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**Question 31: In your experience, when sampling the HF Alky iso-recycle stream, how and where is the sample neutralized prior to analysis? Can this approach be used for online GC analysis as well?**

**Randy Peterson (STRATCO)**

The isobutane recycle sample can be neutralized at the sample location using a chamber filled with alumina or KOH pellets. If using a KOH chamber, it is best to add a filter downstream to filter out any fines.

Alternately, the sample may be neutralized in the lab upstream of the GC by the same method. In some refineries, KOH pellets have been added directly to sample bombs prior to sampling.

The iso recycle from the side draw of an isostripper typically contains about 1% HF. However, if the tower is refluxed and the iso recycle stream comes from the tower accumulator, the sample may contain more HF.

**Greg Harbison (Marathon Petroleum)** Marathon has six HFA's. Some of our refineries neutralize the recycle isobutane lab sample with a cylinder containing solid KOH in the field at the sample station, and others complete the neutralization in the lab. Additional KOH is added to the cylinder at a predetermined timeframe via the use of a PM work order. We have not used this arrangement for on-line G.C.s. The reaction of HF with KOH will result in the formation of water. If this feed pretreatment were used for an on-line unit G.C., the water formed would create issues with the addition of a wet stream to an acidic environment. Localized corrosion at the return point to the process may occur.

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