Qualitative Analysis is the determination of non-numerical information about a chemical species, a reaction, etc. Examples would be observing that a reaction is creating gas that is bubbling out of solution or observing that a reaction results in a color change. Qualitative analysis is not as reliable as quantitative analysis but is often far easier, faster and cheaper to perform. This chapter discusses how to perform a systematic analysis on inorganic material to ascertain its composition.

- Semimicro Analytical Techniques

- Characteristic Reactions of Select Metal Ions

- Properties of Select Nonmetal Ions

- Separations with Thioacetamide
• Confirmatory Tests

• Qualitative Analysis - Tests for Anions

• Qualitative Analysis - Tests for Cations

*Thumbnail: Lead(II) iodide precipitates when solutions of potassium iodide and lead(II) nitrate are combined. Image used with permission (CC BY-SA 3.0; PRHaney).*