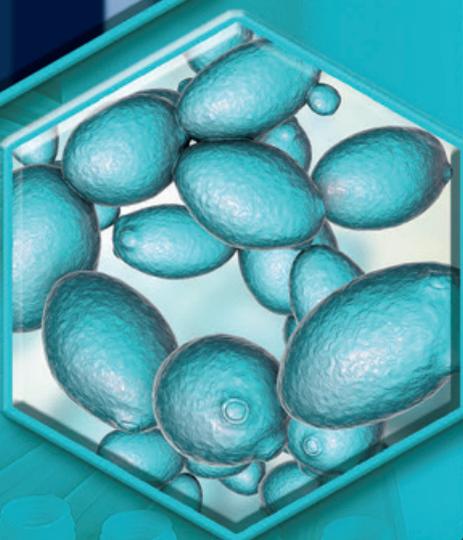


# ENZYMATIC ANALYSIS



# PRODUCT OVERVIEW

PERLAB

C O M P A N Y

### The Steroglass® company in a nutshell

**Steroglass®** is an Italian company founded in 1959 that develops, manufactures and supplies scientific instruments for diagnostics, biotechnology and environmental chemistry industries.

The company is a world leader in supplying equipment for analysis of food and wine, and thanks to its utmost expertise it develops, produces and markets highly innovative solutions for laboratory analysis thus optimizing both production processes and quality control methods.



S T E R O G L A S S  
T H E



## CHEMISTRY BITES



Enzymatic and colorimetric kits are widely used in the analysis of food products such as wine, fruit juices, beer, dairy products, eggs and meat as well as for control of fermentation processes of yeast and bacteria by detecting the content of various parameters such as sugars, organic acids and other components e.g. sulfites, phenolic compounds and metals.

Enzymatic analysis is based on high quality purified enzymes and allows precise and specific measurements for the characterization of compounds, even in complex matrices, since the spectrophotometric absorbance reading is correlated to the concentration of the various analytes.

Used for numerous applications, the main parameters analyzed are significant as regards stability, genuineness, transformation and toxicity of the products.

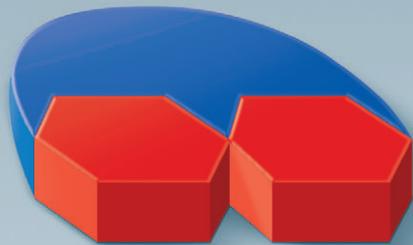
ENZYME



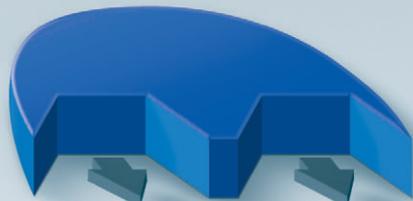
SUBSTRATE



ENZYME-SUBSTRATE  
ESEMBLE



ENZYME AND  
REACTION PRODUCTS



# ENZYMATIC KITS



Several enzymatic methods have been approved and validated by international organizations such as:

- ISO (International Standardization Organization)
- OIV (International Organization of Vine and Wine)
- AOAC (American Association of Analytical Chemists)
- IFU (International Federation of Fruit Juice Producers)
- IDF (International Dairy Federation)
- EBC (European Brewery Convention)

As a leading company STEROGLOSS® offers a number of solutions that can satisfy any FEB laboratory needs, such as:

- Universal enzymatic and colorimetric test kits;
- Automatic and semi-automatic analyzers.

Enzymatic and colorimetric kits allow to save time by improving control effectiveness and analytical safety.

Other features:

- Liquid and ready to use;
- Accurate and repeatable data;
- Fast analyses, especially if used with automatic analyzers such as one of the Steroglass Hyperlab instruments;
- High specificity in determination of the various analytes;
  - Low analysis costs;
  - Long shelf-life (about 24 months);
- Use of separate and multi-parametric standards.



## MAIN APPLICATION FIELDS

### Wine

- Harvest and grapes/musts collection - monitoring of ripeness and quality of grapes and musts: **Glucose / Fructose, Tartaric acid, d-Gluconic acid, L-Malic acid, Polyphenols, Anthocyanins, Catechins, Potassium analyses;**
- Fermentation - monitoring of alcoholic, malolactic and acetic fermentation: **Glucose / Fructose,  $\alpha$ -amino and ammoniacal Nitrogen, Ethanol, Acetic Aldehyde, Acetic Acid (Volatile Acidity), Glycerol, Copper, L-Malic Acid, D and L Acid -Lactic, free and total SO<sub>2</sub> analyses;**
- Stabilization and pre-bottling - monitoring of the stabilization processes and quality control: **Ascorbic Acid, D-Malic Acid, Anthocyanins, Calcium, Catechins, Colour, Glycerol, Iron, Polyphenols, Copper, Sucrose, protein stability analyses.**

### Juices, purees and soft drinks

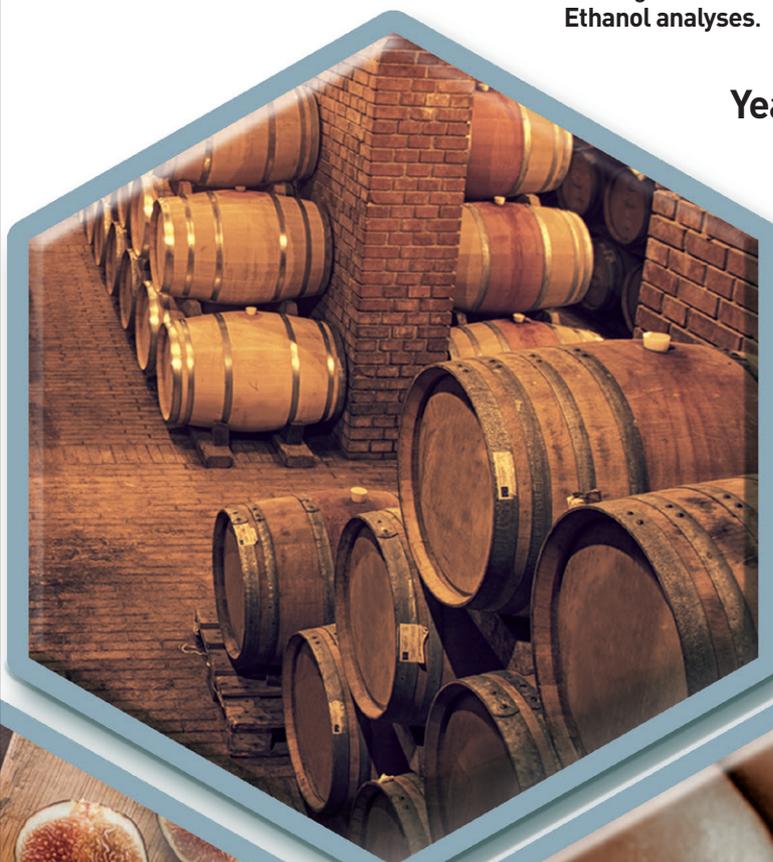
- Collection and quality control - raw material and ripening control: **Glucose / Fructose, Citric and Iso-Citric Acid, D and L Malic Acid, Polyphenols analyses.**
  - Monitoring of non-desired fermentations - **D and L Malic Acid, Pyruvic Acid, Ethanol analyses.**

### Yeast and bacteria cultivation

During all fermentation processes of yeasts and bacteria, both for food applications and biotechnologies production of various types and uses, it is necessary to quickly and accurately control a number of key parameters such as **Ammonia and A-amino nitrogen, Ethanol, L- lactic acid, Acetic Acid and Acetaldehyde.**

### Dairy products

Once received the raw material and throughout the production cycle **Lactic Acid, Pyruvic Acid, Citric Acid, Gluconic Acid, Acetic Acid, Glucose, Lactose (also on lactose free products), Calcium, Chlorides** analyses should be carried out.



# ENZYMATIC AND COLORIMETRIC KIT

## MAIN PARAMETERS

### ORGANIC ACIDS

- Acetic •Ascorbic
- Citric and Isocitric
  - Gluconic
  - D & L Lactic
  - D & L Malic
- Pyruvic •Tartaric

### SUGARS

- Glucose
- Fructose
- Sucrose

### IONS AND METALS

- Calcium •Iron
- Magnesium
- Potassium •Copper

### PHENOLIC COMPOUNDS

- Anthocyanins
- Catechins
- Polyphenols

### OTHER COMPOUNDS

- Amino and Ammoniacal Nitrogen (Ran)
- Chlorides •Colour (wine)
- Ethanol •Glycerin
- Free and total Sulfur Dioxide

## CUSTOMER CARE



Kit delivery in 24/48  
hours from order



Technical and  
application assistance



Long shelf-life  
(24 months)

## MULTI-PARAMETRIC ANALYZERS



### ONE FOOD&BEVERAGES ANALYZER



- About 60 pre-loaded methods, optimized with Steroglass kits;
- User-friendly software thanks to a step-by-step guide;
- A 9-position well designed for incubation reading cuvettes, temperature can be set from 25°C to 45°C;
- Results reading of both absorbance and concentration on display screen can be printed by means of an integrated printer;
- Reagent blank and calibration of methods can be saved in memory.

ONE analyzer has been designed to perform a number of enzymatic analyses in the food & beverage industries. Very useful for controlling the quality of each step of the whole production process, One comes with a wide range of methods which provide a simple and intuitive interface by means of a graphic display that guides the user in the analysis being performed.



# THE ADVANTAGES OF AUTOMATION



Direct-reading analyzers, such as Steroglass® Hyperlab series, ensure the lowest possible consumption of reagent thus allowing considerable saving in operating costs. In fact, they can perform independently all the operations required by the manual analytical procedures: the sampling arm collects the sample as well as the various reagents. Both the sample and reagents are then dispensed into a reaction cuvette where, at a constant and controlled temperature, remain there the time needed to complete the reaction.

## REDUCED ANALYSIS TIME

In a few seconds, user can prepare the samples and start the desired analyses. Once the instrument is switched on, it operates independently allowing different analyses to be carried out.

## REDUCED COSTS

Only a few  $\mu\text{l}$  of sample and reagent needed, reducing analytical costs significantly.

## HIGH PRECISION AND REPRODUCIBILITY

Modern automatic dilution systems ensure high accuracy in dispensing, preventing any possible human error as well as improving reproducibility results.

## AUTOMATIC MULTI-PARAMETRIC ANALYZERS



**Hyperlab** automation guarantees great accuracy and precision of results, with analysis costs seven times lower than those of manual methods since minimum amounts of reagents for each single determination are required.

The HI software is exclusive to **Hyperlab** series analyzers and has very useful features, such as:

- Simultaneous automatic use of 3 reagents per method, no manual preparation of reagents needed;
- Display of kinetics of the analyses being carried out, an essential function to verify their correct results and reach the reaction plateau;
- Display of reagents and samples position, their volumes and number of analyses to be performed;
- Display and automatic control of reaction cuvettes status;
- Unlimited work lists can be made and used simultaneously;
- Several calibration functions (automatic with standard, reagent blank subtraction, from 1 to 8 calibrations per test, linear and non-linear regression, etc.) and data processing functions (recalculation of results, to be matched to one or more reference samples, display of the new regression line generated by the recalculation, etc. ...)

# AUTOMATIC MULTI-PARAMETRIC ANALYZERS



**HYPERLAB**  
Multiparametric Analyzer



## Hyperlab Plus Automatic Analyzer

The most popular automatic analyzer for food and wine:

- 180 analyses / hour;
- 60 positions;
- 30 positions with refrigerated tray;
- Anti-crash glass ceramic needle equipped with capacitive level sensor;
- 8-cycles washing station.

## Hyperlab Basic Automatic Analyzer

Robust and resistant for high productivity:

- 150 analyses / hour;
- 46 positions;
- 26 positions with insulated reagent plate;
- Stainless-steel needle equipped with capacitive level sensor and anti-breakage locking system;
- 6-cycles washing station.

## Hyperlab Smart Automatic Analyzer

The revolution of enzymatic analysis:

- 140 analyses/hour;
- Insulated reagent plate;
- 2 versions:
  - 10 positions for samples and 20 positions for reagents;
  - 20 positions for samples and 10 positions for reagents;
- Small size: 38x60x35 cm;
- Stainless-steel needle equipped with capacitive level sensor and anti-breakage locking system;
- 4 reaction segments, each with 24 disposable cuvettes;
- Maintenance-free.





COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 =

# ENZYMATIC ANALYSIS

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