

AGLAE'S PROFICIENCY TESTS

A.G.L.A.E., WHAT ARE WE?

A.G.L.A.E. stands for **ASSOCIATION GENERALE DES LABORATOIRES D'ANALYSES ET D'ESSAIS.**

(General Association of Analytical and Testing Laboratories)

We are a **non-profit-association**, founded in 1993 and governed under the French law of 1901.



AGLAE is accredited in compliance with EN ISO / IEC 17043 standard for **provision of interlaboratory comparisons in various fields.**

Scope available on www.cofrac.fr

Environment:

- ✓ in different matrices: clean waters, natural waters, waste waters, saline waters, solid matrices
- ✓ for various analyses: physicochemical and biological

Medical Biology / Waters for medical use:

- ✓ in different matrices: biological liquids (blood, urine), sterile demineralised water or ultra-pure water
- ✓ for various analyses: cyto-bacteriological analyses and biological analyses

⇒ Our proficiency tests are available in our catalogues or via www.association-aglae.fr

⇒ Customized tests can also be carried out – feel free to contact us on contact@association-aglae.fr

WHICH TYPE OF TESTS?

Proficiency tests are also known as "External Quality Assessment" (EQA) in the medical field.

- ◆ **Objectives of the proficiency tests:** Assess and improve analytical performance of participating laboratories.
- ◆ **Principle:** Tests to evaluate the analytical performance rest upon the distribution of a suitable test material. **Each laboratory analyses test samples with their own analytical system as per their usual samples.** The statistical processing is carried out on all the obtained test results. This study is done to assign a value to the test samples and define the acceptable difference to this value on the basis of the results dispersion. Each laboratory obtains an assessment of its analytical performance against the results obtained by all participating laboratories.

Please note: AGLAE's proficiency tests are not aimed at method or equipment validation.

BUT ALSO...

ADDITIONAL TEST SAMPLES

AGLAE provides additional test samples for some tests in order to evaluate a technician, test a new method...

MATERIALS FOR YOUR INTERNAL QUALITY CONTROL

AGLAE provides **Quality Control Materials**: these are test materials coming from proficiency tests related to **chemistry in solid matrices** e.g. sludge, sediment, soil.

TRAINING SESSIONS

AGLAE conducts training sessions in water microbiology:

- ✓ Implement a quantitative Internal Quality Control and how to make better use of one's External Quality Control,
- ✓ Estimate the uncertainty of measurement.

OUR PROFILE

TECHNICAL EXPERTS BY OUR SIDE

AGLAE relies on many experts from the environmental and medical biology fields to prepare test samples as close as possible to the ones analysed by laboratories and to interpret the results obtained.

The partnership with these technical experts enables us to conduct suitable tests and to better meet our members' needs.

A COMPLETE MEMBER AREA



Our web site **displays a customized member area** to enable participants to follow their tests.



AGLAE PROFICIENCY TESTING TRAINING SESSIONS STUDIES NEWS CONTACT US



- ✓ All the test documents, results submitted, test reports as well as guides, publications etc. issued by AGLAE can be downloaded.
- ✓ **All your proficiency test results and assessments are held** in your member area: summaries of your results (per scheme, over a set period).
 - ⇒ This summary is useful for your Internal Quality Control, any applications waiting for approvals and/or during your audits.



PROFICIENCY TESTING AND UNCERTAINTY OF MEASUREMENTS

For chemistry tests:

- ✓ Calculation of a **zeta-score** which enables you to check the relevance of your uncertainty of measurements estimates.
- ✓ A **guide to calculating your uncertainties from proficiency testing data in compliance with ISO 11352** is available from your member area to assist you in your calculations.



- **For some microbiology tests, repeatability uncertainties (u_r^2) and reproducibility (u_R^2)** are calculated and presented for each laboratory. These estimates enable you to quantify the technical uncertainty of analytical devices within interlaboratory repeatability and reproducibility conditions.

AN ORGANISATION DEDICATED TO SATISFY YOU

Proficiency Testing Schemes are conducted in order to meet your requirements. Note that test documents are translated into English, but should there be any differences between the French and English versions, the French version shall prevail (this also applies to the present document).

AGLAE is open to any suggestion that may improve the service of our offer.

REGISTRATION

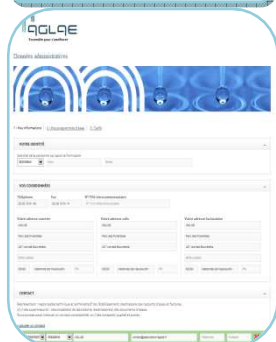
How to register?

- ✓ **Member:** via your member area of AGLAE's web site www.association-aglae.fr.
- ✓ **Non-member:** just complete the registration file available from AGLAE's web site.



Who are our contacts in your laboratory? They will be:

- ✓ The representative: technical manager and administrative contact point of your laboratory who receives the certificate of registration, all the test reports and invoices,
- ✓ The supervisor: person in charge of the proficiency test who receives the instructions, reviews of the results and test reports.



REGISTRATION (CONTINUED)

When to register? Our schemes take place from January until the following January. Registration for the next scheme is open as of **November**.

- ✓ It is possible to register at any time as long as the programmes of interest to you are still available.
The invoicing of the fees is then calculated proportionally to the number of tests left, increased by 10% when the entire programme is no longer available.
- ✓ Registration for a programme includes the participation in all the available tests. However, your laboratory can analyse the parameters of one single test.

PREPARATION OF TEST SAMPLES

Who prepares the test samples? Test materials are prepared and packaged by AGLAE, with some tests prepared by partner laboratories.

Which concentration level? The objective is to prepare test materials as close as possible to the ones regularly analysed.

Please note this does not mean that test materials have similar concentration levels to the samples regularly analysed in the laboratory.

Quite the contrary, **for parameters included in water quality control (in particular microbiology) proficiency tests are organised to set participants against pollution situations:** levels close to or beyond regulation values.

⇒ Concentration ranges targeted for the various parameters are available on request.

What type of packaging? Test samples are packaged optimally so that they are maintained at a suitable temperature (refrigerated box, ice-packs...).

Specific packaging is used for microbiological samples. However, we cannot guarantee that the temperature is maintained beyond 2 days in moderate climatic environments.

SENDING OF TEST SAMPLES

When are the test samples sent?

Your customized test schedule with the dispatch dates is sent upon registration to the representative and to all the supervisors.

Note that AGLAE limits as much as possible the number of proficiency tests in July and August. Please note as a French based company, we work in alignment with French bank holidays.

- ✓ In general, test samples are sent on a Tuesday. An express courier is selected to transport your delivery.
- ✓ For laboratories outside Metropolitan France, please contact us for delivery times frames.

Delivery destinations? We deliver to the delivery address you specified on your registration.

If your laboratory moves, make sure you notify AGLAE before test samples are sent.

RECEIPT OF TEST SAMPLES

On delivery, how to preserve the test samples? This information is available in the instructions sent by email to the supervisor of the test approx. 2 weeks before test samples are sent.

You can also download the detail from your member area via our web site.



For any problem, please contact us **immediately on +33 (0)3 20 16 91 40.**

If your samples arrive after the recommended period to start the sample treatment? ('PRDT' – see next section "Analyses carried out"): the laboratory decides whether or not to analyse the samples.

Note that laboratories can justify a late analysis in case of transport problems:

- ✓ Biology reports contain the list of laboratories that received their samples beyond 24 hours after the dispatch;
- ✓ Chemistry reports are personalized with your date and time you received the test samples.

ANALYSES CARRIED OUT



How to carry out each analysis? Analyses need to be carried out following the instructions sent prior to the test. They must be considered as **routine**.
You can analyse only the parameters of interest to you.

When to start each analysis? We specify a **recommended period to start the sample treatment** (PRDT) for each parameter during which the quality of test materials is considered optimal. It is mentioned for each parameter in the catalogue and in the instructions.

Which analytical method to use? Laboratories can carry out the analyses using their preferred method.

RESULTS ENTERED AND RETURNED

1ST CASE: ON-LINE DATA ENTRY



Where to enter test results? On your member area www.association-aglae.fr. Login and click on the concerned test.

YOUR EVENTS OF THE MONTH

September - 2015


TUESDAY 22 SEPTEMBER 2015

 Sending of samples
15M80.3

TUESDAY 06 OCTOBER 2015

 Waiting for test results
15M80.3

MONDAY 11 JANUARY 2016

 Results validated
15M4Eb.1

How does it work?

1/ Enter results: From the day following the distribution of the test samples until the deadline specified in the instructions and on your member area.

2/ Save results: Click on « save » which becomes red once data have been entered.

3/ Validate results: Click on « validate your results ». Once validated, an email is sent to the supervisor of the test.

How to modify the validated test results? Just login and cancel the validation. Results can be modified until the deadline. They will then remain available for consultation.

How to know if your results were transferred? The icon 'Waiting for test results' becomes 'Results validated'. Note that completed forms remain stored on-line.

Which date to mention on the results form? It is important to specify the date you start the sample treatment which corresponds to the date of analysis or the date from which test samples can be considered as stabilised (*date of extraction, pre-treatment, stabilisation...*).

RESULTS ENTERED AND RETURNED

2ND CASE: DATA ENTRY IN A RESULTS FILE

Where to enter test results? In the results form which is emailed to the supervisor of the test approx. 2 weeks before test samples are sent. You may also download them from your member area via our web site.



Which date to mention on the results form? It is important to specify the date you start the sample treatment which corresponds to the date of analysis or the date from which test samples can be considered as stabilised (*date of extraction, pre-treatment, stabilisation...*).

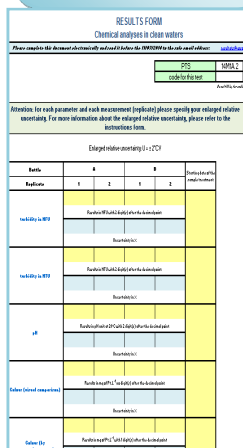
How to forward your test results to AGLAE? Just email your results form as an attachment to resultats@association-aglae.fr before the deadline specified in the results form and the instructions.

How to know if your results were received? If your results have been processed using the automatic application, you will receive an automated response. The results form received can be downloaded from your member area via our web site.



However, if there is a problem you are going to receive a failure notice. **If you do not receive any response, please contact us immediately.**

If you need to modify the test results sent? Just email the modified file. It will overwrite the previous version. This is only possible while the test has not been closed.



TEST REVIEW

TEST REPORT

When do you receive information about your results?

- ✓ Two days after the test closure, a **review** of the results is issued. It is quick feedback in order to enable participants to see how they relate to others and to react promptly to any major drift of their analytical system.
- ✓ The issue of the **report** is usually **3 weeks after the test closure**. In 2015, 89% of the test reports were available 3 weeks after the issue of the test review.

How to know the code assigned for the test? It is displayed on your member area and is also included on a downloadable certificate. Please note each test has its individual code (1 test = 1 code) for confidentiality reasons.



How is the test report sent? The representative and the supervisor of the test are notified by email when the test report is **available for download** from your member area of our web site.

In addition, an **Excel file with** all the data collected during the test will be available for downloading from your member area. This file also contains the summary of z-scores calculated for the test, the qualitative rankings and the precision values.



Note that it is possible you get the French version of the test report in the first place. Then, as soon as available, the English version will be provided.

How is the statistical processing carried out? The statistical data processing is carried out with results obtained from **all methods** and in accordance with specific rules as per normative documents.

A statistical treatment per method can be carried out, for example, when there is a large difference between results which leads to a lack of data adjustment to the mathematical model used.

Analytical performance indicators (z-score mainly) are calculated by **consensus of participants' results who completed their analyses during the recommended period to start the sample treatment**. In practice the mean and standard deviation of data dispersion are used.

Any questions about your results? Guides to interpreting your test report in Chemistry and Microbiology are available from your member area.

In addition, our team is available by email or phone.



How is anonymity and confidentiality assured? Your anonymity in a test is assured by the coding of results (laboratory code). The identity of laboratories participating in our tests is confidential; no list of participants is disclosed.



EXTENSIVE TEST REPORTS, SOURCE OF IMPROVEMENT

TEST REPORTS EASILY INTERPRETED

💧 In chemistry, personalized summary of your results which contains:

📖 **Your z-score** is the result's position of each laboratory in relation to **the general mean of the test**. Ideally, it must be close to 0.

📖 **Your qualitative ranking** enables you to evaluate your results in terms of **trueness** (mean of results) and **precision** (repeatability standard deviation). It is defined by letter coding.

The table below summarises your test results for each parameter.

Your laboratory code for this test: 58

Mean of your results	Assigned value (consensus)	Standard deviation for proficiency assessment	Z-score	Accuracy ranking
		Al (µg/L)		
203,70	220,00	14,52	-1,12	A
		As (µg/L)		
10,633	13,062	1,111	-2,19	B
		B (µg/L)		
21,40	55,82	6,00	-5,74	C

How to interpret this table:

1/ 'Satisfactory' result

2/ 'Questionable' result

3/ 'Unsatisfactory' result

In biology, a table « Qualitative ranking and z-scores »:

The **qualitative ranking** enables evaluation of the quality of the analysis provided by each participant as a "grade".

The **z-score** is the result's position of each laboratory in relation to **the general mean of the test**.

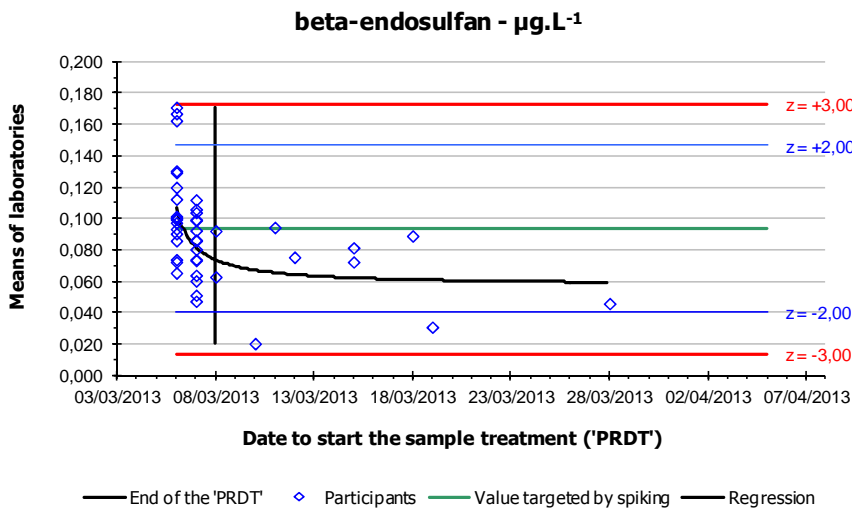
<i>Pseudomonas aeruginosa</i> in 100 ml		
Laboratory code	Qualitative ranking	Z-score
1	A	+1,18
2	A	-0,72
3	+B	+2,47
4	A	+1,07
5	-C	-5,44

How to interpret this table:


- 1/ 'Satisfactory' analysis
- 2/ 'Questionable' analysis
- 3/ Analytical problem, undertake corrective actions

TEST REPORTS WITH SUGGESTIONS FOR IMPLEMENTING CORRECTIVE ACTIONS

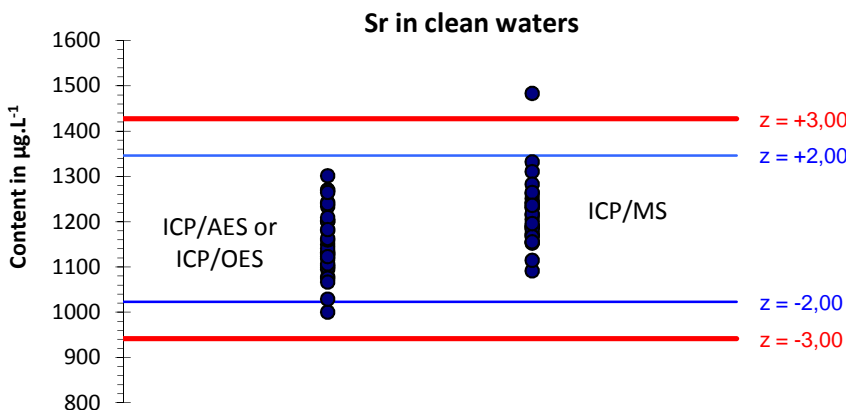
In case of test materials instability (example from chemistry tests)




If an instability is detected, this is represented by a stability graph displaying participants results depending on the date the sample treatment started.

 When did you receive the samples?
When did you start the analysis?

Differences between methods can be detected (example from chemistry tests)

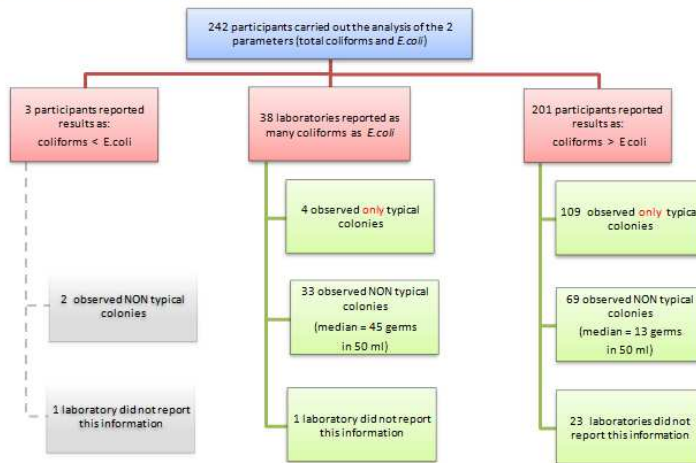


If a difference between methods is identified, we show it with a graph presenting the mean of results obtained by each laboratory depending on the analytical method.

 What is your analytical method? Does it give higher or lower results?

Comments related to intermediate results (example from biology tests)

Review of the results for the parameters total coliforms and *Escherichia coli*



When interesting observations are made, an adapted presentation as well as a conclusion is presented.



Where is your laboratory positioned? Did it find typical colonies? What is your culture medium?

⇒ Upon request, an example of test report can be sent