

Laboratory Essentials for the Edible Oil Industry

Monitoring and maintaining oil quality is essential to ensuring products remain safe, compliant, and fit for consumption.

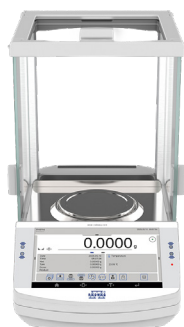
While some testing equipment is highly specialised, **Lasec®** has curated a selection of core laboratory essentials for routine quality control testing across a range of food-grade oils and related products.



Lasec[®]

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ANALYTICAL BALANCES

Featuring intuitive colour touchscreens, SMARTLab systems designed to reduce error, and automatic internal adjustment, Radwag's range of analytical balances delivers maximum repeatability, making analysis faster, easier, and more reliable.

AUTOCLAVES

Sterilisation is a critical step in preventing cross-contamination and maintaining the integrity of results in edible oil laboratories. Our autoclave ranges are designed for effective sterilisation of laboratory media, glassware, instruments, and waste, supporting compliant workflows and safe laboratory practices.



BIOREACTORS

For precise control and real-time monitoring of key environmental factors such as pH, oxygen and temperature, our range of bioreactors allows for the efficient production of oil-producing micro-organisms used to reduce agricultural waste and manufacture specialised oils.

BOTTLETOP DISPENSERS

Ideal for the safe, efficient, and precise dispensing of large volumes directly from supply bottles, our range of chemically resistant and durable bottletop dispensers ensures smooth, controlled delivery with minimal waste.





BUNSEN BURNERS

A benchmark in controlled combustion, the Bunsen burner offers adjustable airflow and a stable flame for precise thermal applications.

CENTRIFUGES

Efficient sample separation is essential for accurate analysis of edible oils. Our centrifuges provide reliable, consistent performance for sample clarification and phase separation, supporting streamlined workflows and dependable quality control results.



CHEMICAL CABINETS

Store flammables and corrosives in a single unit with our range of chemical storage cabinets featuring internally segregated, fire-resistant compartments.

CHILLERS

Industrial chillers provide precise temperature control across key stages such as extraction and refining. Reliable cooling protects product quality while improving process efficiency and yield in high-demand production environments.



COLORIMETERS

Colour testing is a crucial quality control step for detecting oxidation and spoilage. Colourimeters featuring industry-specific colour scales and heated sample chambers improve measurement accuracy and ensure compliance with international standards.

Recommended Accessories



Borosilicate Glass Cuvettes

Heat-resistant cells are recommended when working with heated sample chambers



Glass Standards

Certified standards that comply to industry-specific colour scales (eg. Lovibond RYBN and AO(CS))

CONDUCTIVITY METERS

Supported by a comprehensive selection of specialised conductivity cells, our conductivity meters provide an effective solution for laboratories assessing both product and water quality.

Recommended Accessories



4-pole Conductivity Cell

Allows for measurements from:
0.01 $\mu\text{S}/\text{cm}$ to 1 S/cm with a single probe.



NIST Certified Conductivity

Solutions from:
1.3 $\mu\text{S}/\text{cm}$ to 12.88 mS/cm available.

DENSITY METERS

Rudolph density meters deliver rapid, accurate density and specific gravity measurements to help verify batch consistency, detect adulteration, and support compliance with ISO 592 standards.



DISPERSER

Efficiently supplies high shear forces to deagglomerate, disperse, and uniformly distribute solids, including additives and powders.

KJELDAHL DIGESTER

Digestion systems from Behr Labor-Technik deliver fast, accurate, and reliable results in edible oil analysis, ensuring complete sample breakdown and precise analyte recovery across a wide range of oil and fat matrices.



FILTRATION MANIFOLD

Engineered with a high-quality stainless steel base and customisable funnel configurations, filtration manifolds simplify multi-sample processing while supporting reliable and accurate results.



GLASS FIBRE FILTERS

Designed to deliver exceptional clarity and purity, Ahlstrom glass fibre filters efficiently remove impurities while maintaining optimal flow rates.

GLASSWARE

Manufactured to stringent standards, the Lasec® glassware range delivers the precision and reliability required for quality control and analytical testing. From volumetric measurements to routine laboratory applications, each product supports consistency across refining, processing, and final product verification.



HOTPLATE STIRRERS

For efficient sample preparation, hotplate stirrers help ensure edible oils are properly heated, evenly mixed, and accurately tested, leading to better quality control and consistency.

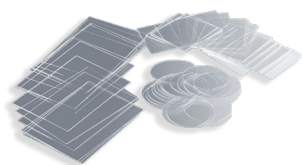


MICROSCOPES

For detecting contaminants, checking raw materials, and monitoring texture and refining processes, Lasec® microscopes and cameras help ensure edible oils meet strict quality standards.



Recommended Accessories



Coverslips



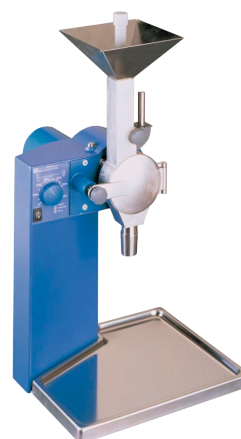
Immersion Oil



Glass slides (plain or frosted)

MILLS AND GRINDERS

Perfecting sample preparation is key to obtaining the best results. Our mills and grinders provide solutions for various sample types.





MOISTURE ANALYSERS

Moisture, even in trace amounts, can lead to bacterial growth, oxidation, and reduced shelf life. Radwag Moisture Analysers provide the speed and accuracy required for rigorous quality control in oil production.

OVENS

Optimise quality control processes with the unmatched precision of Memmert ovens. With the option of either natural convection for gentle drying, or forced-air for rapid, uniform temperature distribution, our range of all-steel ovens are essential for processing, refining, and testing vegetable oils and fats.



OVERHEAD STIRRER

Our range of robust overhead stirrers with versatile stirring attachments for viscous samples and varying sample volumes allows for a customisable design to suit the mixing needs of any application.

pH METERS

Featuring integrated stirrers and supported by a wide range of specialised electrodes for viscous samples, our systems make determining the acidity of oils is fast and easy.

Recommended Accessories



NIST Certified pH Buffer Solutions

Electrode Cleaning Solution



PIPETTES

Gilson positive displacement pipettes are designed for samples with high viscosity or volatility. The direct piston-to-sample contact eliminates volume variability and cross-contamination, ensuring high accuracy and reproducibility when handling dense, sticky, or temperature-sensitive samples.

Recommended Accessories



Pipette Tips

Capillary Pistons provide reproducible, reliable results even with the most viscous or volatile liquids. When paired with Gilson Pipettes, their design eliminates cross-contamination and ensures maximum accuracy by maintaining direct contact with the sample.

POLARIMETERS

Detect adulteration and verify purity of specialised oils easily with Rudolph Polarimeters. With electronic temperature control and high-quality Glan Thompson calcite polarizers, Rudolph instruments offer unmatched repeatability and reliability required for QC laboratories.



REFRACTOMETERS

Rudolph refractometers provide high-precision, 4-decimal place accuracy for consistent quality control of edible oils and fats. These instruments feature heating and cooling up to 100°C and a durable, easy-to-clean sapphire prism for maximum throughput and reduced contamination.



REFRIGERATORS

Essential for the short-term storage of oil samples, reference standards, and temperature-sensitive reagents, refrigerators help maintain sample integrity by providing a stable 2–8°C environment. By slowing oxidation, they support accurate quality control testing, including peroxide value and free fatty acid analysis. Designed for reliability and uniform temperature distribution, these units support consistent, repeatable results in routine QC workflows.

ROTARY EVAPORATOR

A key tool in R&D environments, rotary evaporators are used to isolate and concentrate specific components of oils to better understand product safety and shelf-life. Their vacuum technology lowers the boiling point of solvents, enabling their safe removal and recovery without affecting oil quality.



SAMPLE COLLECTION

Sample collection is an important quality control process used to validate processing steps and verify that finished products are safe. Choosing the right sampling tools is essential for obtaining reliable results and maintaining compliance with GMP.

The contamination-free sampling tool range from Sampling Systems includes both disposable and reusable options for low- and medium-viscosity liquids, as well as thicker oils.

The range includes;

- FreeGlide In Line
- The Pump Sampler
- PeriPump
- Bottle Sampler
- SteriWare Jumbo Pipette
- SteriWare Ladle
- Fluid Point Sampler
- Liquid Cup Sampler
- Liquid Dip Sampler
- Liquid Master
- SteriWare ViscoThief



SOLVENT RECYCLING

Solvents are commonly used in extraction, analytical testing, and cleaning processes within edible oil laboratories. Solvent recycling systems enable the recovery and reuse of these solvents, reducing waste disposal, lowering operational costs, and supporting more sustainable laboratory practices.



SPECTROPHOTOMETERS

Our UV/VIS spectrophotometers with customisable sample chambers allow for measurements at different pathlengths to accommodate different method requirements, or automatic cuvette changers for improved efficiency when working with multiple samples.



Recommended Accessories

CUVETTES

Quartz, glass or plastic cuvettes available in varying sizes for different pathlength requirements.



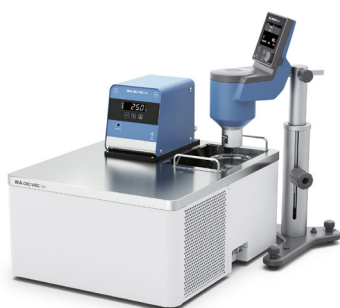
ULTRASONIC BATHS

Ultrasonic baths provide an efficient solution for cleaning, sample preparation, and degassing in oil laboratories. They assist in improving analytical accuracy, removing stubborn oil residues, and maintaining critical equipment with minimal effort. The result is faster processes, reduced contamination, and more reliable quality control.



VACUUM PUMP

The VACUU-PURE 10C Vacuum Pump delivers the benefits of oil-free vacuum technology in the pressure range of 10⁻³ mbar. This dry screw pump combines oil-free operation, chemical resistance, and no wear parts, supporting efficient deodorising, degassing, and distillation.



VISCOMETERS

Providing fast, accurate, and reliable results in both QC and production environments, viscometers help ensure product consistency and quality meet market standards.

VORTEX MIXERS

Fast, high-speed mixing of small sample volumes is essential in R&D and quality control environments. These versatile mixers are perfect tools for sample preparation processes and testing the stability of emulsions.



WATER PURIFICATION

From reagent preparation to cleaning and dilution, purified water is critical for maintaining accuracy and preventing contamination in edible oils testing. The Avidity DUO II.I Water Purification System is designed to deliver consistent Type I and Type II water, supporting even the most demanding analytical applications.

WASTEWATER TESTING

Wastewater must meet strict environmental regulations set by local authorities to prevent contamination of natural water sources. A wide range of specialised solutions for wastewater analysis supports the reliable detection of chemical, physical, and bacteriological contaminants, helping laboratories maintain compliance.

Key Water Testing Solutions:

- Portable and benchtop photometers and spectrophotometers with preprogrammed test methods for key chemical parameters.
- A comprehensive range of reagents for chemical testing, including those for Chemical Oxygen Demand (COD) and chlorine analysis.
- Specialised equipment for turbidity, flocculation, Biological Oxygen Demand (BOD), Dissolved Oxygen (DO), and colour determination.





LASEC® SERVICING

With a large team of qualified engineers located throughout South Africa and travelling regularly across the rest of Africa, we provide comprehensive service and support, including preventative maintenance, repairs, and service level agreements. This expertise helps maximise equipment uptime and performance, supporting the reliable operation of laboratory and scientific equipment across your facility.

Value Added Solutions Include:

- ISO 17025 SANAS-accredited calibrations for volume and mass metrology
- Assistance with Good Laboratory Practice (GLP) and standard operating procedures in line with ISO standards
- Biosafety consulting services facilitated by NSF-accredited engineers
- Tailor-made service contracts and preventative maintenance plans
- End-user training on correct equipment use and maintenance
- Facilitation of CPD-accredited training courses
- Assistance with IQ, OQ, and PQ protocol completion





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