

# Determination of Silicon Carbide in Recycled Catalysts



Silicon Carbide filter

This semi-quantitative method for determining silicon carbide (SiC) content in mixed batches of recycled emission control catalysts uses thermogravimetric analysis and total carbon analysis.

## Determination of %SiC

SiC is most often found in Diesel Particulate Filters (DPF's) that are part of an emissions catalyst system. This method to determine the %SiC is based on a published standard (Ref. No. ISO 21068-2:2008) and employs:

- LECO 701 Thermogravimetric Analyzer (TGA) - for automated Loss on Drying/Ignition determination
- LECO CS600 Carbon/Sulfur Analyzer - for coulometric determination of total carbon

### Perform Analytical Analysis

- Run LOD (Loss on Drying) @250°C
- Run LOI (Loss on Ignition) @650°C
- %C Volatile (free carbon) is LOI - LOD
- Use LECO C analyzer for %C Total

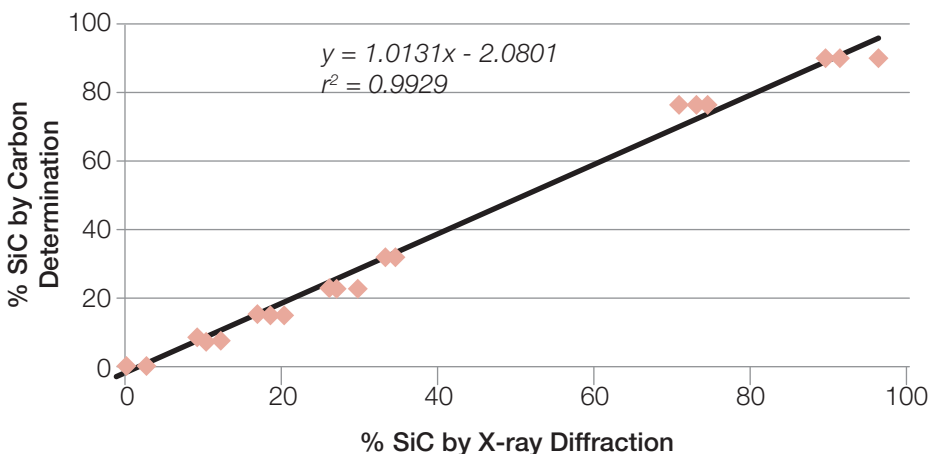


### Calculate %SiC

- %C in SiC = %C Total - %C Volatile
- %SiC = (%C in SiC) ÷ 0.2995

## Method Validation

There is excellent correlation between this method and research grade X-ray diffraction methods.



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