Solution Stoichiometry – Study Guide

*section 4.5 in OpenStax*

**Titration**

The solution in the buret is known as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The solution with unknown concentration is known as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Molarity can be used to calculate moles in stoichiometry problems. Use Example 4.14 to help you complete the concept map below with *missing conversion factors* for a general titration problem.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| volume titrant |  | moles titrant |  | moles analyte |  | Concentration  analyte |

***Watch video tutorial on*** [Solution Stoichiometry](https://www.youtube.com/watch?v=xH_pAR3ujcA&feature=youtu.be)

Practice Problem:

2HCl + Ba(OH)2 2H2O + BaCl2

Based on the above equation, calculate the concentration (in M) of a 49.1 mL solution of Ba(OH)2 if 50.0 mL of 2.95 *M* HCl is required to react completely.

The titrant is \_\_\_\_\_\_\_\_\_\_\_\_\_. The analyte (unknown substance) is \_\_\_\_\_\_\_\_\_\_\_\_.

*(ans: 1.50 M)*

**End of Chapter Practice Problems**

#87, 89, 93

For detailed solutions to these problems, go to the [OpenStax website](https://openstaxcollege.org/textbooks/chemistry/resources) and download the “Student Answer and Solution Guide.”