

# Legionella Testing SERVICES

# Legionella Overview

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ALS Environmental offer a comprehensive range of Microbiological and Bacteriological testing solutions from our UKAS and DWTS accredited laboratories in Coventry and Wakefield

## What is Legionella?

*Legionella* is a commonly occurring bacteria found in both natural and artificial water systems. *Legionella pneumophila* has been implicated in **Legionnaires' disease**, which is a serious and potentially fatal form of pneumonia. The infection is caused by inhaling contaminated water droplets containing *Legionella* bacteria.

*Legionella* bacteria are commonly categorised into two groups, which are *Legionella pneumophila* and *Legionella* species. *Legionella pneumophila* can be further divided into *Legionella pneumophila* serogroup 1 and *Legionella pneumophila* serogroups 2-15. There are over 50 species of *Legionella* identified by the World Health Organisation (WHO) and a large proportion of these have been clinically identified as human pathogens.

Our dedicated Microbiology facility offers two categories of *Legionella* testing to support monitoring programmes. Our *Legionella* laboratory based in Coventry participates in a wide range of Proficiency Testing schemes, are member of the *Legionella* Control Association (LCA) and have multiple members of the Water Management Society (WMSoc) throughout our business.



# Regulatory Requirements

Under general health and safety guidance, employers and premises owners have a responsibility to consider the risks of Legionella to the general public and take appropriate protective action. This often includes the monitoring of water systems for the presence of Legionella bacteria. Requirements for statutory monitoring are stipulated in the HSE Approved Code of Practice (ACoP) and Guidance document, L8 Legionnaires' Disease – The control of Legionella Bacteria in Water Systems (ACoP L8). Outlined within are requirements for treatment, sampling and analysis for water systems to control Legionella bacteria. In addition the alert and action limits and actions required for Legionella control are provided.

Aerobic Count cfu/ml at 30°C (minimum 48 hours incubation)	Legionella Bacteria cfu/litre	Action Required
<10 000	<100	System under control
>10 000 and up to 100 000	100 - 1000	Review programme operation - a review of the control measures and risk assessment should be carried out to identify any remedial actions and the count should be confirmed by immediate resampling
>100 000	>1000	Implement corrective action - the system should immediately be re-sampled. It should then be 'shot dosed' with an appropriate biocide, as a precaution. The risk assessment and control measures should be reviewed to identify remedial actions

The ACoP is supplemented by Health and Safety Guidance note (HSG) 274, which gives further technical guidance.

HSG 274 comes in 3 sections to cover the majority of water systems common in the UK, the guidance notes are:

- Part 1: The control of legionella bacteria in evaporative cooling systems
- Part 2: The control of legionella bacteria in hot and cold water systems
- Part 3: The control of legionella bacteria in other risk systems

The control of Legionella in NHS establishments is covered by the Health Technical Memorandum (HTM) 04-01 and all of ALS Environmentals methods are compliant with this requirement.

# Legionella Analytical Approaches

	Traditional Culture	PCR Analysis
<b>Method Reference</b>	ISO 11731: Part 1: 1998	ISO 12869:2012: In-house PCR
<b>Description</b>	Suitable for anyone required to make statutory checks regarding the risk of exposure to Legionella bacteria. ALS Environmental offers 2 UKAS accredited methods for Legionella detection based on ISO 11731:1998 – Water Quality – Detection and Enumeration of Legionella (parts 1 and 2). Both methods benefit from our rapid confirmation and identification technique, which means only confirmed results are ever reported. Results are reported as Legionella pneumophila serogroup 1, Legionella pneumophila serogroups 2-15 or Legionella species (with the species identified in the majority of cases).	For customers needing rapid results, ALS Environmental offer the PCR method which has the ability to generate results within 24 hours of sample receipt for Legionella pneumophila and Legionella spp. This method is a valuable tool for establishing risk under emergency or outbreak situations
<b>Suitable Matrices</b>	Suitable for Drinking Water, Process Water (including cooling towers) and Recreational Water.	Process Waters and Drinking Waters (including cooling towers)
<b>Volume of sample</b>	1 litre	2 litres
<b>Stability Time</b>	2 days	2 days
<b>Reporting Unit</b>	Colony forming units (cfu/l)	Genomic Units (gu/l)
<b>LOD</b>	20 cfu/l	190 gu/l
<b>Image</b>		

# Rapid Confirmation

Following extensive method development ALS have validated and accredited a new instrument for the use with all of our culture based Legionella methods. This revolutionary technology will allow ALS to provide you with instant confirmation of Legionella, removing the need for the industry-norm 2 day confirmation process for presumptive positive samples. This methodology is fully compliant with:

- ACoP L8 (supplemented by HSG 274)
- ISO 11731:1998/BS6068-2.1.2:1998
- UKAS ISO 17025:2005
- UKAS LAB37 (DWTS)

The unique development utilises the latest technology to provide an instant, accredited and confirmed Legionella Species and Pneumophila result. ALS are the first UK Environmental laboratory to accredit this technology. The reduction in confirmation times removes the risk associated with not acting on presumptive data by providing a confirmed, accredited result in the same time that traditional methods provide a presumptive result.

Bacteria	Incubation Time	Traditional Confirmation Time	MALDI-TOF Confirmation	MALDI-TOF Saving
<b>Legionella</b>	10 days	2 days	Minutes	2 days
<b>Pseudomonas aeruginosa</b>	2 days	1 day	Minutes	1 day
<b>Escherichia coli</b>	1 day	1 day	Minutes	1 day
<b>Coliforms</b>	1 day	1 day	Minutes	1 day
<b>Enterococci</b>	2 days	1 day	Minutes	1 day
<b>Clostridium perfringens</b>	1 day	1 day	Minutes	1 day
<b>Staphylococcus aureus</b>	2 days	1 day	Minutes	1 day
<b>Salmonella</b>	4 days	2 days	Minutes	2 days
<b>Listeria</b>	4 days	2 days	Minutes	2 days
<b>Stenotrophomonas</b>	1 day	1 day	Minutes	1 day
<b>Enterobacteriaceae</b>	1 day	1 day	Minutes	1 day

# Quality and Traceability

ALS Environmental have a unique barcoding system for all of our Legionella and Microbiological samples. The system allows us to track your samples through the analytical process from registration to reporting. This system ensures full traceability for your samples allowing us to produce a full audit trail for each sample that is handled in our Legionella or Microbiology laboratories.

	Accreditation / Body	Organisation	Description
	UKAS 17025:2005	United Kingdom accreditation Services	Minutes The standard that defines the - General Requirements for the Competence of Testing and Calibration Laboratories.
	DWTS	Drinking Water Inspectorate	Drinking Water Testing Specification to undertake analysis of Drinking Water from Public and Private Water supplies.
	MCERTS	Environment Agency	Monitoring Certification Scheme - to provide a framework of standards you can use to monitor things that affect the environment. MCERTS covers monitoring equipment, staff competence, testing methods and associated quality control.
	WMSoc	Water Management Society	A membership body for everyone involved at every stage of the water cycle to ensure that public health is maintained and best practice is shared throughout the process.
	LCA	Legionella Control Association	Legionella Control Association - Membership comprises service providers, manufacturers, installers, consultancies, laboratories which enable the control of Legionella in water systems. Membership requires the commitment to high standards of service and conduct.
	HTM	Health Technical Memorandums	Guidance issued by the Department of Health (DoH) is supplied in HTM documents, the most prevalent to our services included HTM04-01 (Legionella), HTM 04-01 Addendum (Pseudomonas aeruginosa) and HTM 01-05 (Dental Practices)
	HSG	Health and Safety Guidance	Issued by the Health & Safety Executive the relevant HSG for Water Treatment is HSG 274 which comes in 3 parts to cover Cooling Towers, Hot and Cold Water Systems and other at Risk Systems.
	ACoP L8	Approved Code of Practice	The ACoP L8 guidance is issued by the HSE to ensure that systems that are at risk of Legionella or bacterial contamination are monitored to control the risk.
	CFFP	Choice Framework For Policy & Procedure	Framework for DoH establishments for sampling and monitoring of potential at risk outlets. The most common one that ALS are asked to analyse to is CFFP 01-06 (Endoscopes) and we are able to analyse for a range of suites.
	BSRIA	Building Services Regulations	The BSRIA guidance outlines the analysis and sampling required for the commissioning of water systems in new buildings and outlines the routine monitoring required pre and post flushing of these systems.

# Additional Services

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To stay connected with our customers, ALS Environmental provide access to online data using our WebTrieve™ online portal, courier services for the rapid transportation of samples and our laboratory barcoding system, enabling samples to be registered in an efficient and time saving manner.

## WEBTRIEVE™ - Online Data System

Online access to analytical data via WebTrieve™, our secure application. The online portal provides the following benefits:

- Real-time access to your analytical data
- Accreditation, certification and method summaries
- Personalise your views and settings
- Internet accessible data 24/7
- Data extraction and manipulation function
- Live data - only minutes behind our LIMS
- Your data securely archived at no cost



## Courier Services

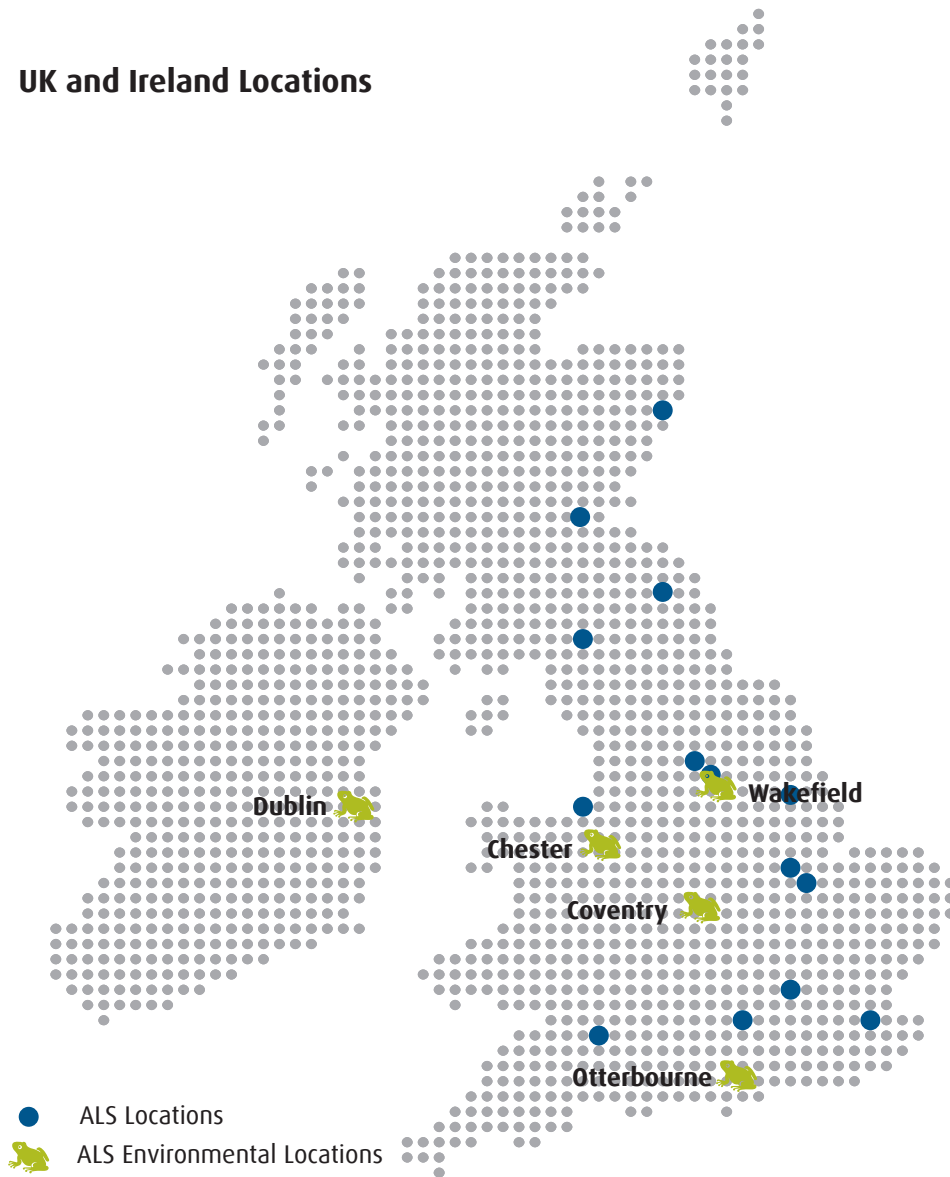
At ALS Environmental we operate a dedicated courier service to ensure all samples are delivered to the laboratory within a suitable time frame. Our service offering includes:

- Fleet of temperature controlled vans
- 24 hour sample reception open 7 days a week
- Collection and delivery service operating between the hours of 8am to 6pm
- Nationwide coverage for all required collections and deliveries
- Containers delivered free of charge

## Pre-Registration

ALS Environmental are able to offer a pre-registration system known as “Pre-Reg”. By utilising our Pre-Reg system, customers are able to have their analysis pre-loaded onto their bottles along with all registration information prior to submitting the samples for analysis. This will ensure that you have the correct bottles and preservatives; additionally Pre-Reg will allow your samples to be fast-tracked past the registration stage and into the laboratory.

## UK and Ireland Locations



## Contact Us

To discuss your wastewater or waste management requirements, please contact us:

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Or visit our website: [www.alsenvironmental.co.uk](http://www.alsenvironmental.co.uk)