STANDARD OPERATING PROCEDURE
STAN MAYFIELD BIOREFINERY PILOT PLANT

TITLE: Dry Weight Measurement by Moisture Balance

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A. Scope

This procedure describes how to dry a sample using a moisture balance to determine its dry weight content.

B. Safety and Training Requirements

Refer to UF lab safety policies and review the Material Safety Data Sheets (MSDS) for each material listed in section D below before starting any process work.

Review the location of fire extinguishers, fire blankets, safety showers, spill cleanup equipment and protective gear before beginning any process work.

During operations in the laboratory, the following safety gear will be utilized at all times:

- Safety Goggles or Face Shield
- Protective Gloves (nitrile, neoprene)
- Lab coat

C. Related Documents and SOPs

1. Kern model MLB 50-3N moisture balance operating manual (KERN MLB_N)
2. Sample SOP-0511

D. Preparation/Materials/Equipment

1. Moisture balance (Kern MLB 50-3N model)
2. Aluminum pan (Kern & Sohn GmbH, Art. Nr. MLB-A01/RH-A01)

E. Detailed Procedure

1. Allow the sample to reach room temperature (without opening the sample container) before starting your measurement.
2. Set the moisture balance (Kern MLB 50-3N) for dry weight determination according to the operating manual.
3. Place an aluminum pan in the moisture balance and tare the balance.
4. Add enough sample to cover most of the surface of the aluminum pan and spread the sample out evenly over the pan (2 – 5 g sample; 10 g maximum).
5. Begin the drying sequence according to the Kern MLB_N operating manual.
6. Once the measurement cycle is completed, the dry weight of the sample will be displayed in the screen.

F. Data Archival and Analysis

Record all measurements in the laboratory notebook including the date, time, vessel, and batch number of the sample.