



# eurofins

The World's Leading Laboratory Network



Ceramicware  
and metal food containers

Industry

[www.eurofins.co.nz](http://www.eurofins.co.nz)



## Table of Contents

Introduction	Page 3
The Eurofins-ELS testing service	Page 4
The leaching test	Page 4
The porosity test	Page 5
Pass or Fail	Page 5
Advice and Reports	Page 6
Samples	Page 6
Cost of analysis	Page 6
An example test report	Page 7
Contact us	Page 8

## 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 agrosience, genomics, pharmaceutical discovery and central laboratory services.

We are based in a purpose built facility of 1450 m<sup>2</sup> 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?

This brochure has been prepared for all importers of ceramicware and metal containers intended for use with food.

As one of the country's leading laboratories, Eurofins-ELS can perform all the analytical procedures required to obtain certification of your product.

## The Eurofins-ELS testing service

The process of importing ceramicware and metal food containers is a very complex one that requires the combined efforts of the importer, customs, local public health officials, NZFSA, and laboratories.

The process is explained in a leaflet called "A Summary of Import Clearance Criteria for Ceramicware and Metal Food Containers" published by the New Zealand Food Safety Authority in February 2003. A copy is available upon request.

Environmental Laboratory Services is listed with the New Zealand Food Safety Authority as an accredited laboratory able to test products once these have arrived in New Zealand.

The laboratory process involves two key steps as described below:

### The Leaching Test

The leaching test methodology differs between products used for cooking and those that are not.

Leaching test for enamelware and glazed earthenware appliances, containers, and vessels not used for cooking.

Samples that come under the criteria of 'not used for cooking' include coffee cups and soup bowls.

Samples that are sent to Eurofins-ELS should be selected by the sampling officer, and be representative of the entire consignment so that an accurate evaluation can be made.

We pour a 4% acetic acid leaching solution into the vessel and leave it at room temperature for 24 hours. After this time the leaching solution is stirred and then analysed by ICP-MS to determine the levels of Antimony (Sb), Arsenic (As), Cadmium (Cd) and Lead (Pb).

Leaching test for enamelware and glazed earthenware appliances, containers, and vessels used for cooking.

Samples that come under the criteria of 'used for cooking' include casserole dishes, crock-pots and roasting dishes.

Samples that are sent to Eurofins-ELS should be selected by the sampling officer, and be representative of the entire consignment so that an accurate evaluation can be made.

The test uses a 4% acetic acid leaching solution, which is boiled for 2 hours inside the test vessel. The vessel is then left for 22 hours with the solution inside. After this time the leaching solution is restored to its original volume and then analysed by ICP-MS to determine the levels of Antimony (Sb), Arsenic (As), Cadmium (Cd) and Lead (Pb).

All test items must contain metals at below the following concentrations in order to pass the leaching test.

Sb	As	Cd	Pb
ppm	ppm	ppm	ppm

**A Vessels not used for Cooking**

		Sb	As	Cd	Pb
1	Vessels with h/d ratio less than 1/2	<2	<2	<2	<20
2	Vessels with h/d ratio of 1/2 or greater than				
	- 1 litre or less of usable volume - greater than 1 litre usable volume	<0.7 <0.2	<0.7 <0.2	<0.7 <0.2	<7 <2

**B Vessels used for Cooking**

	All vessels	<0.7	<0.7	<0.7	<7
--	-------------	------	------	------	----

It is important to note that the test item will fall into one of four criteria based on its intended purpose and characteristic. The characteristics of the item include its volume and internal height to depth ratio.

The test report provided by Eurofins-ELS will clearly describe which criteria each item relates to.

## The Porosity Test

As well as passing the leach test, each item must also pass a porosity test. This test has been simplified over the years so that pinholes are no longer reported.

Porosity is a measure of the test items resistance to a test solution of 4% acetic acid (vinegar). Where more than 10% of the test solution is absorbed the sample is deemed not to be resistant and therefore fails the import criteria.

## Pass or Fail

Each item must pass both tests in order to be approved for use. The final approval will be made by your local HPO.

## Advice and Reports

All analyses follow the criteria set out in Schedule 1 of the Food (Safety) Regulations 2002, which came into force on 20 December 2002. This amendment revokes and replaces the 9<sup>th</sup> schedule of the Food Regulations 1984.

Levels are reported as mg/L. This term is the same as parts per million or g/m<sup>3</sup>.

An IANZ endorsed report will be made available to the client as well as the Public Health Officer as directed by our client.

The certificate of analysis provided by Eurofins-ELS will be signed by IANZ authorised analysts that are nationally and internationally recognised.

Advice for the results obtained by the analyses is available.

## Samples

Samples should be well packed and delivered to Eurofins-ELS by courier. Once analysed we will return the items unless otherwise advised.

## Cost of Analysis

The cost for the analyses of vessels 'not used for cooking' is \$105 for the leaching procedure and the four standard metals. This price includes the cost of returning your test items but does not include GST.

The cost for the analyses of vessels 'used for cooking' is \$115.50 for the leaching procedure and the four standard metals. This price includes the cost of returning your test items but does not include GST.

A delivery batch is defined as those samples received on any single day.

Additional metals can be added for \$5.25 each however these are usually performed for interest only reasons and do not form part of the pass/fail criteria.

## An example test report



Eurofins ELS Limited

## Analytical Report

Report Number: 14/33629

Issue: 1

21 November 2014

## Customer Address

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
14/33629-01	Ceramic Acid Leach		13/11/2014 00:00	13/11/2014 09:30	A450165
Notes: Small Cup					
Test	Result	Units	Signatory		
0578 Cooking Vessel	No		Sharon van Soest KTP		
0579 Height/Diameter Ratio	>= 0.5		Sharon van Soest KTP		
0581 Volume before test	165	mL	Sharon van Soest KTP		
0582 Volume after test	159	mL	Sharon van Soest KTP		
0583 Percentage retained by product	4	%	Sharon van Soest KTP		
6040 Antimony - Acid Leach	< 0.01	mg/L	Sharon van Soest KTP		
6041 Cadmium - Acid Leach	< 0.01	mg/L	Sharon van Soest KTP		
6042 Lead - Acid Leach	0.15	mg/L	Sharon van Soest KTP		
6048 Arsenic - Acid Leach	< 0.01	mg/L	Sharon van Soest KTP		

## Comments:

Sampled by customer using ELS approved containers.

## Test Methodology:

Test	Methodology	Detection Limit
Cooking Vessel		
Height/Diameter Ratio		
Volume before test		1 mL
Volume after test		1 mL
Percentage retained by product		1 %
Antimony - Acid Leach	ICP-MS. Based on Food (Safety) Regulations 2002.	0.01 mg/L
Cadmium - Acid Leach	ICP-MS. Based on Food (Safety) Regulations 2002.	0.01 mg/L
Lead - Acid Leach	ICP-MS. Based on Food (Safety) Regulations 2002.	0.01 mg/L
Arsenic - Acid Leach	ICP-MS. Based on Food (Safety) Regulations 2002.	0.01 mg/L

"<" means that no analyte was found in the sample at the level of detection shown. Detection limits are based on a clean matrix and may vary according to individual sample.

µm3 is the equivalent to mg/L and ppm.

Samples will be retained for a period of time, in suitable conditions appropriate to the analyses requested.

All test methods and confidence limits are available on request. This report must not be reproduced except in full, without the written consent of the laboratory.

Report Released By  
Rob Deacon



This laboratory is accredited by International Accreditation New Zealand and its reports are recognized in all countries affiliated to the International Laboratory Accreditation Co-operation Mutual Recognition Arrangement (ILAC-MRA). The tests reported have been performed in accordance with our terms of accreditation, with the exception of tests marked "not IANZ", which are outside the scope of this laboratory's accreditation.

This report may not be reproduced except in full without the written approval of this laboratory.

## 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](mailto:eurofinswellington@eurofins.com)

### WEB

[www.eurofins.co.nz](http://www.eurofins.co.nz)



Ceramics v4

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