

Klason Lignin Determination

1. Prepare Gooch crucible by adding a glass fiber filter (rough side up), wetting with deionized water and applying light suction to secure the filter. Label crucibles with a wax marking pencil.
2. Dry crucibles in a 105°C oven for one hour.
3. Remove crucibles from the oven and allow cooling for around 5 minutes in a desiccator. Measure the mass of the crucibles to the nearest 0.0001 g, and record the order in which you weigh them. Use crucible tongs or Kim wipes to handle the crucibles to avoid transferring skin oils to the crucibles.
4. Filter the flasks from acid hydrolysis through your prepared crucibles, being careful to quantitatively transfer all the solids from the flask.
5. Dry crucibles in a 105°C oven for one hour.
6. Remove crucibles from the oven and allow cooling for around 5 minutes in a desiccator. Measure the mass of the crucibles to the nearest 0.0001 g in the same order as before. Use crucible tongs or Kim wipes to handle the crucibles to avoid transferring skin oils to the crucibles.
7. Return crucibles to the 105°C oven for an additional hour. Reweigh the crucibles using the same procedure as before. Continue drying and weighing as needed until subsequent measurements are within 0.001 g.

The material in the crucible is Klason lignin. Determine the Klason lignin content as a percentage of dry mass.