

QUANTITATIVE ANALYSIS OF SILICATES IN CLEANERS**Application**

This test method is used to determine the percent silicates in a cleaner. The procedure is intended to be a simplified version of the applicable ASTM standard (e.g., D 501 or D 800) as well as being more appropriate for dealing with the many formulations of cleaners that are commonly encountered in plant operations.

Apparatus Required**Muffle Furnace**

Capable of maintaining 760 +/- 10 °C.

Oven

Mechanical convection; capable of maintaining 105 - 110 °C.

Hot Plate**Bunsen or Meker Burner****Analytical Balance**

Precision +/- 1 mg.

Desiccator

With drying compound.

Crucible

Suitable for holding filter paper.

Pipet**Tongs****Funnel**

Suitable for use with filter paper.

Beaker

250 mL

Watch Glass and Glass Hooks

Suitable for use with 250 mL beaker.

Date	Action	Revisions
2001 01 22	Revised	Editorial – no technical change A. Cockman
2000 03 23	Revised	Editorial – no technical change A. Cockman
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Graduated Cylinder

100 mL

Platinum Crucible

Materials Required

Sulfuric Acid

Concentrated; CAUTION: Corrosive

Nitric Acid

Concentrated; CAUTION: Corrosive

Hydrofluoric Acid

Concentrated; CAUTION: EXTREMELY CORROSIVE - SPECIAL HANDLING PRECAUTIONS MUST BE EMPLOYED.

Distilled Water or Deionized Water

10 ppm max total dissolved solids (ASTM D 1888).

Filter Paper

Whatman No. 42.

Solutions Required

Sulfuric Acid Solution

1:1

Hydrochloric Acid Solution

1:1

Hydrochloric Acid Solution

5 mL HCl/95 mL distilled water.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.