

Our glossary of terms used in separation science - Primer

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Glossary of Common Terms in Separation Science – A Beginner's Primer

If you're new to chromatography or working in a lab setting for the first time, you might come across some technical terms that sound confusing. This guide breaks down some of the most common ones you'll see in **HPLC**, and other separation science methods—especially in pharmaceutical, environmental, and forensic labs.

Basic Analytical Terms

- **Accuracy**
How close your result is to the *true* value. Think of it like hitting the bullseye on a target—if you're hitting the center, you're accurate.
- **Precision**
How consistent your results are, even if they're not exactly correct. Like hitting the same spot on a target over and over—even if it's not the bullseye.
- **Repeatability**
A type of precision—can you get the same result when testing the *same sample* multiple times?
- **Reproducibility**
Can different people, in different labs, using the same method, get the same results?
- **Linearity**
If you double the amount of your sample, do you get double the signal? If yes, your method is linear.
- **Detection Limit**
The smallest amount of a substance that your method can reliably detect.
- **Quantitation Limit**
The smallest amount of a substance that your method can reliably *measure* (not just detect).
- **Recovery**
How much of your sample you can actually detect after running your method. It tells you how efficient your method is.
- **Robustness**
If small changes in your method (like temperature or pH) don't affect your results, your method is robust.
- **Specificity**
How well your method can separate your target compound from other substances in the

sample.

Chemical & Biological Terms

- **Chiral HPLC**

A special type of HPLC used to separate mirror-image molecules (called enantiomers). These are important in drug development because one version might work while the other doesn't.

- **Glycoside**

A molecule made of a sugar attached to another chemical group. Found in many natural products and drugs.

- **Nucleoside**

A building block of DNA or RNA made of a sugar and a base (like adenine or guanine).

- **Nucleotide**

A nucleoside with a phosphate group added. These are the actual units that make up DNA and RNA.

- **Purine**

A type of base found in DNA and RNA (like adenine and guanine).

- **Pyrimidine**

Another type of base found in DNA and RNA (like cytosine, thymine, and uracil).

Helpful Tip for Beginners

Understanding these terms will help you read method validation documents, follow SOPs (Standard Operating Procedures), and communicate more confidently in the lab. If you're ever unsure, don't hesitate to ask a colleague or refer back to this glossary.

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MicroSolv Technology Corporation
9158 Industrial Blvd. NE, Leland, NC 28451

Tel: (732) 380-8900
Fax: (910) 769-9435
Email: customers@mtc-usa.com
Website: www.mtc-usa.com