The importance of laboratory accreditation

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The *Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006)* recognises the South African National Accreditation System (SANAS) as the only national accreditation body in South Africa for assessing the competence of testing laboratories. This legal framework ensures that laboratories adhere to strict standards to guarantee the reliability of their services.

Accreditation is a rigorous process that provides greater confidence in a laboratory's ability to deliver accurate and reliable results. This process goes beyond basic compliance, offering an extra layer of assurance that a laboratory's testing methods, equipment, and personnel meet high standards.

Accreditation is the formal recognition by an authoritative third party, that a laboratory is competent to perform specific tasks. The main goal of accreditation is to instil confidence in the accuracy, impartiality, and reliability of test results. To maintain this status, accredited laboratories undergo regular re-evaluations by SANAS to ensure continued compliance with strict standards and that operational excellence is upheld.

In addition, laboratories must establish systems to document their processes, ensuring that results are reproducible and traceable. This documentation plays a critical role in demonstrating accountability and providing evidence of the laboratory's ongoing compliance with accreditation standards.

Accredited laboratories must comply with the stringent ISO/IEC 17025 standard, recognised worldwide for laboratory accreditation. This ensures that laboratories not only operate a quality management system but are also technically proficient. Laboratories are accredited for specific tests listed in each lab's schedule of accreditation, which is available on the SANAS website, *www.sanas.co.za*.

Benchmarking performance

ISO/IEC 17025 is the internationally recognised standard defining the requirements for testing laboratories' competence. It serves as a global benchmark. Accredited laboratories are required to participate in proficiency testing programmes accredited under ISO/IEC 17043. Since there are limited accredited proficiency programmes in South Africa, laboratories often participate in international proficiency testing to meet this requirement.

These programmes provide an independent assessment of a laboratory's performance by comparing their test results to those of other laboratories. By participating in these programmes, laboratories can identify areas for improvement and ensure consistently accurate results. This is especially important in sectors where precision is vital, such as healthcare, environmental monitoring, and food safety.

International recognition

Many countries have adopted ISO/IEC 17025 as their standard for accrediting laboratories. This has encouraged laboratories worldwide to adopt internationally accepted testing and measurement practices where applicable. This alignment with global standards fosters collaboration between countries and supports the harmonisation of testing methodologies.

Laboratory accreditation is globally recognised due to the *International Laboratory Accreditation Cooperation Mutual Recognition Arrangement*. This is especially beneficial for organisations involved in global trade, as it boosts credibility and reputation while demonstrating due diligence in ensuring product quality.

For industries involved in international transactions, working with an accredited laboratory ensures that test results are recognised and accepted by foreign regulators and customers. This reduces the risk of product rejections, delays, or additional testing, which can incur significant costs.

Decisions based on credible results

Although accreditation is not mandatory, many laboratories seek it to demonstrate technical competence, ensure continuous improvement, and benchmark themselves on a global scale.

While accreditation is an effective marketing tool and facilitates international trade, its core purpose is to ensure technical competence of personnel; application of validated and appropriate test methods; traceability of measurements to national standards; proper calibration and maintenance of equipment; a suitable testing environment; appropriate handling of test items; and quality assurance of test and calibration data.

Accredited laboratories are often favoured by customers needing reliable and verified test results. In many industries – such as construction, environmental testing, and healthcare – accreditation is mandatory. Given the alarming rise in global food fraud, it might be time for food and feed safety and security to follow suit.

In conclusion

An accredited laboratory demonstrates that its testing is consistent and unbiased. Non-accredited laboratories are not subject to the same independent scrutiny, making it harder to assess their ability to provide impartial and reliable results.

Accredited laboratories typically issue reports that bear the accreditation body's symbol, signalling to clients that the necessary standards have been met. Clients are encouraged to verify the specific tests for which the laboratory is accredited and to understand the associated measurement uncertainties. This transparency allows customers to make informed decisions about their testing service providers and fosters trust in the results.

In the event of disputes or legal claims related to product defects or financial losses, producing accredited results demonstrates due diligence. ❖

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