STANDARD OPERATING PROCEDURE
STAN MAYFIELD BIOREFINERY PLANT

TITLE: Dry Weight Determination by Loss on Drying Operating Procedure

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APPROVALS: **Process Change Committee** **DATE:**
UF EH&S **DATE:**

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A. Scope

This procedure describes how to take a sample and dry it in an oven overnight 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 plant, the following safety gear will be utilized at all times:

- Lab Coat
- Safety Goggles or Face Shield
- Protective Gloves (nitrile, neoprene)
- Autoclave gloves

Avoid inhalation of vapors and wear nitrile or neoprene rubber gloves. Contain spills by using spill kits next to fermentors.

C. Related Documents and SOPs

1. UF Biosafety manual

D. Preparation/Materials/Equipment

The chemicals/materials used in this SOP are listed below:

1. 6 inch aluminum pan (9 in. x 9 in.)
2. Balance (Denver Instrument, S-4002, max. 4000 g, d = 0.01 g)
3. Drying oven set to 105°C
4. Horizontal Desiccator Cabinet (Fisher Scientific, 08-647-46)

E. Detailed Procedure

1. Measure and record the tare weight of an empty aluminum pan.
2. Place 100 ml of sample into an aluminum pan.
3. Measure and record its weight quickly.
4. Place pan with contents into a preheated 105°C oven.
5. Leave overnight.
6. Take pan with dried contents out and place in a desiccator.
7. Leave in desiccator to cool for atleast 1 hour.
8. Measure and record the weight of pan and dried contents.
9. Subtract the tare weight of the pan from the weight obtained in Step 7.
10. Subtract the tare weight of the pan from the weight obtained in Step 3.
11. Divide Step 9 value by Step 10 value and multiply by 100. This is the % dry weight of the sample.

F. Data Archival and Analysis

Record sample % dry weight in its corresponding batch record and store records in a folder labeled with the run number.