MECS® CATALYST FOR SULFURIC ACID
SAMPLING PROCEDURE

GENERAL

Several weeks prior to your plant turnaround, please contact your MECS representative to obtain a catalyst sampling kit. This kit contains:

- 9 (nine) sample containers that are approximately 1 liter in volume
- 9 (nine) blank sample labels for the various samples
- A return address label which will be required to return the filled containers
- Material Safety Data Sheets
- Standard catalyst sampling procedure document
- Customer questionnaire document for any special instructions or information regarding the samples.

SAMPLING

- **TOP Layer** - Sample the top 4 inch (10 cm) layer of catalyst at four different quadrants. Combine these four samples into one sample of 1-liter size. Package the sample in an air-tight plastic bag or bottle. Label with company name, plant number, type of catalyst, pass number, and the word “TOP”.

- **MIDDLE Layer** - Dig into bed about 10 inches (25 cm) and sample that layer at four different quadrants. Combine these four samples into one sample of 1-liter size. Package the sample in an air-tight plastic bag or bottle. Label with company name, plant number, type of catalyst, pass number, and the word “MIDDLE”.

- **BOTTOM Layer** – If the bed is being screened, sample four different quadrants near the bottom 4 inches (10 cm). Combine these four samples into one sample of 1-liter size. Package the sample in an air-tight plastic bag or bottle. Label with company name, plant number, type of catalyst, pass number, and the word “BOTTOM”.

  NOTE: DO NOT PACKAGE IN GLASS CONTAINERS AS THESE CAN BREAK IN TRANSIT.

RECOMMENDED SAMPLING POINTS BY PASS

<table>
<thead>
<tr>
<th></th>
<th>Pass 1</th>
<th>Pass 2</th>
<th>Pass 3</th>
<th>Pass 4</th>
<th>Pass 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOP Layer</strong></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MIDDLE Layer</strong></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>BOTTOM Layer</strong></td>
<td>✓</td>
<td>✓</td>
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</tbody>
</table>

SPECIAL CONSIDERATIONS

- Take a separate sample of any catalyst that looks unusual or different from the bed in general. If a section of the bed has catalyst that is very green, or black, or white, sample that catalyst, label it, and package it as above.

- If a bed has two or more different types of catalyst in layers, take separate samples of each layer at the four quadrants, and combine and package as above.

- If Pass 1 and 2 are not to be screened, it will be very difficult to sample the very bottom of the bed. Some customers have used sleeves (open cylinders 4 - 6 inches (10 - 15 cm) diameter) made of metal with a beveled (sharpened) end. This sleeve has arms at the top and is worked completely into the bed depth. Top, middle and bottom samples are then vacuumed out from inside the sleeve.
PACKAGING AND SHIPPING INSTRUCTIONS

Sample Size: One Liter (Minimum)

Container: Plastic Bottle or Sealed Plastic Bag
NOTE: DO NOT PACKAGE IN GLASS CONTAINERS

Shipping Address: MECS, Inc.
1910 Innerbelt Business Center Drive
Overland, MO 63114

Phone Number: 314-733-1142

E-Mail Address: CatalystSamples@mecsglobal.com

International Shipping Via: FedEx (Air)
NOTE: Use www.fedex.com website to arrange shipments. If FedEx is unavailable locally, please contact CatalystSamples@mecsglobal.com for assistance. Samples must be shipped by air, do not ship as a cargo shipment.