1.0 Purpose

The purpose of this procedure is to describe how to determine the loss on ignition of Magnesium Oxide (MgO).

2.0 Scope

This procedure applies to MgO samples.

3.0 Responsibility

Lab Associate is responsible for performing this procedure.

4.0 Safety Considerations

Appropriate PPE should be worn in the laboratory

Safety is a condition of employment. Employees are not authorized to work in an unsafe manner and are prohibited from harming the environment of the facility or community.

5.0 Materials/Equipment

- Porcelain Crucible - 10 ml. Capacity
- Weighing balance accurate to 0.01g or better
- Muffle Furnace (High temperature)
- Desiccator
- Tongs
- Small Spatula

6.0 Procedure

1. Tare the balance to zero.
2. Place the dry crucible on the scale and record the weight.
3. Add 5 grams of sample to the crucible and record the combined weight.
4. Subtract the weight of the crucible from the combined weight. **This is the weight of sample (A).**
5. Place the sample into the muffle furnace and set the oven to 1000°C.

6. Allow Samples to remain in furnace for at least 2 hours.
7. Transfer the crucible, using the forceps, to the desiccator to cool.
8. Once crucible is cool, weigh and record weight.
9. Return the crucible to the furnace for 15 minutes.
10. Repeat items until constant weight is achieved.
11. Record the weight and subtract that weight from the weight at item 3. **This is the Weight Lost (B).**

    A. Weight of Sample = Combined Weight – Crucible Weight

    B. Combined Weight – Sample Weight = Weight Lost

    (B/A) x 100 = %LOI

12. Turn off Muffle Furnace.
13. Compare the results with the C of A for the carload from which the sample came, record on *MgO Raw Material Testing (L12-FM-100-004),* and report any substantial discrepancy to the POC.

7.0 Reference Documents

MgO Raw Material Testing (L12-FM-100-004)

8.0 Change Information

Updated to new SOP template. Added reference to raw materials template. Corrected Equation.