

Gas Phase Hydrocarbon Adsorption for Spent Vapor Recovery

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Abstract: John Zink Hamworthy Combustion, an industry leader in all forms of combustion products, has recently spent a great deal of time and resources to find combustion alternatives. John Zink, being a subsidiary company of Koch Industries, the second largest privately owned company in the world, aims to set the standard for carbon adsorption based combustion alternatives, specifically in new ADAB[®] vapor recover technology. We performed extensive carbon testing and mathematical modeling to further quantify the knowledge and behavior of granular activated carbon for gasoline vapors. This study was centered on the principle of butane working capacity, or BWC, which is a method of assigning a “grade” to carbon as it degrades after repeated cycles of use. Understanding the effects of activated carbon degradation is an essential part of keeping emissions low and recovery high. Vapor recovery units are being used increasingly more as the EPA tightens the leash on emissions and new carbon adsorption research is the key to the future of recapturing escaped emissions.

When: Tuesday, September 12, 2017 at 4 pm
Where: EEP252