

OUR SERVICES in sensory testing



With more than 20 years of experience in sensory testing for major companies worldwide, Alpha MOS laboratories can deliver a customized answer to every customer need. Be it for a one-time project or for regular needs, you will benefit from our expertise in sensory analysis instrumentation and from a full support all through your sensory testing project.

APPLICATIONS range

OUR SENSORY ANALYSIS INSTRUMENTS AND SERVICES GIVE PRACTICAL TOOLS FOR DECISION SUPPORT IN PRODUCT DEVELOPMENT OR QUALITY CONTROL:

- Benchmarking of competitive products and characterization of sensory differences
- Sensory profiling to help select the optimal formulation
- Follow-up of sensory features ageing over time (stability & shelf life testing)
- Sensory quality preservation testing further to a change of supplier, ingredient or process
- Determination of the best storage conditions to preserve organoleptic quality
- Sensory conformity checking, investigation of defect origin



BENEFITS of our solutions

- ▶ Make sensory evaluation more reliable and objective
- ▶ Improve production sensory quality and consistency over time
- ▶ Standardize sensory quality in production plants worldwide
- ▶ Monitor the organoleptic features of your products
- ▶ Qualify customer claims to reduce financial loss
- ▶ Significantly decrease production loss thanks to an earlier detection and better reactivity on sensory defects
- ▶ Speed up liberating tests on production batches



Specialized in electronic sensing systems, Alpha MOS company positions as the world leader in the design and development of instruments dedicated to odour, taste and visual aspect (colour and shape) analysis.

To answer the needs of the major industries, Alpha MOS offers reliable and fast solutions that can control the sensory quality of their products and secure their manufacturing processes.

First company to market electronic noses, Alpha MOS has always made strong investments in R&D to develop innovative products that would meet the needs not fulfilled that far. Several developments about systems and methods for measuring odours and liquids, for quantifying odours intensity or for processing data are patented.

Headquartered in France, Alpha MOS has 2 subsidiaries (USA, China) and a network of more than 30 distributors worldwide.



20 avenue Didier Daurat - 31400 Toulouse - France
Tel: +33 5 62 47 53 80 - info@alpha-mos.com
www.alpha-mos.com



odour
taste
colour
shape



SENSORY TESTING SOLUTIONS

HERACLES Odour analysis

HERACLES is dedicated to the analysis of your products' aroma as well as chemical molecules composing the odour, with AroChemBase option. HERACLES technology uses **flash gas chromatography technology** and unique technical characteristics, to provide **unsurpassed performance in assessing the chemical composition and related sensory attributes**.



HERACLES Key features

GUARANTEED CONSISTENCY OVER TIME: a high level of columns protection (headspace injection, embedded trap limiting impurities, no oxygen in the columns with permanent carrier gas circulation) contributes to long-term stability. Fully automated operations and accurate temperature control produce a high level of measurements reproducibility and stability. Finally, machine learning* functionalities compensate potential drift (*Patent pending)

HIGH SPEED & THROUGHPUT OF ANALYSIS: with Flash GC capabilities coupled with an autosampler, HERACLES can analyze up to 200 samples a day.

UNSURPASSED SENSITIVITY: fast gas chromatography with embedded pre-concentration trap allows to reach very low detection thresholds on volatile compounds.

SUITABLE FOR EVERY USER:

- Easy mode AlphaSoft QC for Production control
- Expert mode for parameters set-up and further analytical investigations
- 380 ready-to-use analytical methods included



AlphaSoft



AlphaSoft



AroChemBase

Powerful analytical capabilities

- ▶ Simple Go / No Go decision tool
- ▶ Odour maps for easy and fast comparison on the overall odour fingerprint
- ▶ Predictive models for characterizing samples based on origin, quality, etc
- ▶ In-depth investigation on chemical composition and sensory attributes characterization : origin of off-odours and sensory defects, competition benchmarking on sensory profile
- ▶ Quantitative analysis (concentration, sensory note)

ASTREE Taste analysis

ASTREE **electronic tongue** is an instrument dedicated to the **analysis of your products' taste**. Based on **ChemFET sensor technology and conductivity measurements**, this device can detect all organic and inorganic compounds responsible for taste in liquids in order to assess the overall taste profile, just as the human tongue does.



ASTREE Key features

OBJECTIVE AND RELIABLE MEASUREMENT: the automated instrumental measurement under controlled conditions guarantees unbiased and reproducible results. The method is particularly suitable for the research and development of new formulations or finished products.

FAST ANALYSIS: the carousel autosampler allows to fully automate the analysis sequence of a samples set, with a sample evaluated every 3 minutes

POWERFUL QUANTITATIVE ABILITIES: with the electronic tongue sensors, it is possible to simultaneously rank similar samples based on the intensity of salty, acid and umami attributes.

SAFE METHOD: using the electronic tongue prevents from exposing panelists to unknown or potentially dangerous compounds.



Powerful analytical capabilities

- ▶ Taste maps for easy and fast comparison on the overall taste fingerprint: benchmarking, recipe optimization, taste stability follow-up, impact of a change in ingredient or process on the taste
- ▶ Quantitative analysis of taste masking efficiency
- ▶ Ranking on taste attributes intensity for saltiness, umami and sourness
- ▶ Quantitative analysis in correlation with a sensory panel



AlphaSoft

AlphaSoft*

With ASTREE Electronic Tongue offers:

- Qualitative models such as Principal Components Analysis to compare products taste
- Quantitative analysis models such as Partial Least Square model for score determination, regression model for taste attribute intensity evaluation or distance calculation for differences and taste matching assessment

*AlphaSoft is the unique software platform that allows to operate all Alpha MOS sensory analysis instruments and to process measured data. It can combine the measurement on the 3 systems for a multi-sensory evaluation.

IRIS Colour & shape analysis

Based on **high resolution camera** imaging under controlled lighting conditions in a closed cabinet, IRIS visual analyzer achieves a **detailed measurement** of products aspect (colours and shapes). The instrument can **evaluate the whole product as perceived by the consumer** or focus on selected portions.



IRIS Key features

OBJECTIVE AND RELIABLE VISUAL ASSESSMENT: unaffected by product consistency or texture, IRIS achieves reproducible colour and shape measurements under controlled conditions and assures product traceability through data storage.

IN-DEPTH ANALYSIS: the instrument measures both colour and shape parameters in one acquisition on the whole product. It does not deliver a mean value but determines the proportion of each visible colour, colour distribution and variations across the surface as well as information such as circularity, area or surface ratio between minimum and maximum size.

EASY AND FAST METHOD: this non-destructive analysis requires no sample preparation and is suitable for complex and non-uniform areas. Thanks to a large measurement surface, sample size is seldom an issue, which also allows to assess several samples in one analysis.



Powerful analytical capabilities

- ▶ Visual conformity control to check that it meets acceptable quality standards
- ▶ Visual defect detection
- ▶ Size distribution control in mixes or batches
- ▶ Colour stability testing over time, assessment of aspect change over time
- ▶ Evaluation of process impact on the visual aspect
- ▶ Benchmarking of competitive products based on visual aspect



AlphaSoft

AlphaSoft*

with IRIS Visual Analyzer offers:

- Picture acquisition and processing functionalities such as background removal, colour spectrum and shape data display, burst shooting function
- Qualitative models such as Principal Components Analysis to compare products aspect, Statistical Quality Control for quality determination
- Quantitative analysis models such as Partial Least Square or Hierarchical Clustering Analysis to determine the proportion of different colours