us, of which we will provide the best possible service and promise to maintain full confidentiality.
- 5 **My Results seem off, can you run them again?** : Yes, if there is enough remaining sample, we will happily run the tests again. We do so with the mutual understanding that just because we are running something again, does not mean it will go faster. We will do our best to get it to you faster, but we make no promises. If the results are the same or within a very small range, there may be a surcharge. If the results were not duplicated, there is a highly unlikely chance you will be charged again. If you are curious as to what the range is feel free to ask while making your request.
- 6 **Can you pick-up?** Yes, we offer a pick-up service, in certain cases it may be negotiated into a contract so it's available at no additional cost when needed. However, pickups may require an additional charge. This varies on a case-by-case basis.
- 7 **Can I ship?** Yes, we offer packaging, as well as, return service if either is necessary. Each sample is different and certain accommodations may be necessary to ensure that the integrity of your product has not been compromised. We can consult with you, if you prefer to use your own methods of shipping/packaging. We can also send you multiple shipping packages with the proper accommodations, to ensure that we are able to deliver results you can rely on.
- 8 **What is the turn around time?**: We aim to have samples ran, data processed, and reported within 48-72 hours. There may be times when this is either impossible, such as when incubation is involved or circumstances outside of our control, or due to unforeseen sample volume, very difficult to do. We will always keep a line of communication open and if you would like an estimated time when the sample is dropped off, we are happy to give you one.
- 9 **How will I get my results?**: We have three methods to get you your data, each with their own advantage. First we have an online portal that gets you your data as soon as it is entered into the computer. This is before the data has been checked and finalized, so it shouldn't be considered concrete, even though 99% of the time it is the same value that will be reported. Secondly, we have setup a system to automatically send you an email with results when your sample has been signed off, this way you know exactly when it is completed. Lastly, we send out a paper form through the US postal service, which will take awhile, but you will have a hard copy.
- 10 **What is the Portal service?**: The portal service we have is essentially your window into our laboratory. When you drop off a sample with us it is checked in, from that point on you'll be able to track your products. You will be able to see when each sample was started on each of the selected tests, when it ends, whether we have preliminary data, and so on, all the way until the sample has been signed off results are final. We do not charge a fee to use this service, as it is available to keep you updated on the progress of your samples.
- 11 **Am I being billed twice?**: We are aware that in this book some tests are repeated in several spots, however, rest assured you will not be billed twice. Prices for a sample that has multiple packages containing the same test, will have their prices adjusted accordingly.

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