



Lab Matters

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Understanding Lab Matters

Introduction – *Lab Matters* is a series of technical articles from Environmental Express that are intended to aid in the comprehension of the common analyses in the environmental laboratory. They will all have the same basic format that you see here; an introduction section that will give some basics about the parameter and test method, and approved method listing for a listing of analytical methods to choose from, a method summary that gives a brief outline of what the method does, and a section with important things to know. Finally, each *Lab Matters* guide will contain a simplified step by step method on how to perform the analysis. This will help you get the sequence of your analysis right as well as give guidance on products you can use to simplify the process.

Approved Methods – This section will be the source of the greatest changes and need for updates. In between the start of writing these articles and the publishing another method update rule was published by the EPA. I don't believe any methods were made obsolete but some of the method listings were changed and there were some additions. Please have patience with them and always refer to 40 CFR for the most current list of approved methods.

Method Summary – The method summary provides just that; a very brief summary that outlines the principle behind the operation of the method. Think of it as the abstract section. Yes, this is the third section and abstracts are usually first. Work with me here.

What You Should Know – This is typically going to be the longest section of each article. My goal here is to provide and understanding of the “Why” behind the method. Many methods skip over the technical information as to what is happening at different stages of the analysis. I am in no way claiming to understand all of the chemical aspects, but I do hope to be able to give you a better understanding of what is going on. I will draw upon my years of experience working in an environmental lab and troubleshooting the problems encountered there. This section should be ideal for use in training analysts who have never performed a particular test before. Hopefully there will also be an opportunity of simply expanding ones horizons and learning more. Under no circumstances should you, as the reader, simply accept what I say as the gospel truth. Always apply good scientific procedures to what you read. Question the statements made and verify for yourself if what I say has basis. Above all, learn and allow yourself to become better at what you do. If there are ever questions I encourage you to contact me. I welcome discussion and hope to be able to learn from you at least as much as you learn from me.

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Method Procedure

Note – This is not intended to be a standalone method and does not address all safety or quality control aspects that may be required. Please consult your local regulations to comply with all requirements.

This note above will be at the beginning of every procedure section. I cannot begin to anticipate each and every circumstance that may be encountered, nor do I wish to try and simplify any of the “12 Essential Quality Control Elements” outlined in 40 CFR.

This is also not an attempt at rewriting any official methods. The method procedure as I write it is not approved in any way and is merely a guide. The most important part of the procedure section is to highlight specific products that can help you during the analysis. Be aware that links change without warning. If a particular link doesn't work call or email us and we will be glad to help you find what you need.

We all like things that make life easier. Was this document helpful? Or do you...disagree with something?

Have something to add? Contact me at DavidS@envexp.com to let me know what you think.