

POS ANALYTICAL SERVICES

ANALYSIS PRICING



PROXIMATE ANALYSES

Package	Cost	Method	Sample Size
Ash	\$125	AOCS Bc 5-49	8 g
Oil Content (Swedish Tube)		Internal Method	10 g
Moisture		AOCS Ba 2a-38(meal)/Af 2-54(whole seed)	20 g
Protein		AOCS Ba 4e-93	1 g
Carbohydrate (Calculated)			

MOISTURE

Moisture	\$30	AOCS Ba 2a-38 (meal) /Af 2-54 (whole seed)	20 g
Moisture & Volatiles (Oil)	\$35	AOCS Ca 2c-25 (oven), Ca, 2b-38 (hotplate) or Ca 2d-25 (var	20 g
Moisture (Soybean)	\$30	AOCS Ac 2-41	20 g
Moisture (Seed/meal)	\$50	ISO 665	20 g
Moisture Karl Fischer (Oil)	\$55	Instrument Method	2 ml

OIL CONTENT

Capsule Fill Weight	\$25	Internal Method	10 capsules
Crude Fat (Acid Hydrolysis)	\$70	Internal Method	12 g
Milk Fat	\$70	AOAC 989.05	20 ml
Oil Content (Butt tube)	\$55	AOCS Ba-3-38	20g
Oil Content (Butt tube, seeds)	\$100	AOCS Am 2-93	50 g
Oil Content (Swedish Tube)	\$45	Internal Method	10 g
Fat in Egg	\$100	AOAC 925.32	50 g

COLOUR ASSAYS

Lovibond Tintometer	\$30	AOCS Cc 13j-97, (AOCS Cc 13b-45 &, AOCS Cc 8d-55)	30 ml
(Specify Scale) AOCS RY			
Gardner		AOCS Cc 13j-97, (AOCS Td 1a-64)	
Lovibond RYBN		AOCS Cc 13j-97, (AOCS Cc 13e-92)	
CIE L*a*b*		Suppl.No. 2 to CIE No.15 (E-1.3.1), CIE. Paris, 1978	
FAC Standard Colour		AOCS Cc 13a-43	
Pt-Co/Hazen/APHA		AOCS Td 1b-64	
β-Carotene		BS684 Section 2.20	
HunterLab 0°/45° Solid Samples	\$30	Instrument Method - Available Scales: CIE (Trisimulus,	50 g
(Specify Scale) Liquid Samples	\$50	Chromacity, L*a*b*) and Hunter L, a, b	
Chlorophyll (in oil)	\$60	AOCS Cc 13d-55 (modified)	4 g
Chlorophyll in oilseeds	\$85	AOCS Ak 2-92	16 g
Saponification Color	\$70	AOCS Cc 13f-94 (Part II only)	100g
Gardner colour in Lecithin	\$30	AOCS Official Method Ja 9-87	20 ml

FAT COMPOSITION

Cholesterol	\$200	Internal Method	0.5 g
Erucic Acid	\$130	AOAC 969.33 prep, AOAC 996.06 quant.	6 g seed
Fatty Acid Analysis on oil		AOAC 969.33 prep, AOAC 996.06 quant. (modified)	
Profile (% relative)	\$130		0.5 g
Composition (mg FA/g , mg ME/g or mg TG/g oil)	\$150		0.5 g
Composition (mg EE/g oil)	\$160		
Additional report (other units)	\$10		
Trans Fatty Acids (geometric)		AOCS Ch 2a-94, AOCS Ce 1f-96	
Profile (% relative)	\$160		1 g
Composition (mg FA/g oil)	\$160		1 g
Additional report (other units)	\$10		
Trans Fatty Acids (positional)		AOCS Ce 1h-05	
Profile (% relative)	\$240		1 g
Composition (mg FA/g oil)	\$240		1 g
Additional report (other units)	\$10		

FAT QUALITY

Acetone Insoluble Matter in Lecithin	\$135	AOCS Ja 4-46	26 g
Anisidine Value	\$90	ISO 6885	6 g
Cloud Point	\$75	AOCS Cc 6-25	150 ml
Cold Test	\$55	AOCS Cc 11-53	150 ml
Density (Mass per Unit Volume in Air)	\$80	AOCS Cc 10c-95	75 g
Flash Point	\$60	Instrument Method (Conforms to ASTM D1655, D3278, D382	50 g
Flash Point	\$100	AOCS Cc 9b-55	300 g
Flash Point & Smoke Point	\$160	AOCS Cc 9b-55 & AOCS Cc 9a-48 (Modified)	300 g
Free Fatty Acid / Acid Value (Calculated)	\$45	AOCS Ca 5a-40	120 g RBD, 40g Crude
Free Fatty Acid (Micro)	\$45	Internal Method	6 g
γ -Oryzanol	\$220	Internal Method	1g
Glycerol (Free) by GC	\$165	Internal Method	1 g
Glycerol (Total)	\$385	Internal Method	1 g
Glycolipids (MGDG, DGDG and SG)	\$250	Internal Method	5 g
Hexane Insoluble Matter	\$45	AOCS Ja 3-87	20 g
Insoluble Impurities	\$50	AOCS Ca 3a-46	20 g
Iodine Value	\$100	Internal Method	6 g
Mettler Dropping Point	\$60	AOCS Cc 18-80	50 g
Mineral Paraffins in Edible Oil	\$250	Internal Method	4 g
Mono & Diglycerides	\$220	AOCS Cd 11d-96	0.5 g
Neutral Oil	\$180	AOCS Ca 9f-57	10 g
OSI (Rancimat) @ _____°C	\$180	AOCS Cd 12b-92	15 g
Oxidized and Polymerized Triglycerides (Requires Polar Compounds testing, \$150)	\$250	IUPAC, 2.507 and 2.508	3 g
DOBI & Carotene (Palm Oil)	\$45	ISO 17932	5 g
Peroxide Value	\$40	AOCS Cd 8b-90	10 g
Phospholipids Profile	\$210	Internal Method	0.5 g
Phospholipids Profile (inc.Phosphatidyl Serine) (Available upon Advanced Notice)	\$230	Internal Method	0.5 g
Polar Compounds (Total)	\$150	AOCS Cd 20-91	3 g
Refractive Index	\$30	AOCS Cc 7-25	1 g
Saponification Value	\$110	AOCS Cd 3-25	5 g
Smoke Point	\$100	AOCS Cc 9a-48 (Modified)	100 g
Soaps	\$55	Internal Method	100 g
Specific Gravity @ _____°C	\$70	AOCS To 1a-64	75 g
Sterols & Tocopherols Profile	\$200	Internal Method	0.5 g
Tocopherols Profile	\$190	Internal Method	1 g
Tocotrienols Profile	\$190	Internal Method	1 g
Unsaponifiable Matter	\$350	AOCS Ca 6a-40	10 g
Unsaponifiable Matter (Marine Oils)	\$400	AOCS Ca 6b-53	10 g
Viscosity (Brookfield Synchro-lectric) @ _____°C	\$40	Instrument Method	10 g
Viscosity (Cannon-Manning) @ _____°C	\$40	ASTM D445	2 g
Wax Content	\$200	AOCS Ch 8-02	1 g

ANTIOXIDANTS

Antioxidant Activity (ABTS)	\$100	Internal Method	10 g
Ascorbyl Palmitate	\$150	Internal Method	5 g
BHA, BHT and TBHQ	\$165	AOCS Ce 6-86A and AOAC 996.13	5 g
Above Assay and/or Propyl Gallate (First sample) (Additional samples)	\$230 \$165	(Available Upon Advanced Notice Only)	
Citric Acid	\$165	Internal Method	5 g
Ethoxyquin	\$165	AOCS Ce 6-86A and AOAC 996.13	5 g
Tocopherol Acetate	\$165	Internal Method	0.5 g

PROTEINS

Amino Acid Profile (18 primary)	\$385	Waters Pico-Tag Method and Internal Method	1 g
Amino Acid Profile (15 primary)	\$250	Waters Pico-Tag Method and Internal Method	1 g
Amino Acids Free	\$165	Waters Pico-Tag Method and Internal Method	1 g
Amino Acids Free + Tryptophan	\$200	Waters Pico-Tag Method and Internal Method	1 g
KOH Protein Solubility	\$130	Poultry Sciences, vol. 69, pp. 76-83, 1990	50 g
Nitrogen Solubility Index (NSI)	\$165	AOCS Ba 11-65	20 g
PDI (Protein Dispersibility Index)	\$165	AOCS Ba 10a-65	50 g
Protein	\$35	AOCS Ba 4e-93	1 g
Taurine	\$165	Waters Pico-Tag Method and Internal Method	5 g

ELEMENTAL ANALYSES (on oil, solid or aqueous material)

Single element	\$50	AOCS Ca 20-99 and AOCS Ca 17-01 (modified)	10 g
Additional elements	\$8		10 g
Sulfur	\$50		10 g
Digestion	\$45	Internal Method	10 g

(See Instructions for Completion, Item 5.)

FIBRE ANALYSES

Fibre	Crude	\$100	AOCS Ba 6-84, AOAC 962.09	20 g
	Soluble & Insoluble	\$300	AACC 32-21	20 g
	Total Dietary	\$220	AACC 32-05	20 g
	Acid Detergent	\$100	AOAC 973.18	20 g
	Acid Detergent and Lignins	\$180	AOAC 973.18	20 g
	Neutral	\$180	AACC 32-20 (Modified)	20 g

SUGARS

Sugars	Total Soluble (Refractometer)	\$55	AOAC 932.12	5 ml
	Sugar Profile (HPLC)	\$200	Internal Method	10 g

(Fructose, Glucose, Sucrose, Maltose, Lactose, Ribose and Xylose)

ADDITIONAL ANALYSES

Anthocyanins (Total)		\$85	Internal Method	100 g
Anthocyanins Profile (HPLC)		\$300	Internal Method	1g
Anthocyanidins Profile (HPLC)		\$350	Internal Method	1g
Ash		\$35	AOCS Bc 5-49	8 g
Astaxanthin (by UV-Vis)		\$60	Internal Method	2 g
Bulk Density of Powders (Untapped)		\$25	USP 616 - Method 1	250 g
Beta Glucan (1,3 & 1,4 linkages)		\$190	Megazyme Method and AACC 32-23	2 g
Beta Glucan (1,3 & 1,6 linkages)		\$190	Megazyme Method	2 g
Carotenoids Profile		\$220	Internal Method	1 g
(Lutein, Zeaxanthin, Astaxanthin, β -Carotene, iso-Carotene, α -Carotene)				
Above Profile and/or Lycopene	First sample	\$440	(Available Upon Advanced Notice Only)	
	Additional samples	\$250		
Cyanogenic Compounds Profile in Flax		\$200	Internal Method	30 g
Essential Oils		\$250	Internal Method	5 g
Ginsenosides Profile (HPLC)		\$200	Internal Method	10 g
Glucosinolates Profile (GC)		\$200	Canadian Grain Commission method	5 g
Glucosinolates Profile (GC), at 8.5% Moisture		\$200	Canadian Grain Commission method	50 g
Isoflavones		\$200	Internal Method	100 g
Lipoxygenase Activity		\$200	Internal Method	10g
Melting Point (or Range)		\$60	Instrument Method	1 g
Myrosinase Activity		\$200	Internal Method	4g
Particle Size		\$110	Instrument Method	1 g
Phenolic Compounds Profile (Berries)		\$300	Internal Method	40 g
Phenolic Compounds Profile (Citrus)		\$300	Internal Method	40 g
(Other phenolics, please enquire)				

Polyphenols (Total)		\$85	Internal Method	100 g
Residual Solvents GC/MS	Single Solvent	\$155	Internal Method	10 g
	Additional Solvents	\$20	(per solvent)	
SDG (Secoisolariciresinol Diglucoside)		\$230	Internal Method	10 g
Squalene/Squalane		\$220	Internal Method	1 g
Starch (Total)		\$165	AACC 76-13	5 g
Starch (Resistant)		\$215	AOAC 2002.02, AACC 32-40.01	5 g
Starch (Resistant and Total)		\$245	AOAC 2002.02, AACC 32-40.01	5 g
Steroidal Sapogenins (Total) by Spec		\$100	Internal Method	10 g
Steroidal Sapogenins (GC)		\$230	Internal Method	10 g
Sulforaphane		\$185	Internal Method	20 g
Trypsin Inhibitor		\$300	AOCS Ba 12-75	25 g
Urease Activity		\$70	AOCS Ba 9-58	5 g
Water Hydration Capacity		\$65	AACC Method 56-30(Protein) & 56-40	25 g

SAMPLE PREPARATION COSTS AND OTHER

Sample Preparation	\$5	Oil Extractions:	
Cleaning (Seeds)	\$10	Single tube extraction (Less than 3 g)	\$20
Freeze Drying	\$45	Pet. ether extraction for high oil content samples	\$50
Grinding	\$5 to \$25	Extraction Rack (Multiple tube extractions):	
Homogenization	\$25	Full rack (56 Tubes)	\$300
Rotovap (Quantitative)	\$50	Half rack (28 Tubes)	\$150
Oil removal from Capsules	\$5	Quarter rack (14 Tubes)	\$75

On-Hold Sample Charge	\$10 per Sample
(for samples shipped to POS without an analysis selection)	
Environmental Clean-up Charge	\$5 per Container
(for compromised samples received at POS)	
LIMS Change Order	\$15
Re-issued Report	\$75
Provision of Chromatograms	\$5 per analysis
Signed Report on POS Letterhead (hardcopy)	\$25 per report (sent by mail)
Signed Certificate of Analysis (hardcopy)	\$50 (sent by mail)

INTERNAL STANDARD COMPOUNDS

Glucotropaeolin (Benzyl Glucosinolate, Tetramethyl Ammonium Salt)

(A stable, non-hygroscopic, high purity material for Glucosinolate analysis, supplied with a Certificate of Analysis)

250 mg	\$1,150
100 mg	\$460
50 mg	\$230

[Larger/smaller quantities available on request, prices do not include shipping charges]

INFORMATION FOR SAMPLE SUBMISSION

PLEASE READ THE FOLLOWING INFORMATION PRIOR TO SHIPPING SAMPLES TO POS BIO-SCIENCES

Completing the Sample Submission Form

The POS Bio-Sciences sample submission form consists of two pages. Multiple samples which require identical testing may be listed (space permitting) on the same form. Samples which require non-identical testing should be entered on separate forms. If you are including the submission documentation in the package with the samples, it should be protected (sealed in plastic) from damage should container leakage occur.

Instructions for Completion

1. Complete the contact name, company information, and PO number as applicable. **If you require multiple contacts for result distribution, further contacts may be added to the form in the "Special instructions" section at the foot of page 2.**

2. If you received an official quotation price for the submitted work please indicate so on the form.
3. Enter the total number of samples covered by this request form and an individual sample description in the appropriate field.
4. Indicate the required priority for the requested analysis. POS Bio-Sciences has three (3) reporting time options:
 - a) **Standard** - 10 working days, no surcharge, no prior notification required
 - b) **Rush** - 4 working days, 75% surcharge, no prior notification
 - c) **Priority Rush** - 2 working days, 100% surcharge, prior notification required

NOTE: OSI (Rancimat) testing is eligible for the "Standard" option only, due to the nature of the test.
5. Indicate the required testing for the samples listed on the form. Please note the following information is required for specific testing:

Moisture Assays

POS performs a variety of moisture assays on oil samples. If you require this test, please consult the analysis pricing (above) and specify the required method reference number when submitting the sample

Colour Assays

The Lovibond and HunterLab Colour Analyzers can utilize multiple colour scales. If you require this test, please consult the analysis pricing (above) and specify the required Colour Scale when submitting the sample.

Temperature Specifications

OSI (Rancimat), Refractive Index, Specific Gravity and Viscosity must be performed at a specific temperature. Please specify the temperature at which the test is to be performed when submitting samples.

Elemental Analysis (Solid Samples)

All solid samples for elemental analysis require sample digestion prior to analysis.

For the analysis of Pb, As, Hg, Se, Sb, Cd, S on solid samples, POS Bio-Sciences utilizes a third party contractor. These samples will be subject to the applicable fees for microwave digestion, analysis, sample handling and courier services.

If result correction is required

Results corrected for:

- a. Moisture: Will require a Moisture Content analysis
- b. Oil Content: Will require an Oil Content analysis

Please supply an additional 10 g sample for either testing.

6. Add any special instructions in the appropriate section on page 2 of the form.
7. Sign and date the form.

Reporting of Results

1. Preliminary results, if requested, will be distributed by e-mail.
2. Final reports in PDF format will be distributed by e-mail.
3. Signed copies of reports (on POS Letterhead) are available at an additional charge.

Analytical Pricing and Payment Information

1. All prices are in local currency and exclude applicable taxes.
2. An additional charge may be incurred if other significant sample preparation is required.
3. Discounts may be available for:
 - a. Larger sample batches or numbers of batches of known frequency.
 - b. Long term analysis support contracts.
3. Please enquire if the methods you require are not listed on our Analysis Pricing. POS has method development/verification capabilities and may be able to assist.
4. There will be an additional charge of \$25 applied to non-North American clients in order to offset the wire-transfer charges deducted by the financial institutions before monies are paid to POS Bio-Sciences.
5. Canadian clients are responsible for the wire transfer charges on transactions; POS does not accept credit card payments. Electronic Fund Transfer is available. Please contact POS for details
6. Please forward your invoice from POS to your accounting department, upon receipt.
7. Fees: Pricing may be subject to change without prior notice.

Samples and Sample Shipping

1. Sample sizes given are the minimum required to perform the test, larger sample sizes are preferred.
2. However, in cases where sample is limited, we may be able to work with a smaller quantity of sample. Please enquire.
3. Samples shipped to POS Bio-Sciences should be representative of the material sampled.
4. When sending in samples: please use the POS Sample Submission Form.

5. When sending in samples across national borders: Assign "No commercial value, the goods are destined for crushing/ processing/analysis and will be delivered free of charge, value for customs purposes only CAD 1.00 per Kg. "For R&D purposes only" to the consignment.
6. Please ensure that sample integrity is preserved during shipping. POS Bio-Sciences will apply an environmental clean-up charge to each container received at our facility in a compromised condition.

Test Requests – Change Orders

1. POS Bio-Sciences will endeavour to clarify any ambiguities in client requests on sample receipt.
2. In cases where the client has incorrectly identified the required test and contacts POS with a change order, POS will:
 - a. Amend the submission, but invoice for both the initial (incorrect) test and the new correct test if analysis on the incorrect test had already commenced or has been completed.
 - b. Apply an administration fee to amend the sample information previously entered into our Laboratory Information Management System (LIMS)

Sample Handling and Disposal

1. No sample will be distributed to other facilities for analysis without prior client confirmation/approval.
2. Samples shipped to POS which require sub-sampling and shipment to other facilities for analysis, will be subject to the applicable fees for sample handling and courier services
3. Following analysis, samples stable at ambient temperature will be retained for 2 months, and then disposed of.
4. Unless requested otherwise, samples perishable at room temperature will be disposed of after the final report is e-mailed.
5. Samples can be returned to the client on request. The client will be responsible for all associated shipping charges