eurofins

The World's Leading Laboratory Network

Swimming Pools

Water

www.eurofins.co.nz

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Summary of suites: price includes bottle delivery on standard courier routes.

Test Code	Purpose	Cost - exc GST *	Page
PSP1	Microbiology Suite	$57.75	6
PSP	Chemistry Suite	$36	6
PSP2	Full Micro and Chem suite	$91	6

* Note: Contract rates will apply for routine work.

Cover Photo: Inflatable duck used by children at play

Introduction

Eurofins-ELS is one of New Zealand's leading experts in the areas of:

- Air quality monitoring
- Boiler water
- Environmental water
- Landfills
- Meat industry services
- Potable water for councils
- Sample Integrity
- Swimming pools
- Biological fluids
- Ceramicware and metal food containers
- Food and Dairy Products
- Legionella
- Metals
- Potable water for small communities
- Sewage and effluent
- Trade waste

The company has its origin as part of the Hutt City Council Laboratory and became a private enterprise in 1994. We grew through natural growth as well as the acquisition of local laboratories until in December 2012 we were acquired by Eurofins - the largest laboratory network in the world.

Eurofins Scientific is an international life sciences company which provides a unique range of analytical testing services to clients across multiple industries. The Group is the world leader in food and pharmaceutical products testing. It is also number one in the world in the field of environmental laboratory services, and one of the global market leaders in agroscience, genomics, pharmaceutical discovery and central laboratory services.

We are based in a purpose built facility of 1450 m^2 at 85 Port Road, Lower Hutt. Eurofins-ELS is comprised of four separate laboratory areas – Instrumental Chemistry, General Chemistry, Biological Fluids, and Microbiology. The latter is further split into three separate rooms with clean, cleaner and ultra clean capabilities. The ultra clean lab is used for pathogenic bacteria determinations.

In mid-2016 Eurofins-ELS opened satellite laboratories in Auckland and Christchurch. These laboratories offer full scope testing and sampling services.

Who Should Read This Brochure?

Pool water quality is a major health issue for everybody who operates a swimming pool. Laboratory tests should be performed by anyone who operates a pool for public use, such as hotels, schools, and councils.

Even if you have a personal interest in your private water quality, peace of mind can be achieved at minimal cost.

Who Should Be Testing Their Pools?

Under the New Zealand Swimming Pool Standard 5826:2010 a public pool is defined as any pool other than for domestic use, and includes commercial, school, institutional, club, hospitality industry, community and local authority pools.

Under this definition, any pool used by a member of the public must be tested. This brochure has been developed to assist pool owners with the understanding of testing services available.

Which Tests Should You Test For?

It seems that every year the media finds a new bug living in our swimming pools and because of this, the public has become increasingly aware of the quality of the water that they swim in.

Only by regularly testing your water through a qualified independent laboratory can you satisfy the demands of the pubic while meeting your obligations under New Zealand Standard NZS 5826:2010.

On site observations and tests should be carried out so that an accurate account of sampling conditions can be recorded. Under this standard you are required to hold appropriate NZQA unit standards and must analyse and record your pool water quality at set intervals.

We can assist you to analyse for the parameters that are required less frequently or require an accredited laboratory to perform.

We also analyse for Free Available, Combined and Total Chlorine but these must be performed on site and are therefore not included in the packages we offer. These tests are recorded by you as required in the NZS 5826:2010.

It is important to note that maintaining the level of Free Available Chlorine is the best way of destroying harmful bacteria. Keeping your pool chemistry balanced ensures that the chlorine will do what it is meant to.

Cyanuric acid is only used by the larger council pools and is also not included in our standard suites. We can however, test for it.

Cryptosporidium and Giardia are protozoa that have recently found their way into public pools and have caused serious illness. At the moment the test is very expensive and is not performed routinely except on some council pools.

Surprisingly, Legionella can be found in pool water at public pools, especially if the water temperature is warmer than 23° C and the pool fittings favour the formation of aerosols. Again, chlorine levels must be maintained to reduce the risks associated with these bacteria.

These tests include:

Test	Lowest	Desirable		Highest	Notes
Alkalinity in gas and chlorinated cyanurate treated pools	100	120	150	200	Alkalinity measures the capacity of water to buffer against pH changes. A pool with high alkalinity can look cloudy and lead to scale formation. A pool with low alkalinity can suffer pH bounce and can be corrosive.
Alkalinity in pools with other forms of chlorination	50	60	120	200	
Calcium Hardness	40			300	Calcium hardness builds up in pools using calcium hypochlorite for chlorination. High levels of hardness can lead to cloudy water and scale formation. Low levels can cause corrosion.
FAC - Pools, Chlorine only	1.5	2.5	5	7	Chlorine is used to kill harmful bacteria in the pool. The FAC test measures the portion of chlorine available to react.
FAC - Pools, Chlorine + other	0.5	1	2.5	5	
FAC - Spas Chlorine	2	3	5	7	
FAC - Spas Chlorine + other	1.5	3	5	7	
Combined Available Chlorine	0	<0.5		1.5	Chlorine combines with bacteria in the pool and stops being available to kill more bacteria. This test measures the portion of chlorine no longer available.
Cyanuric Acid	25	30	60	100	Cyanuric acid is added to outdoor pools to slow the breakdown of chlorine caused by sunlight.
Faecal Coliforms	Should not be present				Faecal coliforms are pathogenic gut bacteria that can cause illness. Chlorine is an effective way to destroy the bacteria.
pH	7.2	7.4	7.6	8	pH measures how acid or alkali a water is. The effectiveness of chlorine depends on the pH of the water, so it is important to maintain your pool pH at the right level all the time.
Pseudomonas aeruginosa	Should be less than 10/100mL				Pseudomonas are pathogenic bacteria found in wounds, that can cause skin infections. Chlorine is an effective way to destroy the bacteria.
Standard Plate Count	Should be less than 200/100mL				This test measures all the live bacteria present in your pool including the good and bad types. The higher the number, the poorer the water quality.
Staphylococcus aureus	Should be less than 100/100mL				Staphylococci are pathogenic bacteria that can cause infections of the skin, eyes, ears, throat, and nose. Chlorine is an effective way to destroy the bacteria.
Total Dissolved Solids - Pools	<1000				This test measures the dissolved material in your water. At high levels your chlorine will become less effective
Total Dissolved Solids - Spas	<2000				

How to Arrange Everything

After you have read this brochure and decided which suite you require, please give us a ring to arrange the delivery of bottles to you.

You will receive the bottles within a few days. Please fill them up following the instructions and then send back to us. Please include your cheque as payment. We will process the samples and deliver a report within a few days.

How to collect the samples

We will provide you with colour-coded bottles and clear instructions to make sampling easier. Each bottle corresponds to a particular preservative type and ensures the parameters under examination remain as constant as possible. Alternatively, we can collect the samples if you are nearby.

How to return the samples

All samples should be delivered to the laboratory as soon as possible but within 24 hours. Microbiological activity continues even at 4°C so the sooner we receive samples the better. Please follow the instructions we include.

We operate 365 days a year and accept samples from Monday to Saturday. Please remember that if you send samples on a Friday your courier may require a Saturday delivery ticket.

Cost of Analysis

We offer three suites of tests that cover the chemistry and microbiology analysis required. These suites cover all the common tests required by the standard.

Microbiology Suite $57.75 excluding GST

Faecal coliforms	Staphylococcus aureus
Pseudomonas aeruginosa	Heterotrophic Plate Count at 35°C

Chemistry Suite $36 including GST

pH	Alkalinity
Calcium Hardness	Total Dissolved Solids

Other tests are also available if required

Legionella	
Cyanuric acid	$ 12 + GST
Chlorine	$ 6 + GST (sample needs to be at the lab within 1 hour)
Sampling service	$ call if your pool is close to our laboratory

Advice and Reports

We are IANZ accredited to perform all analyses required by NZS 5826:2010.

The analytical report provided will be signed by IANZ authorised analysts that are nationally and internationally recognised. Comments when the result is outside the limits will be included on the report and further advice is available by contacting us.

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Eurofins ELS Limited

Analytical Report

ELS
Example Report
P.O. Box 36-105
Moera
Lower Hutt

Report Number: 15/1918
Issue: 1
21 January 2015

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
15/1918-01	Swimming Pool Full Analysis Suite		15/01/2015 10:00	15/01/2015 13:15	Example

Notes:

	Test	Result	Units	Uncertainty	Comments	Signatory
0001	pH	7.5		± 0.2	Complies with NZS 5826:2010	Rob Deacon KTP
0052	Alkalinity - Total	45	g CaCO3/m³	± 5	Below NZS 5826:2010 limit of 50	Rob Deacon KTP
0058P	Free Available Chlorine	2.3	g/m³	± 0.23	Complies with NZS 5826:2010	Rob Deacon KTP
0059	Combined Available Chlorine	0.3	g/m³		Complies with NZS 5826:2010	Rob Deacon KTP
0060	Calcium Hardness	75	g CaCO3/m³		Complies with NZS 5826:2010	Rob Deacon KTP
0123	Total Dissolved Solids	950	g/m³		Complies with NZS 5826:2010	Rob Deacon KTP
M0301	Faecal Coliforms	< 1	cfu/100mL	± 0	Complies with NZS 5826:2010	Sunita Raju KTP
M0302	Staphylococcus aureus	< 1	cfu/100mL	± 0	Complies with NZS 5826:2010	Sunita Raju KTP
M0303	Pseudomonas aeruginosa	< 1	cfu/100mL	± 0	Complies with NZS 5826:2010	Sunita Raju KTP
M0304	HPC @ 35°C	180	cfu/mL		Complies with NZS 5826:2010	Sunita Raju KTP
Z9603	Compliance criteria used	See below				

Comments:

Sampled by customer using ELS approved containers.

Test Methodology:

Test	Methodology	Detection Limit
pH	Dedicated pH meter following APHA 22nd Edition Method 4500 H.	0.1
Alkalinity - Total	APHA 22nd Edition Method 2320 B	1 g CaCO3/m³
Free Available Chlorine	APHA 22nd Edition Method 4500-Cl F	0.05 g/m³
Combined Available Chlorine	APHA 22nd Edition Method 4500-Cl F	0.1 g/m³
Calcium Hardness	APHA 22nd Edition Method 3500-Ca B	1 g CaCO3/m³
Total Dissolved Solids	Conductivity meter calculation	1 g/m³
Faecal Coliforms	APHA 22nd Edition 9222 D 2012	1 cfu/100mL
Staphylococcus aureus	APHA 22nd Edition, 9213 B 2012	1 cfu/100mL
Pseudomonas aeruginosa	APHA 22nd Edition 9213 E 2012	1 cfu/100mL
HPC @ 35°C	APHA 22nd Edition 9215 B 2012	1 cfu/mL
Compliance criteria used	Compliance is measured against the extreme allowable values in New Zealand Standard 5826:2000, Pool Water	n/a

Lovibond Pool Testing Supplies

We are an approved supplier of Lovibond equipment and consumables and can provide all testing equipment needed for your pool.

This includes the full range of colour based equipment such as the, Comparator and Photometer systems as well as all the consumables to operate and maintain them.

Comparators

As well as the traditional black box comparators, Lovibond has recently released their CHECKIT Comparator. This is a compact, handy colorimetric unit which is suitable both for mobile and stationary analysis work.

It is supplied with a generous number of different colour scales, and provides the basis for a comprehensive, easy-to-use colorimetric analysis system. The two cells are filled with the water sample and one is placed directly into the left-hand compartment of the comparator, where it acts as compensation (blank) for coloured, or cloudy samples.

In the second cell, the tablet reagents required for the analysis are mixed with the sample and this cell is then placed in the right-hand compartment of the comparator. The relevant CHECKIT Disc is inserted in the comparator and turned until the colour standard matches the coloured water sample. The result can then be read in the large display window.

Comparator Discs

Each CHECKIT Disc contains a continuous colour scale which makes it possible to achieve an exact colour match between the colour standard and the sample.

Comparator Tests

The Checkit comparator can be supplied with a huge range of colour discs to meet any of your testing requirements that extend beyond pool testing into all types of chemical analysis.

For pool testing, the range includes ozone, chlorine in free, combined and high range options, as well as pH.

Ozone can be tested in waters containing chlorine.

Photometers

For swimming pool use, we recommend the use of a five-in-one system that has the capability to measure 5 important pool parameters within the single instrument.

These photometers are specifically designed to cater for the particular testing requirements of swimming pools. The poly-carbonate membrane (providing a degree of resistance to acids and solvents) protects the keypad and the display against splashes. The sample chamber itself is of waterproof design.

The vial cover simultaneously serves as a sample chamber cover to keep out ambient light, a further user-friendly feature of the design. Calibration and the software-based adjustment options mean that the PCCHECKIT is also suitable for use as a testing instrument.

We recommend the use of tablet chemicals because of their long shelf life and because each tablet provides the exact dose required for the test.

The Checkit Photometer can be purchased ready to test single or multiple parameters. The multi Checkit units range from 2 in 1 kits through to 6 in 1 kits but we recommend the multi-parameter kits which have the following range of tests.

Photometer Model	Tests Included in Kit
5 in 1 model 26 61 20	Chlorine, pH, Cyanuric Acid, Total Alkalinity, and Calcium Hardness
6 in 1 model 26 61 90	Chlorine, pH-value, Cyanuric Acid, Total Alkalinity, Calcium Hardness, and Bromine

Photometer Tests

We recommend the use of the 5 in 1 for most pools because all current tests required under the New Zealand testing standard can be accommodated by this kit.

pH

Using phenol red tablets the pH range of 6.5 to 8.4 can be accommodated. This covers all expected pH ranges for swimming pools.

Calcium Hardness

This test uses different test tubes from the other tests and has an operating range of 50 to 500 g/m^3. This range will cover normal pool levels.

Chlorine Analysis

The photometer has an operating range of 0 to 6 g/m^3, which is sufficient to cover most pools. However, spa pools will often exceed this level, so a twofold dilution will be necessary. The kit comes with the necessary tools to perform this.

Total chlorine can also be measured by adding a DPD3 tablet after the free chlorine test is completed.

Cyanuric Acid

An important parameter for outdoor pools, this test covers the range of 2 to 160 g/m^3 when a twofold dilution is used.

Total Alkalinity

Alkalinity readings over the range of 5 to 200 g/m^3 can be made without dilution. With a twofold dilution this can extend to a maximum of 400 g/m^3.

Item Numbers

Checkit Comparator

Each comparator will be provided in its own carry case with enough consumable for 30 tests per parameter.

Comparator	Item Number
Comparator – Ozone Ozone range 0 –1 mg/l Uses DPD4 tablets.	14 72 75
Comparator – pH pH range 6.5 - 8.4 Uses pH tablets.	14 71 00
Comparator – pH and Chlorine pH 6.5 – 8.4 and chlorine 0.1 – 2 g/m3 Uses pH and DPD1 tablets.	14 70 46
Comparator – Chlorine Chlorine range 0 - 4 g/m3 Uses DPD1, 3, 4 Rapid tablets.	14 70 20

Consumables for the comparator	Item Number
DPD1 Rapid – 100 tablets	51 13 10BT
DPD3 Rapid – 100 tablets	51 12 90BT
DPD4 Rapid – 100 tablets	51 15 70BT
Phenol Red (pH) – 100 tablets	51 17 72BT
DPD4 – 100 tablets	51 12 20BT

Lovibond Photometer

Each photometer is provided in its own carry case with enough consumables for 100 tests per parameter.

Photometer	Item Number
Lovibond 5 in 1 Photometer	26 61 20

Consumables for the photometer	Item Number
DPD1 – 500 tablets	51 10 62BT
DPD 3 – 500 tablets	51 10 82BT
Phenol red (pH) – 500 tablets	51 17 72BT
Total Alkalinity (Alka M) – 1000 tablets	51 32 13
Cyanuric Acid – 100 tablets	51 13 23
Calcium Hardness – 100 tablets	51 56 53

Contact Details

Please feel free to contact us by any one of the methods shown below.

Main Lines

Wellington	Main Telephone	(04) 576-5016
Christchurch	Main Telephone	(03) 343-5227
Auckland	Main Telephone	(09) 579-2669

Direct Lines

	Accounts	(04) 568-1205
Rob Deacon	General Manager	(04) 568-1203
Sunita Raju	Microbiology Lab Manager	(04) 568-1206
Tracy Morrison	Chemistry Lab Manager	(04) 568-1200
Sharon van Soest	Chemistry Lab Manager	(04) 568-1200
Deb Bottrill	Sample Logistics Manager	(04) 576-5016
Dan Westlake	Christchurch Lab Manager	021-242-2742
Ralph Veneracion	Auckland Lab Manager	021-242-2711

Email can be directed to staff using "first name last name"@eurofins.com

Courier

Wellington: 85 Port Road, Seaview, Lower Hutt, New Zealand 5010

Auckland: 35 O'Rorke Road, Penrose, Auckland 1061

Christchurch: 43 Detroit Drive, Rolleston 7675

Mail

P.O. Box 36-105, Wellington Mail Centre, Petone, New Zealand 5045.

Email

General Information: eurofinswellington@eurofins.com

WEB

www.eurofins.co.nz

IANZ Accreditation Numbers:
Biological 639, Drinking Water 787,
Chemistry 414, RLP 1140