

# Professional hygiene services



Lehr- und Versuchsgesellschaft für innovative Hygienetechnik GmbH  
Institute for applied building and bath hygiene



## LVHT - A clean business all around

The LVHT Institute is a testing laboratory accredited with the State Approval Authority Hannover (AKS-P-20706-EU). As your independent, competent and reliable partner we assist you in

- fulfilling the necessary hygiene requirements according to DIN 19643 and the recommendations of the Federal Environment Agency (Umweltbundesamt, UBA) in an exemplary way,
- ensuring the perfect quality of your water for industrial and domestic use (including air conditioning and cooling systems, etc.) and
- adhering to the water quality requirements according to the drinking water ordinance. The LVHT is an Institute appointed to perform drinking water analysis (TrinkwV2001).

Thanks to our long experience and expertise as well as suitable laboratory equipment the LVHT Institute is able to evaluate current situations of modern hygiene and offers recommendations for implementing and maintaining a safe business for your guests and staff.

### Among the clients of the LVHT Institute are:

- Public and private swimming pools
- Cities, municipalities, communities, associations and sports clubs
- Bathing establishments such as saunas, fitness and wellness businesses
- Hospitals, medical practices, medical therapy institutions and centers
- Hotels, schools, day care centers and family centers

### The LVHT institute is a member of:

- Deutsche Gesellschaft für das Badewesen e.V. (German Society for the Bathing Industry)
- European Waterpark Association EWA
- Deutsche Vereinigung des Gas- und Wasserfaches DVGW (German Association for Gas and Water)
- Bundesverband Schwimmbad und Wellness (Federal Association for Bath and Wellness)
- Verein für Wasser-, Boden- und Lufthygiene e.V. (Association for Water, Ground and Air Hygiene)
- Deutscher Verband Unabhängiger Prüflaboratorien VUP (German Association of Independent Test Laboratories)

# A Question of Trust

Hygiene is not just a word, but a condition that can be tested. The LVHT Institute assists you in achieving and maintaining the perfect hygienic condition of your business – with consideration of and adherence to all valid and established standards.

The LVHT Institute's range of services includes the examination of all hygienically relevant water cycles in swimming pools and bathing establishments, drinking water, all circulating water cycles as well as the technical building equipment. Sampling and analysis of the physiochemical and microbiological parameters are performed professionally, exclusively by qualified expert staff.

The LVHT Institute has its own modern analysis laboratory, which complies with the latest requirements, standards and norms.

The LVHT Institute offers recommendations that allow you to achieve the required hygiene standards and maintain them permanently. This concerns the use of required equipment as well as the planning, construction and renovation of bathing establishments and similar businesses. If involved at an early stage, the LVHT Institute can accompany the design and installation as well as the optimization of hygiene technology facilities. Thus we assist you in recognizing and mastering potential obstacles early on.



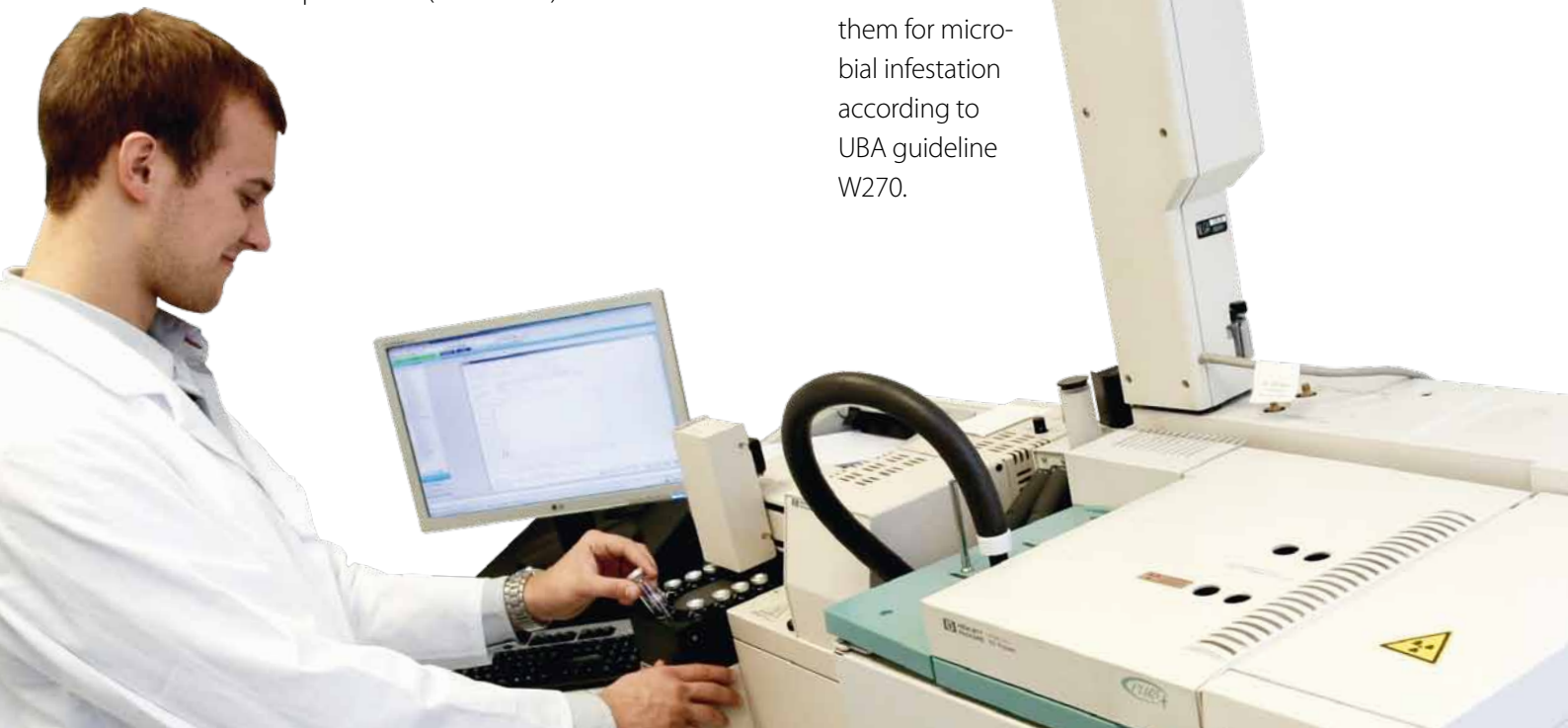


## Laboratory services at a glance

Analysis is always a matter of professional competence, experience and trust. How reliable the result of a measurement is severely depends on how accurately the investigation is performed. Prerequisite for a precise and correct analysis is exact sample taking. Accord-

ing to drinking water ordinance 2001 samples may only be taken by accredited test laboratories that are approved by the federal state of Nordrhein-Westfalen (TrinkwV 2001).

1. As an accredited test laboratory the LVHT Institute is able to prepare and perform all required steps previous to the instrumental chemical analysis of aqueous and gaseous samples. This of course includes qualified sample taking.
2. The LVHT Institute examines drinking water physiochemically and microbiologically in compliance with valid norms, for example for heavy metals and legionella. Of course we are available for a consultation regarding the planning of prevention and renovation measures at any time.
3. We also analyze swimming and bathing pool water according to individual and normative requirements (DIN 19643).
4. The examination of swimming and bathing ponds (bio ponds) is performed according to the FLL regulations and the recommendations of the Federal Environment Agency.
5. We examine treatment means and equipment according to relevant DIN EN norms for suitability and efficiency.
6. We test materials that come in contact with drinking and bathing water for their harmlessness, according to the KTW/KSW guidelines. We furthermore examine them for microbial infestation according to UBA guideline W270.



A photograph of a swimmer in a pool, captured from an underwater perspective. The swimmer is in a streamlined position, moving through the water. The water is clear blue, and there are lane lines visible in the background.

## Reliable. Safe. Efficient.

The LVHT Institute ...

- ✓ investigates for you the hygiene situation in swimming pools and bathing establishments, for the well-being and health of guests and staff, according to relevant and applied norms and regulations.
- ✓ appropriately samples and analyzes swimming and bathing pool water based on currently valid rules and recommendations for the examination of relevant physiochemical and microbiological parameters.
- ✓ inspects the observation of the quality of drinking water according to TrinkwV 2001.
- ✓ identifies potential hazard areas relevant to health and offers recommendations for minimizing the risk potential.
- ✓ examines and determines the surface hygiene (cleaning success) on walls and floors, in the pool and barefoot areas and the sanitary facilities (contact plate sample).
- ✓ advises you in the design and installation of the water treatment unit, the domestic and drinking water supply as well as the ventilation and air-conditioning system.
- ✓ assists you in choosing and implementing appropriate supplies (cleaning agents, flocculants, disinfectants, etc.).
- ✓ investigates for you the toxicological potential of utilized supplies regarding environmental and medical aspects.
- ✓ trains your staff in regard to hygiene-technological aspects.
- ✓ investigate causes of deviations and fluctuations of water quality and estimates potential resulting consequences.
- ✓ offers expertise grown over the years for the inspection and certification of swimming pools and bathing establishments according to DIN 19643 and information leaflet 65.04.



## Check. Assess. Evaluate.

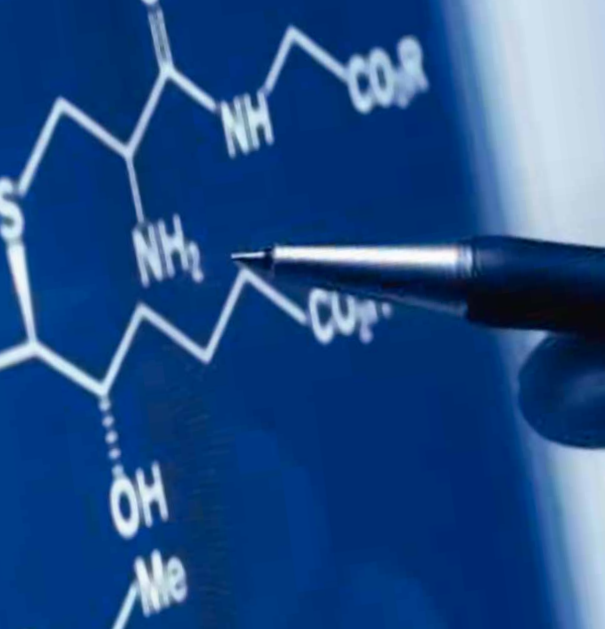
The LVHT Institute provides hygiene-technological reports regarding the condition and efficiency of water treatment systems for swimming and bathing pool water according to the rules of DIN 19643, the German Society for the Bathing Industry (Deutsche Gesellschaft für das Badewesen e.V., DGföB), as well as the FFL of the Federal Environment Agency (Umweltbundesamt, UBA).

- ▶ We examine the suitability of waters as fill-up water (e.g. determination of THM development potential) and
- ▶ calculate saving potentials with special consideration of hygiene.
- ▶ We perform functional tests according to information leaflet 65.04 of the DGföB.
- ▶ We carefully examine your technical systems in order to check the procedural efficacy, their combination and system sizing.

### The LVHT Institute

- ▶ determines nominal load and volume flow rates,
- ▶ evaluates the perfusion of filters or pools,
- ▶ checks and determines the technical and physiochemical conditions for the filtration,
- ▶ the technical conditions for the disinfection,
- ▶ the amount of water evaporation (saving potential) as well as
- ▶ the quality of fill-up and raw water.

The LVHT Institute offers you laboratory examinations for every treatment stage. We assess equipment, treatment chemicals and filter materials and evaluate the pool lining.



## Research and Development

The LVHT Institute actively pursues research and development (R&D) and supports external research facilities by providing hygiene-technological consultation and laboratory services. Current projects include the optimization of filtering processes regarding the environmentally friendly and safe application of flocculants, supplies and water treatment agents. .

## More things we can do for you!

- ▶ Examination of synthetics (tiles, pipes, foils, floor lining, etc.) and other non-metallic materials that come in contact with swimming and bathing pool water, according to KTW/KSW and the currently valid guidelines.
  - ▶ Investigation of the multiplication of micro-organisms on materials for the drinking water areas under standardized laboratory conditions according to DVGW worksheet W270.
  - ▶ Determination of the slip resistance of tiles.
  - ▶ Conducting of independent hygiene audits.
  - ▶ Examination of the effectiveness of hygiene concepts.
  - ▶ Investigation of air on contaminations (mold and chemicals).
  - ▶ Consultation regarding the use and minimization of disinfectants (DNP).
  - ▶ Determination of the THM development potential.
  - ▶ Development and implementation of strategies and means for quality control.
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- ▶ Establishment of sample-taking strategies.
  - ▶ Identification of error sources (troubleshooting) and development of measures for correction and prevention of faults.
  - ▶ Hygiene training.



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**You have questions, would like more information?**

We are happy to receive your telephone call at +49 (0) 208 - 305 679-0 or write us an e-mail at info@lvht.de. We are there for you: quickly, flexibly and unbureaucratically. A clean business all around!

**LVHT – Professional hygiene consultation guaranteed!**