

ICP sample and standard preparation

All samples should be fully dissolved, <5% ACID and < 1% Organic content:

- A suspension of fine particles (even though it may “look clear”) is NOT the same as a solution.
- Particles may be removed by filtration. HOWEVER, if your material did not fully dissolve you do not know what percentage of what element has dissolved.
- If you are running a colloidal sample or other “suspension” your material may NOT make it all the way into the plasma and the measurement will NOT be accurate.
- If your sample clogs the machine parts, you will be responsible for the cost of fixing the machine and/or replacement parts.

Standards & Standardization:

Standards should be prepared from purchased 1000 ppm stock solutions (please do not make your own stock solutions).

A **BLANK** and a minimum of **3 or 4 Standards** are needed to produce a calibration curve for the instrument.

When making your samples and standards please follow these guidelines:

- Soak volumetric glassware in dilute nitric acid overnight before standard preparation to prevent contamination of your standards and samples.
- Stay **below 70 ppm** (ug/mL) concentration for elements of interest.
- Best Range is **1 to 40 ppm**.
- **The Standards’ concentrations should bracket but be close to the expected concentration of the element in the sample** (i.e. If you expect the sample concentration to be around 1 ppm then make your Standards range of concentrations from 0.25ppm to a High Standard concentration of 5ppm NOT 60ppm.).
- **Match the matrix of the standards and blank to your samples** (i.e. If 3% acid or salt is present in your samples then make sure your all Standards and Blank have around 3% acid or salt).
- **Stay below 5% acid concentration in your final dilutions** of sample and standards.
- No organic solvents**

Standard and Blank Volumes: Make at least 50 mL in **50 mL falcon tubes**.

Sample Volumes: Need a minimum of 2-3mLs in **15 mL falcon tubes**.
