**Holtgrieve Ecosystem Ecology Lab**

**Protocol to MIX AMINO ACID STANDARDS**

**INTRODUCTION**

This document describes how to mix amino acid standards to the correct molarity to be used in the “Operate NACHO for Amino Acid Analysis” protocol.

**SAFETY**

You will be using 0.1N HCl in this protocol. Please read the MSDS for this chemical prior to using and wear appropriate protective equipment including gloves, safety glasses and a lab coat.

**MATERIALS**

* 0.1N Hydrochloric Acid
* 25mL volumetric flask
* Clean amber dram vials (same number as the number of standards you plan to mix.)
* Scale and weigh paper
* Plastic spatula (to transfer powder)
* d15NAA\_Standards.xlsx spreadsheet

**REAGENTS**

*NA*

**MIXING STANDARDS**

1. HEEL lab standards are mixed to a 0.05 molarity with the exception of tyrosine, which is mixed to a 0.0125 molarity to avoid dissolution. Download the d15NAA\_Standards.xlsx spreadsheet and refer to it as you’re mixing each standard.
2. Weigh out the mass detailed in the yellow “target mass (g)” column using a plastic spatula to transfer the powder onto weigh paper. NOTE: be careful, the powder is REALLY light, so it’s easy to add too much/too little powder. Enter the weight into the “actual mass (g)” column. The molarity will be calculated.
3. Transfer the powder to a 25mL volumetric flask and fill the flask with 0.1N HCl. Mix/invert the flask until all the powder is dissolved.
4. Transfer new liquid standard to a clean amber dram vial and label with the name of the standard and the date it was mixed.
5. Repeat the process for all the standards you want to mix.
6. Follow the HEEL protocol to “Operate NACHO for Amino Acid Analysis” starting at step 2 under “preparing standard mixtures.”