1.0 Purpose

This procedure describes how to determine the loss on ignition of Magnesium Sulfate Heptahydrate.

2.0 Scope

This procedure applies to salt 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 – B440 Sartorius
- Drying Oven (Low temperature) - S/P TempCon Gravity convection
- N86205 Muffle Furnace (High temperature) -- Thermodyne Type 1300 120V
- Dessicator
- Tongs
- Small spatula

6.0 Procedure

All data is to be recorded on the *Final Product Crystal – Daily Quality Control Report (L12-FM-100-002)* form.

1. Tare weighing balance to zero.
2. Place a dry porcelain crucible on the balance and record the weight.
3. Using the spatula, add 5.00 grams of the salt sample to the crucible.
4. Record the sample weight and the total weight.
5. Place the crucible in the drying oven at a temperature of 100˚C for two hours.
6. Remove the crucible from the drying oven using tongs.

7. Place the crucible in the dessicator to cool.
8. After a suitable cooling period, place the crucible on the weighing balance and record the weight.
9. Place the crucible in the muffle furnace at a temperature of 450˚C overnight.
10. Remove the crucible the following morning and place in the dessicator to cool.
11. After a suitable cooling period, place the crucible on the weighing balance and record the weight.
12. The formula below is to be used to determine the loss on ignition.

$$\frac{\text{(total weight before heating) - (total weight after heating)}}{\text{(weight of sample before heating)}}$$

7.0 Reference Documents

Final Product Crystal – Daily Quality Control Report (L12-FM-100-002)

8.0 Change Information

Updated procedure using *SOP Template Instructions (Q12-PR-100-004)* and *Document Numbering (Q12-PR-100-003)*