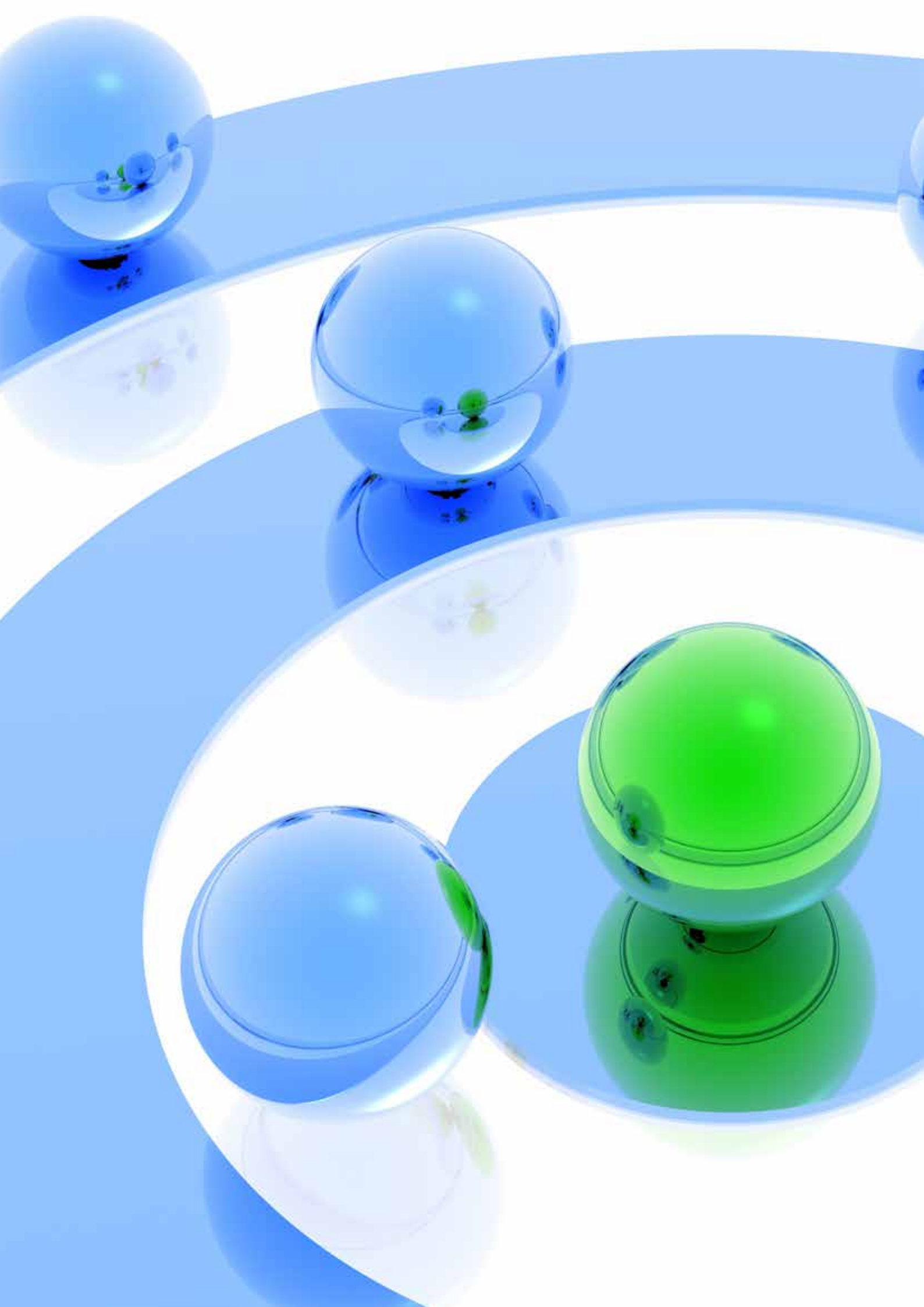
ielab

Making quality control easy

PROFICIENCY TESTING SCHEMES 2014

Issue October 2013



Making quality control easy

Index

ielab: commited with the Quality Control

ielab is an international company dedicated to provide products and services for the implementation of quality in testing laboratories.

Taking the Quality as the main reference, together with the independence and the response to the technological needs that have arisen in the course of our work, we have been adapting our resources and expanding our services. Our commitment to quality and efficiency are demonstrated by the certification of all our activities in accordance with ISO 9001 and our accreditation in accordance with ISO / IEC 17043 as a Proficiency Testing Schemes provider.

ielab´s international Proficiency Testing Schemes are a prestigious instrument to evaluate, compare and improve the quality of the results of environmental testing laboratories, with more than 1,200 participants worldwide.

Besides the Proficiency Tests presented in this catalogue, **ielab** offers reference materials, diagnostic systems and consulting services that facilitate quality control tasks in the laboratory.

Objectives of Proficiency Testing Schemes

Proficiency Testing Schemes consist in the organization, development and evaluation of tests (of the same item or similar items) by several laboratories, according to predefined conditions.

Proficiency Testing Schemes (also known as “Intercomparisons”) are organized at all levels of science, but the objectives, protocols and participants may vary. In certification assays, measurements are used to assign values to reference materials and evaluate their validity for their use in specific test procedures. Validation studies of methods (collaborative trials) are used for the characterization of methods. If the aim is to use intercomparisons to assess the effectiveness of a laboratory for testing or measuring, it is called a proficiency test (PT).

Who should participate in Proficiency Testing Schemes?

ISO 17025 states: “The laboratory shall have procedures for quality control for monitoring the validity of tests and calibrations performed” and includes participation in intercomparison programs between the basic tools for quality assurance, so participation in intercomparison programs is essential for all accredited laboratory according to the standard. Confidence that a testing laboratory produces consistently reliable results is essential for users of its services. Therefore accreditation authorities expect from accredited laboratories regular and successful participation in intercomparison programs.

In addition, any laboratory that needs to demonstrate the quality of its analytical results in an independent way should participate in Proficiency Testing Schemes, since the quality of the analytical results is directly linked to the quality of service / product, to the market credibility and brand image.

The selection of a PT Scheme is critical to ensure that the participant obtains the most benefit from participating; therefore the selection process of an appropriate PT is important. It is therefore essential that the participant evaluates the competence of the PT provider. A PT provider that operates according to ISO/IEC 17043 can be considered as competent.

EURACHEM, Selection, Use and Interpretation of Proficiency Testing (PT) Schemes, Second Edition 2011

Benefits of Participating in Proficiency Testing Schemes

Participation in Proficiency Testing Schemes is an essential tool to demonstrate the technical competence of the laboratory and it allows to:

- Compare own results with those obtained by other laboratories.
- Confirm the correct initial validation of a method.
- Use the data obtained from participation in Proficiency Testing Schemes for validation of measurement methods.
- Determine systematic errors.
- Improve the test method used.
- Learn from the methods used by other laboratories.
- Monitorize the accuracy and precision of the method.
- Encourage collaboration between laboratories.
- Demonstrate technical competence against third parties.

Why choose ielab as your Proficiency Test Provider?

- Applied statistical studies have high significance, since the number of participants is high, with more than 1,200 participants from 34 countries.
- As a provider accredited by ENAC according to ISO / IEC 17043, compliance with the requirements of this standard is objectively demonstrated.
- Access to a wide range of schemes with a single supplier.
- Quick results reports delivery.
- Specialized technical support and extensive experience in quality control and in the organization of Proficiency Testing Schemes.
- Service capacity and continuous improvement, adapting our offer to the needs of the participants, including new tools and systems that improve and upgrade the services offered.
- Access to all general benefits that regular participation in Proficiency Testing Schemes brings.

Who participates in ielab´s Proficiency Tests?

Our customers can be found among public and private independent laboratories and inspection bodies, laboratories of agrofood industries, pharmaceutical companies, cosmetic, chemical, petrochemical, drinking water supply companies, waste water treatment plants, etc. Participants also include research centers and universities, health authorities and agencies, municipalities and regulators.

We currently manage more than 1,200 participants from 34 countries and in 24 different schemes.

International Presence

ielab, in its expansion strategy, it is committed to a model of marketing of their products based in a network of specialized distributors, who have been selected for their:

- Proximity to customers for an proper assistance
- Extensive knowledge of their customer's needs
- Broad experience in the sector

You can find further information about our distributors in the website **www.ielab.es**

Alcance internacional de ielab. Customers = ● Distributors = ●

Main features of ielab Proficiency Testing Schemes

ORIGINAL DESIGN

- Participants queries
- Queries and suggestions discussed at the final meeting
- New laws

FINAL DESIGN

- Natural matrixes and isolated strains
- Study of the interferences between parameters and/or matrixes
- Use of false positives/false negatives
- Preparation of pilot tests

SAMPLE PREPARATION

- Lyophilized natural samples or spiked samples, covering a wide range of concentrations
- Quality control carried out by accredited laboratories
- Studies of stability and homogeneity of the samples

SAMPLE SHIPMENT

- Control of the sample temperature during the shipment
- Double sample to verify the sample stability under the shipping conditions
- Multilingual instructions and documentation

RECEPTION OF RESULTS

- On line results submission, which can be made also by fax or e-mail
- Possibility to change the data set until the closing date
- Automatic email confirmation of the reported data

STATISTICAL RESULTS REPORT

- Robust statistics according to international guidelines
- Standard deviation for proficiency assessment
- Z-score criteria for the proficiency evaluation
- Automoatic software for a quick reporting

RESULTS REPORT

- Complete statistical reports, with information about sample preparation and results deailed by parameter
- Personalized report comparing own results with the global results.

FINAL MEETING

- Final face meeting with the participants and any other interested to attend, where the development of the schemes is commented
- Technical issues about the PTS are discused in the meeting
- Participants receive a certificate of attendance

ASSESSMENT AND CONSULTANCY

- Qualified technical support, experienced staff
- Specialized technical workshops in Quality Control
- Technical Consultancy Service

Information management system

WEB

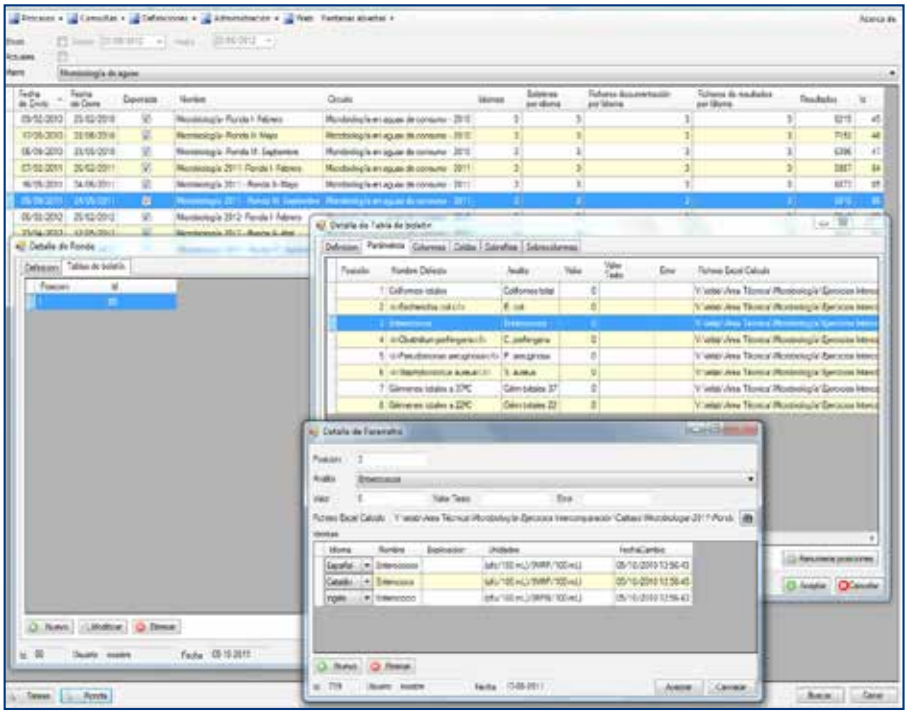
ielab's website displays an specific area to manage the Proficiency Testing Schemes, where you can register, access to technical documentation, send the results, get the reports of the statistical studies and the participation certificates, download raw data in an Excel format, change your participation code, etc.

The advantages of using this application include:

- Quotations can be requested
- The participant can prepare a price quotation by itself
- Registration to Proficiency Testing Schemes
- Allows direct payment of the participation costs
- Private management of the participation code, keeping confidentiality so that the results are confidential even for the provider
- The participant has unlimited access to its information
- On line results reporting, allowing modifications until the established closing date
- Automatic email confirmation of the data registered by the participant in the database
- Traceability data
- Encrypted database
- Downloadable participation certificates
- Download of the results of each scheme in an Excel format.
- Access to the procedures and other technical documentation
- Access to results reports
- Availability of the presentations of the technical conferences to be downloaded

PTAS / Proficiency Testing Assessment Software

Informatic application for the management of the Proficiency Tests, customers data, technical documentation, PTS plan and design, statistical data, etc. Linked with our SAP invoicing system for a better agility in the management of all phases of the Proficiency Testing Schemes.

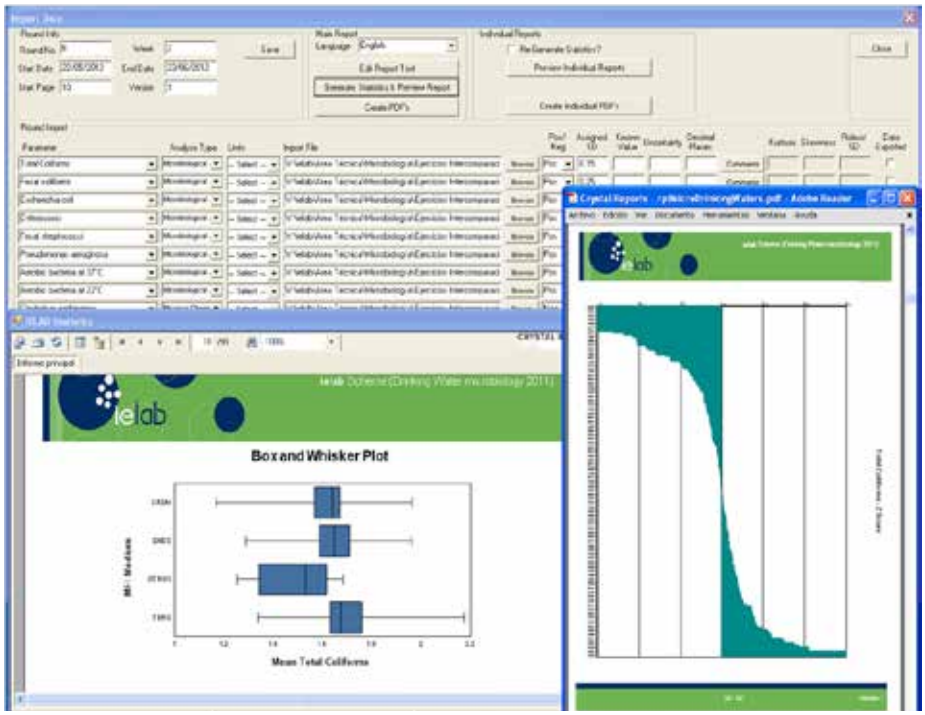


Benefits obtained thanks to PTAS:

- The participant types the results himself/herself, avoiding potential transcription mistakes.
- Automatic generation of data files containing the submitted results.
- Reported Results can be complemented or modified at any moment until the deadline.
- A copy of the own submitted Results Data Sheet can be printed out.
- Confirmation email is automatically sent to the participant as a proof of receipt and archive of the results.
- Results are identified only by the participant's code, in order to guarantee confidentiality.
- Download of the file with the results submitted by all participants (raw data), that allows each participant to make their own statistical studies.
- Other support documents for the round and about the results are available to be downloaded. Also Round Reports and Participation Certificates.

RPTAS / Reports for Proficiency Testing Assessment Software

Informatic taylor-made system, based on our specific requirements for faster and automatic processing of statistical studies and reports, both general and personalized.



Thanks to RPTAS, the PTS management will be improved in several ways:

- Reduction of delivery time of reports.
- Automatic processing of the results to reduce miscalculations.
- Increased reliability at analyzing results, as it is an automatic process and follows a uniform protocol to elaborate the statistical report.
- Custom reporting, comparing the analytical results of each participant with the global results of the round.
- Historical archive of results, reports and parameters per round. This gives the availability to download past round reports and results.
- Access to “raw data” of the results of all participants (encoded to maintain confidentiality) in editable format (spreadsheet) so that the participants can perform their own additional statistical studies.

How to participate in ielab's Proficiency Tests?

Join our website(www.ielab.es), and click the tab at the bottom of the screen: "PTS ACCESS" *

If you are a new customer who never worked with us before, you can proceed to the registration through the link "new customer".

If you are already a customer, please log in with your user and password. We recommend to check your contact data and update them if needed.

Go to the option of the menu "Registration". You will find a table with all the tests offered. Please choose the ones of your interest (with the button "Add")

If you wish to undo any selection, press "Delete".

By clicking "Accept" you will obtain a quotation of the selected, named "Purchase Order" (P.O.)

To confirm your P.O. you must click "Save". A message that informs that the registration has been made satisfactorily will be shown, together with the necessary information to make the payment.

Besides, you will receive an email with a summary of the purchased. Please, make always sure that you receive it and that the data shown correspond to what you want.

* You can also do the registration process by e-mail or fax. You can find the registration form in the current Price List document or contact us at **comercial@ielab.es** to request it.

ielab Proficiency Testing Schemes: offer overview 2014

POTABLE WATER

Physical-chemical A
Physical-chemical B
Physical-chemical C
Microbiology

CONTINENTAL WATER

DIRECTIVE 2000/60/EC (list of priority substances)
Raw water
Hidrocarbons from petroleum C10-C40
Microbiology

WASTE WATER

Physical-chemical
Microbiology
Reclaimed water

SEA WATER

Physical-and chemical parameters

ATMOSPHERIC POLLUTION

Stack emissions

SOLIDS

Sludges: Physical-chemical
Sludges: Microbiology
Soils: Physical-chemical
Sludges: Microbiology

LEGIONELLA

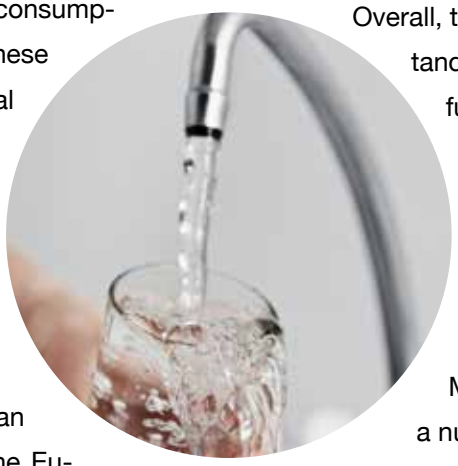
Culture isolation
Polymerase Chain Reaction (PCR)

OTHER

PCBs in dielectrics oils
Endotoxins
Moulds and Yeasts
In situ analysis

POTABLE WATER

Within the matrix “Potable water” can be included those waters that originate in the different water supplies for human consumption and for household. These waters must fulfill the legal considerations on the potability of water based on the acceptable thresholds of a series of compounds or substances. In Europe the legal concept the quality of water intended for human consumption is based on the European Directive 98/83/EC and its national transpositions in the different European Union countries.



Overall, the different standards understand as potable water the one that fulfills a number of organoleptic and physical-chemical characteristics, related to undesirable substances, toxic substances, microbiology and radioactivity.

Maximum allowable values for a number of parameters are established which correspond to the minimum permissible quality in potable water.

POTABLE WATER: PHYSICAL-CHEMICAL A /REF. I000002/

ROUND I	ROUND II	ROUND III
WEEK 9 **24th February**	**WEEK 22** **26th May**	**WEEK 38** **15th September**
Aluminium; Ammonium; Antimony; Bicarbonates; Cadmium; Conductivity at 20°C; Magnesium; Manganese; Nitrates; Sodium.	Arsenic; Chlorides; Colour; Iron; Mercury; Nitrites; Oxidability; pH; Potassium; Selenium.	Calcium; Combined Chlorine; Residual Chlorine; Total Chlorine; Copper; Chromium; Fluorides; Nickel; Lead; Sulfates; Turbidity.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

POTABLE WATER

POTABLE WATER: PHYSICAL-CHEMICAL B /REF. I000003/

ROUND I

WEEK 9

24th February

Aldrin; Aluminium; Ametryn; Ammonium; Antimony; Atrazine; Benzo-a-pyrene; Benzo-b-fluoranthene; Bicarbonates; Cadmium; Conductivity at 20ºC; Dibromochloromethane; 1,2-dichloroethane; Dichlorobromomethane; Dieldrin; Magnesium; Manganese; Nitrates; Sodium; 1,1,1-trichloroethane.

ROUND II

WEEK 22

26th May

Alpha-endosulfan; Arsenic; Benzene; Benzo-g,h,i-perylene; Bromoform; Chloroform; Chlorides; Colour; Heptachlor; Iron; Indeno-1,2,3-c,d-pyrene; Mercury; Nitrites; Oxidability; pH; Potassium; Propazine; Selenium; Terbutylazine; Toluene.

ROUND III

WEEK 38

15th September

Benzo-k-fluoranthene; Beta-endosulfan; Calcium; Combined Chlorine; Residual Chlorine; Total Chlorine; Copper; Chromium; 4,4´-DDE; Ethylbenzene; Fluoranthene; Fluorides; Heptachlor epoxide; Nickel; o-Xylene; Lead; Simazine; Sulfates; Tetrachloroethene; Trichloroethene; Turbidity.

POTABLE WATER: PHYSICAL-CHEMICAL C /REF. I000004/

ROUND I

WEEK 25

16th June

Barium; Beryllium; Bicarbonates; Calcium; Hardness; Phenols; Total dissolved or emulsified hydrocarbons, oils and greases*; Dry residue; Vanadium.

ROUND II

WEEK 43

20th October

Anionic surfactants; Total cyanides; Cobalt; Total phosphorus; Total dissolved or emulsified hydrocarbons, oils and greases*; Magnesium; Kjehldal nitrogen; Silver; Silica.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

POTABLE WATER

POTABLE WATER: MICROBIOLOGY /REF. I000020/

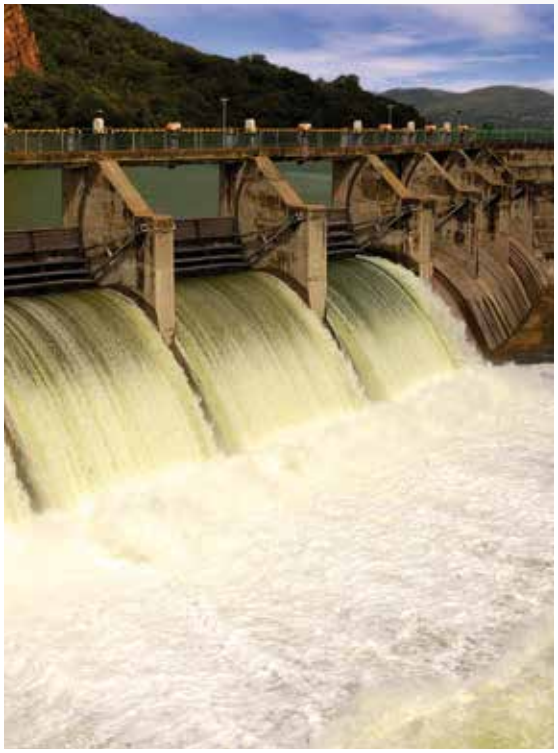
ROUND I	ROUND II	ROUND III
WEEK 6 **3rd February**	**WEEK 19** **5th May**	**WEEK 37** **8th September**
Clostridium perfringens; Faecal coliforms; Total coliforms; Enterococci; *Escherichia coli*; Aerobic bacteria at 22ºC; Aerobic bacteria at 37ºC ; *Salmonella* spp.	*Clostridium perfringens*; Faecal coliforms; Total coliforms; Enterococci; *Escherichia coli*; *Pseudomonas aeruginosa;* Aerobic bacteria at 22ºC; Aerobic bacteria at 37ºC; Faecal estreptococci.	Sulphite-reducing clostridia, *Clostridium perfringens*; Total coliforms; Enterococci; *Escherichia coli*; *Pseudomonas aeruginosa; Staphylococcus aureus*; Aerobic bacteria at 22ºC; Aerobic bacteria at 37ºC.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

CONTINENTAL WATER

Continental water can be defined as those that come from rivers, streams, ponds, pools, lakes, canals, reservoirs and other natural or artificial, fresh, brackish or salted, public or private water bodies found on land. Usually, permanent water bodies are found on the surface or underground.

Generally the tests performed in this type of matrix are ultimately aimed at establishing a framework for the protection of such water so as stated in the Water Framework Directive (WFD, Directive 2000/60/EC) will enable the prevention of further deterioration and the protection and improvement of the related aquatic and terrestrial ecosystems; promote sustainable uses of water; enable the protection and improvement of the aquatic environment; reduce groundwater pollution and relieve the impact of floods and droughts.



DIRECTIVE 2000/60/EC

list of priority substances

/REF. I000010/

ROUND I

WEEK 8

17th February

Alachlor; Anthracene; Dibutyltin; Diphenyletherbromates (PBDE-28, PDBE-47, PBDE-99, PBDE-100, PBDE-153, PBDE-154); DDT; Endrin; Hexachlorobenzene; Isodrin; Monobutyltin; Pentachlorophenol; Tributyltin; Trifluoraline.

NEW CERTIFIED PARAMETERS

ROUND II

WEEK 21

19th May

Bis-phenol-A, Chlorfenvinphos; Chlorpyriphos; Dichloromethane; Diuron; Hexachlorobutadiene; Isoproturon; Tetrachloromethane; Trichlorobenzene; Trichloromethane; Nonylphenols (#CAS 84852-15-3); 4-tert-Octylphenol (#CAS 140-66-9); Pentachlorobenzene.

NEW CERTIFIED PARAMETERS

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

CONTINENTAL WATER

The following parameters: Bisphenol-A, Nonylfhenols and Octylphenols (#CAS 84852-15-3) will be analysed within the frame of PT-WFD schemes, of which ielab is a member.

RAW WATER /REF. I000019/

ROUND I

WEEK 40
30th September / 6th October

Acrylamide*;
Bromates*;
Bromides*;
Chlorates*;
Chlorites*; TOC*;
Geosmin*;
2-Methylisoborneol*;
Microcystines*.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

CONTINENTAL WATER

HYDROCARBONS OF PETROLEUM /REF. I000011/

ROUND I

WEEK 8

17th February

DRO*; GRO*;
Total, dissolved or emulsified hydrocarbons, oils and greases*.

ROUND II

WEEK 21

19th May

DRO*; GRO*;
Total, dissolved or emulsified hydrocarbons, oils and greases*.

CONTINENTAL WATER: MICROBIOLOGY /REF. I000023/

ROUND I

WEEK 15

7th April

Faecal coliforms;
Faecal streptococci;
Total coliforms;
Enterococci;
Escherichia coli;
Pseudomonas aeruginosa;
Salmonella spp.;
Staphylococcus aureus.

NEW PARAMETERS

ROUND II

WEEK 40

29th September

Faecal coliforms;
Faecal streptococci;
Total coliforms;
Enterococci;
Escherichia coli;
Pseudomonas aeruginosa;
Salmonella spp.;
Staphylococcus aureus.

NEW PARAMETERS

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

WASTE WATER

Waste water is water of varying composition from many sources: domestic, municipal, industrial, agricultural, etc. and for that reason it has been degraded or altered in its original quality.

The discharges in to the integrated sanitation system (ISS), in accordance with the Directive 91/271/CEE can be classified as follows:

- *Domestic waste water***:** those from housing and general services areas, product of human metabolism and domestic activities.
- *Industrial waste waters*: all waste water discharged from places used for carrying on any trade or industry, other than domestic sewage or storm water runoff.
- *Urban waste water*:domestic wastewater or its mixture with industrial waste water and / or storm water runoff.

All of them are usually collected in a collecting system and sent through a terrestrial emissary to a WWTP (Waste Water Treatment Plant). The aforementioned Directive 91/271/CEE establishes the parameters, limits or the reduction level that the treatment process must achieve.

In discharge authorizations (either to sanitation systems or to public domain) the parameters and limits of application are defined, depending on the raw materials, production process and quality requirements of the receiving environment. It will take into account compliance with the limits for priority and preferential substances in Directive 2008/105/EC. These parameters include mainly organic substances, cyanides, fluorides and metals.

According to the normative which establishes the legal framework for the reuse of treated water, reclaimed water is defined as: *"The treated waste water that has undergone a treatment process additional or complementary that allows to achieve the quality for their intended use"*. This legislation establishes permitted uses, the frequency and quality criteria of this type of waste water.

WASTE WATER

WASTE WATER: PHYSICAL-CHEMICAL /REF. I000005/

ROUND I	ROUND II	ROUND III
WEEK 5 27th January	**WEEK 20** 12th May	**WEEK 40** 29th September
Ammonium; Copper; Chromium; BOD; COD; Fluorides; Nitrates; Suspended solids; Sulfates; Toxicity.	Anionic surfactants; Cadmium; TOC; Chromium VI; BOD; COD; Total phosphorus; Nickel; Orthophosphates; Suspended solids.	Boron; Conductivity at 20°C; BOD; COD; Iron; Kjeldahl nitrogen; Total nitrogen; pH; Lead; Suspended solids.

RECLAIMED WATER /REF. I000006/

ROUND I	ROUND II
WEEK 14 31st March	**WEEK 42** 13th October
Boron; *Escherichia coli*; *Legionella* spp.; *Legionella pneumophila*; Intestinal nematodes*; Suspended solids; Total phosphorus; Turbidity*.	Cadmium; *Escherichia coli*; *Legionella* spp.; *Legionella pneumophila*; Intestinal nematodes*; Nitrates; Total nitrogen; SAR (Sodium Absorption Ratio).

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

WASTE WATER

WASTE WATER: MICROBIOLOGY /REF.I000015/

ROUND I	ROUND II	ROUND III
WEEK 11 **10th March**	**WEEK 21** **19th May**	**WEEK 41** **6th October**
Clostridium perfringens;* *Faecal coliforms;* Total coliforms; Enterococci; *Escherichia coli;* *Salmonella* spp.	*Clostridium perfringens**; Faecal coliforms; Total coliforms; Enterococci; *Escherichia coli;* *Salmonella* spp.	*Clostridium perfringens**; Faecal coliforms; Total coliforms; Enterococci; *Escherichia coli;* *Salmonella* spp.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

SEA WATER

Sea water is marine water, with a wide variety of minerals that confers a high saline percentage (between 35 and 38‰).

The sea water control is especially important in bathing areas. The Directive 2006/7/EC of 15 February 2006 concerning the quality management of bathing water, collects the new scientific and technical specifications and enables a more consistent legal framework both with the current needs and with the advances and the progress in recent years regarding bathing waters.

There are also various international networks focused on the Control and Quality Monitoring of Coastal Water whose main goal is to have an intervention tool, in order to provide information on the evolution of water and aquatic ecosystems quality by using of biological, hydromorphological and physical-chemical indicators, so that can achieve the fundamental guiding documents can be achieved in order to:

- Plan and manage coastal marine aquatic ecosystems.
- Comply with the requirements of the Water Framework Directive by establishing a Communitary framework for the action in the field of water policy (characterization, typification and delimitation of water bodies).
- Meet different programs for the assessment and control of pollution in different regions.
- Generating information for European Directives relating to water quality.
- Meet different programs to reduce the pollution.
- Provide support for scientific investigation.

SEA WATER /REF. I000001/

ROUND I	ROUND II
WEEK 25	WEEK 36
16th June	1st September
Ammonium; Arsenic; Cadmium; Total coliforms; Enterococci; *Escherichia coli*; Nitrates; pH; Turbidity.	Antimony; Total coliforms; Enterococci; *Escherichia coli*; Mercury; Kjeldahl nitrogen; Orthophosphates; Lead; Salinity.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

ATMOSPHERIC POLLUTION

Industrial combustion and other kind of processes are susceptible to produce various contaminants which have been demonstrated or can be harmful to health and the environment.

At the request of environmental agencies and regulation bodies, industries must therefore measure emissions from its chimneys. Control of these emissions permits to manage its environmental impact, demonstrating compliance with established legislative limits and avoiding penalties and adverse publicity.

European legislation (Directive 96/61/EC and 2008/1/EC version) states that emissions of static points as chimneys must be controlled so as to prevent or reduce such emissions and analytical controls are intended to control these emissions.

The material used in this scheme is similar to that usually found in laboratories for such tests and consists of two types of supports, filters and impinger solutions. In the first case, all possible contaminations related to particles are studied and in the impinger solutions those pollutants in gaseous state are collected.

The preparation and testing of the parameters of these schemes are based on appropriate international standards which are periodically reviewed in order to provide a scheme according to the needs of laboratories.

STACK EMISSIONS /REF. I000009/

ROUND I	ROUND II	ROUND III
WEEK 11 10th March	**WEEK 24** 9th June	**WEEK 41** 6th October
Filter: Arsenic; Cobalt; Manganese; Nickel; Vanadium. **Impinger solution:** Hydrofluoric acid (HF); Antimony; Arsenic; Cadmium; Copper.	**Filter:** Antimony; Cadmium; Chromium; Tin; Mercury. **Impinger solution:** Hydrochloric acid (HCl); Chromium; Manganese; Lead; Vanadium.	**Filter:** Copper; Lead; Selenium; Thallium; Zinc. **Impinger solution:** Cobalt; Sulphur dioxide (SO2); Tin; Nickel; Zinc.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

SOLIDS

Sludges and soils, with totally different physical-chemical characteristics are included in this group of schemes.

A sludge, also called mud, is defined as a semisolid residue which is produced, decanted or settled during a water treatment. They are generated in the septic tank of houses, shopping malls, offices or industries, or produced in a water treatment plant, as well as control units of atmospheric emissions.

A soil is the uppermost layer of Earth´s crust, which results of the decomposition of rocks by sudden temperature changes and by the action of the water, wind and living beings. The chemical composition and physical structure of the soil at a certain location are determined by the type of geological material that originates, by the vegetal cover, by the time that weathering has acted, by topography and by artificial changes resulting from human activities.

SLUDGES: PHYSICAL-CHEMICAL /REF. I000014/

ROUND I	ROUND II
WEEK 13 **24th March**	**WEEK 37** **8th September**
Arsenic, Cadmium; Copper; Chromium; Iron; Manganese; Mercury; Nickel; Nitrógeno Kjeldahl; pH; Lead; Zinc.	Aluminium; Cadmium; Copper; Conductivity at 20ºC; Chromium; Total phosphorus; Total Organic Matter; Mercury; Nickel; Lead; Zinc.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

SOLIDS

SOILS: PHYSICAL-CHEMICAL /REF. I000018/

ROUND I	ROUND II
WEEK 11 10th March	WEEK 41 6th October
Arsenic; Cadmium; Calcium; Copper; Chromium; Total Phosphorus; Iron; Magnesium; Manganese; Mercury; Nickel; Lead; Potassium; Sodium; Zinc.	Available Calcium*; Equivalent Available Calcium*; Available Phosphorus*; Available Magnesium*; Available Potassium*; pH; Oxydable Organic Matter; Conductivity at 20ªC; Texture (sand, clay and slime)*.

SLUDGES: MICROBIOLOGY /REF. I000028/

ROUND I	ROUND II
WEEK 8 17th February	WEEK 43 20th October
*Clostridium perfringens**; Total coliforms*; Enterococci*; *Escherichia coli**; *Salmonella* spp.*	*Clostridium perfringens**; Total coliforms*; Enterococci*; *Escherichia coli**; *Salmonella* spp.*

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

SOLIDS

SOLIDS IN WASTE WATER /REF. I000017/

ROUND I	ROUND II
WEEK 7 **10th February**	**WEEK 23** **2nd June**
Dissolved solids 105ºC*; Suspended solids; Fixed suspended solids*; Volatile suspended solids *; Settleable solids*; Total solids 105ºC*; Fixed total solids*; Volatile total solids*.	Dissolved solids 105ºC*; Suspended solids; Fixed suspended solids*; Volatile suspended solids *; Settleable solids*; Total solids 105ºC*; Fixed total solids*; Volatile total solids*.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

LEGIONELLA

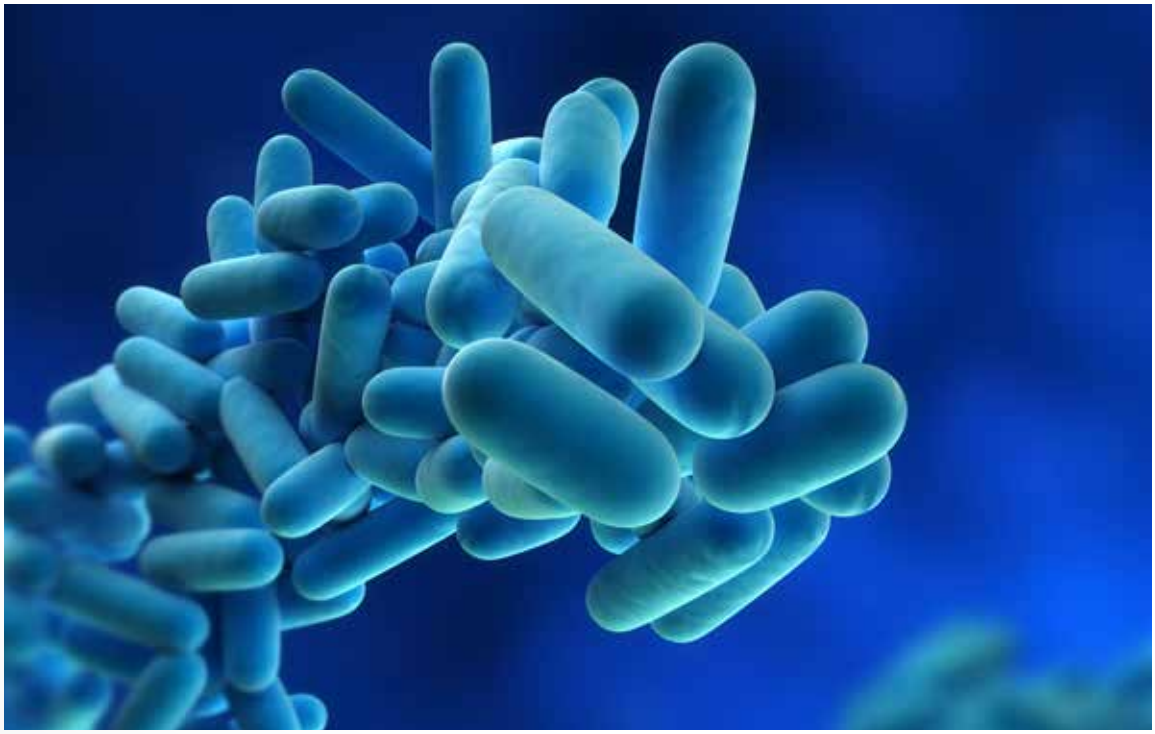
Of all the environmental pathogens, *Legionella* and particularly *Legionella pneumophila* species is one of the most studied organisms due to its impact in large communities, and therefore its importance for public health and the enormous social and economic impact.

In all current laws and regulations on legionellosis prevention, *Legionella* testing is contemplated as one of the most important preventive methods, establishing culture isolation based on the ISO 11731 standard as the reference method. **ielab's** *Legionella*-culture scheme simulates natural samples to be tested by these methods to assess the analytical performance of the laboratory and the recovery rate of the used method.

However, culture isolation presents different drawbacks such as time-to-results that can be up to 10-12 days. But, in many cases, due to the need for rapid results, methods based on amplification of nucleic acids, primarily DNA amplification by the polymerase chain reaction (PCR) have been described as valid and useful tools for the *Legionella* detection.

The main advantages of PCR are its high speed, as it provides results in hours, its high specificity and sensitivity, low detection limit and the possibility of quantifying the level of organism investigated by "real-time" PCR (qPCR).

ielab's *Legionella*-PCR samples contain inactivated cells allowing assessing both the efficiency and performance in the analytical phases of concentration, DNA extraction / purification and amplification.



LEGIONELLA

LEGIONELLA - CULTURE /REF. I000021/

ROUND I	ROUND II	ROUND III
WEEK 10 3rd March	WEEK 23 2nd June	WEEK 39 22nd September
Legionella spp.; *Legionella pneumophila.* 2 Samples.	*Legionella* spp.; *Legionella pneumophila.* 2 Samples.	*Legionella* spp.; *Legionella pneumophila.* 2 Samples.

LEGIONELLA - PCR /REF. I000013/

ROUND I	ROUND II	ROUND III
WEEK 10 3rd March	WEEK 23 2nd June	WEEK 39 22nd September
Legionella spp.; *Legionella pneumophila.* 3 Samples.	*Legionella* spp.; *Legionella pneumophila.* 3 Samples.	*Legionella* spp.; *Legionella pneumophila.* 3 Samples.

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

OTHER

PCBs in dielectric oils /REF. I000016/

ROUND I	ROUND II
WEEK 10 3rd March	WEEK 36 1st September
Sum of PCBs*	Sum of PCBs*

Endotoxins /REF. I000035/

ROUND I	ROUND II
WEEK 20 12th May	WEEK 40 22nd September
Endotoxins	Endotoxins

NEW CERTIFIED PARAMETERS

NEW CERTIFIED PARAMETERS

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

OTHER

Moulds and yeasts /REF. I000036/

ROUND I	ROUND II
WEEK 7 10th February	WEEK 36 1st September
Moulds and yeasts*	Moulds and yeasts*

* Parameter not included in our accreditation by ENAC.
Samples will be dispatched preferably on the Monday of the stated week.

OTHER

IN SITU ANALYSIS /REF. I000022/

ALICANTE	MADRID	CÁDIZ
28th May 2014	**1st October 2014**	**15th October 2014**
Continental water: Conductivity at 20ºC; Dissolved oxigen; pH; Temperature. **Waste water:** Discharge*; Conductivity at 20ºC; Dissolved oxigen; pH; Temperature. **Sea water:** Conductivity at 20ºC; Dissolved oxigen; pH; Temperature.	**Continental water:** Conductivity at 20ºC; Dissolved oxigen; pH; Temperature. **Waste water:** Discharge*; Conductivity at 20ºC; Dissolved oxigen; pH; Temperature.	**Continental water:** Conductivity at 20ºC; Dissolved oxigen; pH; Temperature. **Waste water:** Discharge*; Conductivity at 20ºC; Dissolved oxigen; pH; Temperature. **Sea water:** Conductivity at 20ºC; Dissolved oxigen; pH; Temperature.

* Parameter not included in our accreditation by ENAC.

MAIN FEATURES OF THE *IN SITU* ANALYSIS

Various schemes are offered in Spain.

Each Participant must equip himself/herself with all necessary gear for the test. No accessories or equipment will be provided by the organizer.

Measurements taken from more than one probe or kit per participant will be rejected in order to assure the veracity of the consensus value. Each participant can apply the method he/she considers more appropriate and there are not any organizational limitations in methodology. Only up to 2 staff members are allowed per participation. A personal confidential identification code will be issued to each participant, in order to ensure confidentiality.

Technical and statistical analysis will be performed in accordance to IUPAC and EURACHEM-CITAC 2007 guidelines in order to ensure the homogeneity and stability of the sample. Subsequently for each parameter the consensus value (robust mean), standard deviation and uncertainty will be

calculated. The performance of the participants will be calculated using Z-score criteria, where standard deviation for proficiency assessment values will be assessed applying current regulation or the Horwitz modified function.

The standard final report will be issued 1 month after the scheme took place.

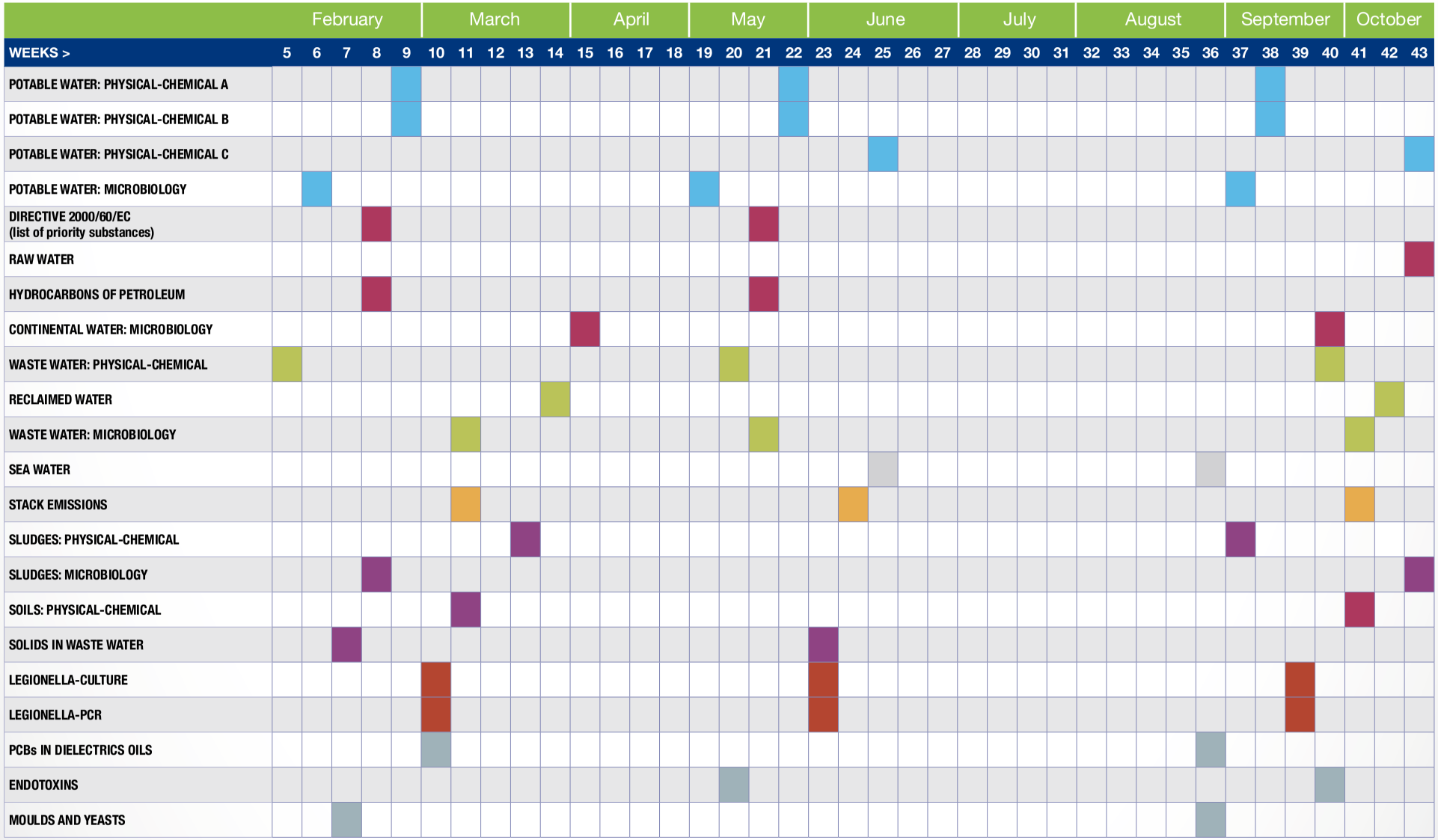
The price indicated (please refer to our Price List) includes the transport costs from the meeting point in each city to the appropriate places and the lunch (except in Madrid, where all the activities will be made during the morning).

The material used for the *in situ* test is under the responsibility of each Participant.

ielab reserves the right to cancel the scheme due to adverse weather conditions or any other reasons beyond its control (transport strike, equipment breakdowns, etc.).

In case of not achieving the minimum number of required participants, the organizer may relocate the Proficiency Testing Scheme, after consultation with the affected participants.

PROFICIENCY TESTING SCHEMES ANNUAL CALENDAR ielab 2014



FAQs / Frequently Asked Questions

How can I register to ielab PTS?

The easiest and safest way to register in our PTS is through our web. Alternatively, you can also register via fax, e-mail or post. Please contact us in that case.

How often should I participate in a Proficiency Testing Scheme?

The frequency of participations depends on various factors specific to each laboratory, as it does with other aspects of quality. The number of samples tested and the risk associated with the tests are very important aspects to be considered. Consequently, each laboratory should establish its own frequency of participation. Accreditation bodies often offer guidelines about frequency of participation, such as in the documents "EA-2/10. EA Policy for Participation in National and International Proficiency Testing Activities" and "EA-4/18 TA. Guidance on the level and frequency of proficiency testing participation" of EA (European co-operation for Accreditation) or in EURACHEM Guide "Selection, use and interpretation of Proficiency Testing Schemes".

When are the samples dispatched?

In our PTS Catalogue dates are available for our participants to check. Samples will be dispatched preferably on the Monday of the stated week.

What happens if samples do not arrive to me on the expected day?

Through the samples preparation process we undertake stability, homogeneity and conservation studies in order to guarantee that samples will remain at an optimum state through sufficient time. In some cases, such as Microbiology PTS, samples may be analyzed within the first week after reception date, however we strongly advise to analyze them as soon as they reach you. On the other hand, Physical-Chemical PTS may be analyzed within the period the test last is open (15 working days).

In the case of most physical-chemical parameters the analysis period is extended until the results reporting deadline. If any parameter couldn't be tested like this, in the instructions for each round you will find when and how to do it.

How should ielab PTS samples be preserved?

Within the samples box we provide you with clear and detailed instructions of how to handle each of the containers. This information is also available at or website from the date the scheme is opened.

How should ielab PTS samples be manipulated?

Within the samples box detailed instructions are included where we clearly specify how each of the containers should be handled. **ielab** has designed its PTS in order to simplify samples usage, making it an easy and quick process. In some cases, we also include a graphic Rapid User's Guide in order to make it easier. This information is also available to be downloaded at the website from the date the scheme is opened.

How long do I have to submit the analytical results?

Deadline of each scheme is specified in the instructions given, besides all details are also available on our website. Generally, the deadline to report results is about 18 working days after samples are dispatched. Please take into account that after the deadline it will not be possible to admit any results.

How can the analytical results be reported?

The best and easiest way to do it is through our website. By this way the confidentiality and agility on the data transfer is assured. You should log in with your user and password and then access to "Results Key in". You can also do it by fax. For this you should request it at your registration and with the samples you will receive a bulletin for this purpose (please see the surcharges on the price for this kind of service).

Is it compulsory to analyze all the parameters of each sample?

No. Each participant can analyze the parameters he/she considers, specifying all three replicas indicated in the bulletin when reporting.

Is there any mandatory method to be used or I can use the one I usually apply in my lab?

Participants must analyze the PTS samples performing the method they usually use for analyzing routine samples.

It is important for participants to report the method used and the technical specifications as we often also assess the results in relation to the methods used.

How are the samples shipped?

The materials used in the Proficiency Testing Schemes are shipped according with all the legal requirements and transport conditions to preserve their contents.

Samples are sent through express courier. In some countries, we advice that participants gather information in advance about the import documents or taxes that may be needed.

How to send the results through the website?

You should log in with your user and password and then access to "Results Key in". Once there, choose your scheme and round (a drop down list will appear if you are registered into various schemes and they are taking place at that time). A bulletin to be filled in will be displayed.

How do I enter decimal numbers? (web)

Decimal numbers must be entered/typed in/keyed in introduced according to each participant's computer configuration.

Once filled the bulletin, what shall I do with the uploaded results?

Please click on the "save" button that you will find at the bottom of the page. An automatic confirmation e-mail will be sent to you with a summary of your data.

Once results are saved, may I change them? (web)

Once results are saved they are available on line. Please log in and access as explained before. Results may be rectified at any time while a scheme is open (i.e., from the starting date until the deadline), however you must always save them after any new data entered or change made, and await the automatic e-mail, otherwise the results will remain as last time you saved them. Results are available at any moment while a scheme is open, as specified in the instructions. Once reached the deadline, PTAS will automatically block the access and results will be automatically downloaded to our data base.

How are collected results assessed?

ielab, as an ENAC accredited PTS provider according to ISO 17043:2010 standard, fulfills all requirements especified in the ISO 13528 standard "Statistical methods for use in proficiency testing by interlaboratory comparisons", and also according with IUPAC protocol "The international Harmonized Protocol for the Proficiency Testing of Analytical Chemistry Laboratories". Results are assessed under a wide robust statistical study in order to obtain a consensus value.

How are samples affected by transport time and temperature?

The materials used are stable within the delivery and transport times set.

Stability studies are made simulating shipping conditions and throughout the established test period. There is also a consistent transport control, in which a duplicate of the test samples is delivered to one of the participants, who returns them to **ielab** for verification.

How will I receive statistical results report?

Results report is sent to all participants by e-mail in PDF format in 15 working days after the closing date of each round.

It may be requested a hard copy of the results report. Please check in our current Terms and Conditions for extra charges on this service (30 € / round), and it will be posted by registered mail.

How long shall I wait for the results report?

The report will be available in a maximum term of 15 working days after the deadline. However, the introduction of automated systems, such as RPTAS, will progressively reduce this term.

How can ielab help me with an incorrect result?

If you have any doubt about a result, you can communicate with us and ielab will give you the most appropriate answer to your circumstances.

How is confidentially guaranteed?

ielab guarantees results confidentiality to all participants. Each one of ielab participants has a 4-digit code automatically assigned when registering. This 4-digit code may be changed at any moment by the participant itself. The results report only mentions this 4-digit code, therefore avoiding in all cases any identification data of the participant's.

Are ielab PTS accredited?

Our quality system is based on the UNE-EN ISO/IEC 17043 standard being accredited by ENAC nº2/PPI007.

What international norms are relevant for the Proficiency Tests?

Proficiency Tests management is based on the norm ISO 17043. Norms ISO 13528 (statistical data management) and IUPAC´s protocol are also important.

What are the participation costs?

Please access to "PTS offers and registration" (http://www.ielab.es/ielab/paginas/index.aspx) and you will be able to make by yourself a quotation according to your needs. You can also find this information in our current "List of Prices, Terms and Conditions" on our website. Otherwise, you can also contact (http://www.ielab.es/?q=en/contact) our Sales Department and we will be pleased to deal with your request.

Parameters Index:

Parameters list in alphabetical order and the page where they can be found:

ielab

Making quality control easy

C/ Dracma 16
Pol Ind. Las Atalayas
03114 Alicante / **Spain**

T. +34 966 10 55 01
F. +34 966 10 55 03

comercial@ielab.es

www.ielab.es