From: Wetmore, Cynthia
To: Mayer, Kevin
Subject: RE: Sulfonic acid/sulfonate
Date: Tuesday, February 10, 2015 7:35:00 AM
Attachments: image003.png

I have no idea. The lab method 314.0 just reports it as pCBSA. I do know that the presence of percolate will interfere with the lab analysis results.

I never refer to pCBSA as a mild acid or as a salt for that matter. Don't know enough to determine.

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From: Mayer, Kevin
Sent: Monday, February 09, 2015 3:59 PM
To: Wetmore, Cynthia
Subject: Sulfonic acid/sulfonate

Do we know the actual form of the chemical in the aquifer? Are we treating the acid or the anion? In a paper I have from 2003, folks in NV were having trouble with pCBS and perchlorate co-eluting. It seems that the form of the chemical in groundwater in Henderson NV is actually the sulfonate anion/salt. It may be chemwonky but I noticed that EPA is calling this a mild acid which may be incorrect. The description below indicates that slightly alkaline conditions drive the reaction to the anion in DI water.

"…Samples of the soil and water suspected of containing both perchlorate and the unknown co-eluting species were taken to the Dionex research facility in Sunnyvale, California. These samples were analyzed using MS detectors. The mass spectrum of the samples indicated that the co-eluting species were perchlorate, as suspected, and p-chlorobenzene sulfonate (p-CBS), with the structure shown below.

To further clarify the situation, p-chlorobenzene sulfonic acid was obtained and spiked into deionized water. The sample was made slightly alkaline using sodium hydroxide to convert the acid into the sulfonate salt. This sample was then analyzed using EPA Method 314.0. The resulting chromatogram is shown in Figure 4…."

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