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Laboratory Report Standard

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Users of this publication are encouraged to participate in the development of future revisions.

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Table of Contents

Laboratory Report Standard

1 SCOPE

This standard establishes the requirements of an XML convention for exchanging certain information of laboratory analytical test reports between members of a supply chain.

This standard defines the requirements for an XML file of lab report results, but it derives from the constituents of a companion human-readable file. Laboratories providing analytical services to the electronics industry have always, and will continue to, create a human-readable report for their clients. This standard allows for an XML file to be used in order to enable computer evaluation of lab report results.

The set of parameters of a robust human-readable lab report file is identified in Appendix A. Not all data within such a lab report is amenable to computerized evaluation. In order to keep the size of an XML file of lab report results small for processing efficiency, some elements of the human-readable file need only be present in the human-readable file. Pictures of samples, lab credentials, case narrative, and other information, for instance, although essential for a complete lab report, would not contribute to the objective of efficient computer evaluation of the analytical results.

This standard is intended for use by companies wishing to receive certain lab report results in a computer-readable format in addition to a human-readable report. These companies will have a software system for gathering and evaluating product environmental compliance information from their suppliers. Such companies need only request that their supplier or lab provide an XML file of analytical results in accordance with this standard. No "Request-Response" mode is needed, as it is envisioned that lab reports can and will be used multiple times in multiple contexts. For instance, a company may provide a material to many different customers, but it need only test the material once and then send those same results to the several customers.

Furthermore, this standard is intended to provide benefit to the labs themselves who must create reports to satisfy their customers, provided those customers' needs are satisfied by the specifications defined here. If the lab need only support one standardized format for computer-readable exchange of information, their task is simplified versus learning and creating software to support multiple custom data formats.

The laboratory performing the analysis will create the reports, both the XML file and the human-readable file.

This standard is not intended for use by the public when making purchasing decisions.

1.1 Purpose – XML Data Requirements The purpose of the XML file is to contain those elements of a lab report that provide essential support for claims of compliance to regulations or specifications, those that are most often evaluated or compared to other numeric characteristics of corresponding items. The reason for an XML representation of these elements is to allow for computer recognition and processing of critical parameters. XML files are widely compatible with various uptake software programs.

Organizations that *create* reports and electronic files according to this standard will consist of independent analytical laboratories or those companies who have an internal analytical laboratory creating reports for external use. The benefit to these organizations is that constructing reports to one widely accepted standard format is easier than constructing myriad custom-formatted reports.

Organizations that will *use* laboratory report files in XML format include those companies which wish to verify that laboratory analytical results support compliance claims using software. The benefit to these organizations is cost-effective, thorough, efficient, and flawless assimilation of supporting laboratory report information through automation. The larger the number of laboratory reports applicable to a company's products, the greater the benefit of automation.

1.2 Purpose – Human-Readable Lab Report The purpose of the human-readable file is to contain any and all elements of a well-formed laboratory report.

The human-readable lab report signed by an authorized agent of the lab and locked against further editing is a requirement of laboratory accrediting organizations for ISO 17025 accreditation. Labs must produce such reports as a condition of their accreditation. The data in the original human-readable, non-editable lab report is therefore of primary authority, and any discrepancy between the human-readable report and the XML file data **shall** be resolved in deference to the human-readable file. The data within a companion XML file is expected to be identical to the corresponding data in the human-readable file.