

# Analytical Services Catalog

2012

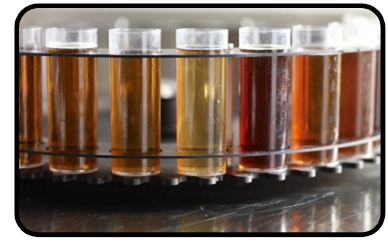


**ANALYTICAL  
SERVICES**  
**WHITE LABS**



**SIEBEL**  
INSTITUTE OF TECHNOLOGY





## About Us

In conjunction with White Labs, Siebel Institute Laboratory Services offers the industry's most complete range of brewing-related tests. Our tests are conducted using the strictest standards employing methods prescribed by groups like the American Society of Brewing Chemists and AOAC. We strive to conduct tests and deliver results as promptly as possible, providing our customers with information that is both timely and accurate.

White Labs Inc. has been a leader in pure yeast and fermentation services since 1995. They serve the beer, wine, and distilling industries on levels ranging from world-wide producers to home-based enthusiasts.

The Siebel Institute of Technology, established in 1872 as America's first brewing laboratory, has been providing analytical service and training to the international brewing industry for 140 years. Over its history, the Siebel Institute has contributed more to the collective lexicon of brewing technology than any other brewing-related company.

### **PLEASE NOTE:**

**In the following pages we have only listed the analyses that are most frequently requested. However, we can perform many tests that are not listed in our catalog. Please call us to discuss how we may meet all of your testing needs. We always go the extra mile in helping you understand the implications of analytical values and how best you can apply such information. (Also, any listings as 'POR' means "Prices on Request; therefore, call White Labs for more details)**

Photography by StudioSchulz.com

## Laboratory Services General Policies:

The prices listed in the following catalog are for single samples received during the calendar year. Prices are subject to change at any time. All reports and internal records pertaining to a report are held in strict confidence. Reports are submitted for the exclusive use of the client. Any reproduction of a report must be approved by the Siebel Institute of Technology.

## Shipping of Samples

Please clearly label outside of box with:  
**"SAMPLES FOR ANALYSIS ONLY  
NOT FOR HUMAN CONSUMPTION"**

**Attn: Analytical Lab  
White Labs, Inc.  
9495 Candida St.  
San Diego, CA 92126**

**If you are shipping from outside of the United States, please contact us before doing so.  
858-693-3441 ext 111**



9495 Candida St. San Diego, CA 92126 USA



## Our Analytical Equipment

### Anton Paar Alcolyzer ME and Density Meter ME 5000

#### Haze QC ME Turbidity Meter



Together, our Anton Paar Density Meter, Alcolyzer, and Haze QC meter will reliably determine the alcohol content in beer and spirits. Additionally, the highly complex instrument can determine specific gravity, extract values, attenuation, pH, color, calories, and chill haze.

### Perkin Elmer Clarus 500 and TurboMatrix 110 Headspace Unit

Our top of the line gas chromatograph can analyze off flavors such as diacetyl and 2,3 pentanedione. It can also detect esters and fusels such as isoamyl acetate, ethyl acetate, acetaldehyde, methanol, iso-butanol, and acetone. For a complete list, see catalog below.



White Labs is a proud member of the American Society of Brewing Chemists (ASBC). The lab participates in their quarterly check sample service to assess accuracy and quality control within the lab. This service allows us to be confident in the data we are providing our customers. Testing methods follow ASBC or AOAC methods when possible.

Dr. Chris White is also a certified TTB Beer Chemist. Many countries require TTB certified lab documentation for export of alcohol products.



Catalog #	Testing Packages: Beer	Price	Bottle Quantity
SIT0001	<b>Fast Track Testing Package</b> Get a range of our most requested services conducted on a fast-turnaround basis with accurate results sent back to you in just 2 business days. Tests include: Alcohol, Extract, Attenuation, Specific Gravity, Calories, pH, Color, and Bittering Units	\$133	2
SIT0011	<b>Comprehensive</b> Alcohol; original extract; attenuation; acidity; pH; SO <sub>2</sub> ; BU; color; specific gravity; real and apparent extract; calories; chill haze; foam by visual appraisal; air; CO <sub>2</sub>	\$166	4
SIT0021	<b>Comprehensive – w/ Protein analysis</b> Alcohol; original extract; attenuation; protein; acidity; pH; SO <sub>2</sub> ; BU; color; specific gravity; real and apparent extract; calories; chill haze; foam by visual appraisal; CO <sub>2</sub> ; air	\$195	6
SIT0031	<b>Comprehensive - Flavor Profile</b> Diacetyl, 2,3 pentanedione, fusel alcohols and esters	\$209	2
LS6644	<b>Nutritional Beer Analysis</b> Alcohol by Volume, Density, Extract, % Attenuation, Protein, Carbohydrates, and Calories	\$138	2
LS6565	<b>Beer Twin Test</b> Comparison for two beers for alcohol, extract and attenuation values, pH, color, IBU, and diacetyl. Compare how similar 2 beers are. These beers can be from different production facilities, different batches, contract brewed, brewed on new equipment, packaged on new equipment, fresh vs. old beer, draft vs. bottled beer, and many more options.	\$165	2
LS6620	<b>Complete QC Analysis</b> Microbiological testing, alcohol, extract, color, calories, BU, pH, diacetyl and 2,3 pentanedione	\$283	2
LS3500	<b>MiniFerment: Fermentation Trials</b> Having issues with your fermentations? Want to try to optimize fermentation with some adjuncts? Let us help you figure it out on smaller scale!	\$119	2

Catalog #	Nutritional Testing: Beer	Price	Bottle Quantity
LS6644	<b>Nutritional Beer Analysis</b> Alcohol by Volume, Density, Extract, % Attenuation, Protein, Carbohydrates, and Calories	\$138	2
LS6645	<b>Calories per 12 fl. oz.</b>	\$79	2
SIT0090	<b>Carbohydrates (total)</b>	\$64	2
LS6672	<b>Fat, by Acid Hydrolysis</b>	\$42	2
SIT0091	<b>Carbohydrate Sugar Profile By HPLC</b> Dextrins, Maltotriose, Maltose, Glucose, and Glycerol	\$280	2
LS6670	<b>Sugar Profile by HPLC</b> Glucose, Fructose, Lactose, Maltose, Sucrose	\$162	2
	<b>Vitamins</b>	POR	2
	<b>Metals and Minerals</b> Iron, Lead, Sodium, Calcium, Zinc, etc	POR	2



Catalog #	Microbiological Services	Price	Bottle Quantity
LS6610	<b>Complete Microbiological Analysis</b> Includes: WLN, WLD, LCSM, LWYM, HLP, SDA media testing. Also includes Gram stain and identification of contaminants	\$144	2
SIT7000	<b>Aerobic plate count</b> WLD, SDA	\$44	1
SIT7010	<b>Anaerobic plate count</b> HLP, SDA	\$44	1
SIT7020	<b>Aerobic and anaerobic plate count</b> WLD, SDA, and HLP	\$79	2
SIT7090	<b>Microscopic examination, Gram stain</b>	\$63	2
SIT7100	<b>Photomicrographs</b>	\$46	1
SIT8100	<b>Saccharomyces and non-Saccharomyces wild yeast</b> LCSM, LWYM, and WLD	\$79	2
LS6671	<b>Viability (Methylene Blue)</b>	\$45	100 ml
LS6010	<b>Raka Ray Media</b>	\$45	1
LS6020	<b>YM Media</b>	\$45	1

**WLN: Wallerstein Nutrient (without cycloheximide)**

For the cultivation of yeast, molds and bacteria. WLN plates allow everything to grow, including brewing yeast. Different yeast strains take up the pH indicator dye differently, allowing some differentiation between brewing strains. Recommended use in conjunction with WLD plates.

**WLD: Wallerstein Differential plates with cycloheximide**

Wallerstein media with the addition of cycloheximide to suppress the growth of brewer's yeast, isolating the bacteria and wild yeast species. In addition, WL media allows for the easy detection of acid-secreting bacteria, such as lactic acid bacteria, via its pH indicator component.

**LWYM: Wild Yeast detection**

For detection of *Saccharomyces*-type wild yeast. Formulated with crystal violet to inhibit growth of brewery culture yeast while permitting growth of a variety of wild yeast.

**LCSM: Wild yeast detection**

For detection of non-*Saccharomyces* species of wild yeast. Media uses cupric sulfate to inhibit the growth of brewer's yeast cultures.

**HLP Anaerobic Test**

This medium is used to check for the presence of Gram-positive lactic acid bacteria, *Lactobacillus* and *Pediococcus*. These bacteria are anaerobic, heat-resistant, and alcohol- and pH-tolerant, making them common beer spoilers.

**Raka Ray Media:**

This media is used to detect lactic acid producing bacteria

**YM Media:**

Selective media with a low pH used to culture yeast and molds

Catalog #	Wine Analysis	Price	Quantity Required
SIT0040	<b>Titrateable Acidity and pH</b>	\$23	200 mls
LS4000	<b>SO<sub>2</sub> (Ripper Method)</b>	\$16	200 mls
LS4010	<b>Carbon Dioxide by Titration</b>	\$21	200 mls
LS4020	<b>Anthocyanins and Total Phenolics</b>	\$51	200 mls
LS6646	<b>Alcohol</b>	\$25	200 mls
LS4030	<b>Malic Acid (Enzymatic)</b>	\$17	200 mls
LS4040	<b>Lactic Acid (Enzymatic)</b>	\$31	200 mls
LS4050	<b>YAN (Yeast-assimilable nitrogen)</b>	\$26	200 mls
SIT0033	<b>Acetaldehyde (Gas Chromatography)</b>	\$62	200 mls
LS3410	<b>Ethyl Acetate (Gas Chromatography)</b>	\$62	200 mls
LS4060	<b>Glucose/Fructose, (Enzymatic)</b>	\$17	200 mls
SIT0130	<b>Color</b>	\$24	200 mls
LS6660	<b>Brix</b>	\$14	200 mls
	<b>Microbial Analysis- See Microbial Testing</b>		
	All individual analysis / other analysis	POR	

Catalog #	Distilled Beverage Analysis	Price	Quantity Required
LS6646	<b>Alcohol by Volume</b>	\$25	200 mls
LS3450	<b>Distillation Profile by Gas Chromatography</b> (Ethyl Acetate, 1-Propanol, Acetaldehyde, Isoamyl Alcohol, Isoamyl acetate, Ethyl octanoate, ethyl hexanoate, acetone, ethyl butyrate, isobutyl acetate, methanol, isobutanol, 2-methylbutanol)	\$138	200 mls
LS3010	<b>Methanol by Gas Chromatography</b>	\$89	200 mls
SIT0040	<b>Titrateable Acidity</b>	\$23	200 mls
	All individual analysis / other analysis	POR	

Catalog #	Hop Analysis	Price	Quantity Required
SIT3000	<b>Moisture (International method)</b>	\$23	200 g
SIT3010	<b>Alpha and Beta acids (spectrophotometric)</b>	\$56	100 g
SIT3060	<b>Hop Oil Profile (GC)</b>	\$161	200 g
SIT3110	<b>Total Essential Oils</b>	\$24	100 g
SIT3120	<b><u>Variety Profile (trueness to type)</u></b>	POR	
	All individual analysis / other analysis	POR	
		POR	

Catalog #	Malt and Adjunct Analyses	Price	Quantity Required
SIT4000	<b>Malt Comprehensive</b> Includes moisture, fine and coarse grind extract, conversion time, speed of filtration, color and clarity of wort, odor of mash, bushel weight, foreign seeds, broken seeds, diastatic power, alpha amylase, soluble and total protein	\$299	500 g
SIT4010	<b>Diastatic power</b>	\$73	200 g
SIT4020	<b>Extract, fine and coarse grind and moisture</b>	\$156	200 g
SIT4030	<b>Alpha amylase</b>	\$79	200 g
SIT4040	<b>Protein (total)</b>	\$42	200 g
SIT4050	<b>Protein (soluble)</b>	\$85	200 g
SIT4060	<b>Betaglucans</b> All individual analysis / other analysis	\$102	200 g
		POR	

Catalog #	Cereal Analyses	Price	Quantity Required
SIT1000	<b>Cereal Comprehensive</b> Includes general appearance, granulation, powder, color, odor, husks, germs, foreign seeds, insect infestation (visual) , moisture, fat, extract, conversion time, speed of filtration, wort clarity	\$121	400 g
SIT1010	<b>Extract Moisture and Yield</b>	\$89	100 g
SIT1020	<b>Fat (Soxhlet extraction)</b> All individual analysis / other analysis	\$31	100 g
		POR	



Catalog #	Beer and Wort Individual Services	Price	Bottle Quantity
SIT0033	Acetaldehyde	\$62	2
SIT0040	Acidity (total)	\$23	2
LS6646	Alcohol by Volume	\$25	2
SIT0050	Alcohol, extract and calculated values (ABV, ABW, real extract, original extract, calories)	\$54	2
SIT0070	Bitterness Units	\$38	2
SIT0090	Carbohydrates (total)	\$64	2
SIT0090	Carbohydrate Sugar Profile By HPLC Dextrins, Maltriose, Maltose, Glucose, and Glycerol	\$280	2
SIT0100	Clarity and sediment (visual)	\$33	2
SIT0110	Chill Haze testing	\$24	2
SIT0120	CO2 and Air	\$46	2
SIT0130	Color	\$24	1
SIT0140	Diacetyl by Gas Chromatography	\$88	2
SIT0150	Dimethyl Sulfide (DMS)	\$156	2
LS6664	Dissolved Oxygen	\$26	2
SIT0180	Foam, sigma value	\$52	2
SIT0200	Free Amino Nitrogen (FAN)	\$67	2
SIT0210	Fusel Alcohols and Esters (GC)	\$128	2
LS3600	Gluten (ELISA assay)	\$90	1
SIT0220	Indicator Time Test (I.T.T)	\$26	2
SIT0270	pH	\$14	1
SIT0280	Polyphenols (total)	\$67	2
SIT0291	Protein (total)	\$51	2
SIT0310	Sulfate	\$62	2
SIT0320	Sulfur Dioxide (SO <sub>2</sub> )	\$37	2
SIT0350	Yeast fermentable extract (Y.F.E)	\$73	2
SIT0330	Triangular Taste Test	\$296	6

Catalog #	Water Analyses	Price	Quantity Required
SIT6000	<b>Water Comprehensive</b> Includes color, clarity, pH before and after boiling, solids, free ammonia, nitrites, nitrates, carbonates, chloride, sulfate, phosphate, silica, iron, calcium, magnesium, sodium, hardness, alkalinity All individual analysis / other analysis	\$99	1 gal
		POR	



White Labs offers expert, affordable on-site assistance for all of your fermentation needs, including:

- Laboratory Staff Training
- Laboratory Set-Up, including protocol and procedure manuals
- Contamination Risk Assessment/Clean-Up
- New Product and/or Fermentation Method Assistance
- Yeast Handling
- Yeast Propagation
- Cellar Training



Keep an eye out for our Fall and Spring Big QC Days. Compare two or more beers to others around the world! One kit includes:

- Alcohol and Extract Values
- IBU
- VDKs
- pH
- Calories
- Attenuation
- Color
- Microbiological Contaminants

We can tailor a specific testing program for your individual needs  
Contact us for more information



9495 Candida St. San Diego, CA 92126 USA



## SAMPLE ANALYSIS REQUEST FORM

Please mark shipment as follows:

Samples for Analysis Only, Not for Human Consumption

**Send to: Siebel Institute Laboratory Services  
C/O White Labs  
9495 Candida St  
San Diego, CA 92126**

**NOTE:**

***All first time customers are required to pay in advance for analysis***

**If sending samples from outside of the United States, please contact us first 858-693-3441 ext 111**

Date sending your samples: \_\_\_\_\_

Name of person requesting analysis: \_\_\_\_\_

Telephone number: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Sample Description	Style	Catalog # and Analysis Description
eg: Beer	IPA	SIT0001 Fast Track Analysis

# **BILLING INFORMATION**

## **BILL TO:**

Company Name:	
Address:	
City, State, Zip Code	
Attention:	
Phone #	
Fax #:	
E-mail Address:	
Payment method / Purchase Order #	

**All reports will be emailed unless specified**

This information will ensure that all our records are correct before performing your analysis. Please take the time to review this information before returning it to us with your samples.

**Payment by check:** Check #: \_\_\_\_\_ Total Amount Enclosed \$ \_\_\_\_\_

**Please make checks payable to: *White Labs, Inc.***

**Payment by credit card: Please complete the following section**

Visa / MasterCard # \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Cardholder Name (**PLEASE PRINT**): \_\_\_\_\_

Expiration Date: \_\_\_\_\_ 3 Digit Security Code on Back: \_\_\_\_\_

**If card is not in your name, please fill in this section:**

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Zip Code \_\_\_\_\_ Phone # \_\_\_\_\_

Cardholder Signature: \_\_\_\_\_

