1.0 Purpose

This procedure is followed to determine if the sulfuric acid obtained from railcars tests positive for the presence of sulfuric acid.

2.0 Scope

This procedure applies to all incoming sulfuric acid. All raw material testing is performed in the QA Lab.

3.0 Responsibility

Quality Associate is responsible for testing all incoming acid samples delivered by railcar to Giles Chemical.

4.0 Safety Considerations

Steel-toed shoes, splash goggles, rubber gloves, and lab coat with splash apron are required for working with sulfuric acid samples.

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

- Goggles
- Lab coat with splash apron
- Rubber gloves
- 30 ml sulfuric acid samples taken from railcar
- Barium chloride bottle with dropper
- Test tube
- Pipette
- pH paper
- Glass stirring rod

6.0 Procedure

6.1 pH test

1. Fill test tube with 4 ml of distilled water
2. Add 3 drops of sample to test tube and stir

3. Take a strip of pH paper. Dip the strip into the test tube and compare the color to the provided chart. The pH should be between 1 and 3. If the pH is above 3, process engineer should be notified immediately. If the paper reads 1 or 3, then the sample is identified as an acid and you can proceed to sulfate test. Keep the prepared sample for the sulfate test.

6.2 Sulfate Identification

1. Add 4 drops of barium chloride to the test tube prepared in pH test. If a white precipitant forms, then the sample is positive for sulfate. If no precipitant forms, then the sample has no sulfate. If the sample fails sulfate identification, notify process engineer

7.0 Reference Documents

Acid Identification Log Sheet (L12-PR-100-028)

8.0 Change Information

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