Manufactured Housing Research Alliance MHRA

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Alcan Specialty Aluminas

Response to MHRA questions regarding arsenic water treatment systems

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I have tried to answer your questions below, but please understand that Alcan is a manufacturer of media only and does not supply water treatment equipment. To that end, Alcan has partnered with two equipment suppliers who offer systems with Alcan media, Kinetico Inc and the Calgon Carbon Corporation. If you have not done so already, I would highly recommend contacting these parties with a similar request. I will forward a copy of your email to my contacts at each as well.

1. Name(s) of your system(s)

Alcan offers two adsorptive medias: activated alumina AA-400G and promoted activated alumina, Actiguard AAFS50.

2. Will the system be available for installation and operation prior to the EPA mandated date of January 23, 2006?

Large volumes of both medias are currently available.

3. Manufacturer and distributor contact information.

Jon Mogan (jon.mogan@alcan.com); Alcan Specialty Aluminas, 4000 Development Drive, PO Box 250, Brockville Ontario Canada, K6V 5V5 613-342-7462

4. Basic description of your technology (i.e. activated alumina, modified lime softening, etc.).

Adsorption by activated alumina and iron promoted activated alumina.

5. Maximum arsenic levels that can be mitigated to below the 10ppm standard using your system.

Depends on site-specific water quality. Usually ~97% removal = 300 ppb influent treated to 10 ppb effluent.

6. Range of system capacities available with your system.

Adsorption capacity typically varies from 0.3 to 1.0 mg As/g adsorbent or greater.

7. What method of disposal has been approved for the media type? Is it considered hazardous material or will they pass TCLP as non-hazardous waste?

Spent medias have passed US-EPA TCLP and Ca-WET, landfill disposal.

8. Approximate cost for a typical 200gpm system, including engineering, design, drawings, specifications, equipment, installation, and start-up. Do not including the building to house the system or piping to and from the plant.

Difficult to provide general numbers due to differences in site water chemistry. The Arizona Department of Environmental Quality has some very good data: http://www.azdeq.gov/environ/water/dw/download/amp/ampsumm4.pdf

9. Approximate ongoing annual operational costs for a 200gpm system, including chemicals, media replacement, disposal, electrical power, etc., as applicable. Please also include approximate labor requirements in labor-hours and the level of training/skill required by operators.

See answer to 8.

10. What is the lead time required from purchase to operational installation?

Best answered by our equipment partners - however media is currently available.

11. Describe the track record of the system and supplier including examples of existing installations, if any.

Applied in AWWA-NSF ETV study for small systems (MHP), results of study available on both websites. Used in EPA demonstration site round 1, upcoming EPA demonstration site round 2. Numerous pilots and other small systems throughout NA. Many 100's of small installations in Bangladesh.

12. List and explain any site-specific factors (such as appropriate water pH and mineral levels) that may affect the decision to use your system.

Some common water ions interfere with arsenic adsorption due to co-adsorption, these include OH (therefore pH), SiO_2, PO_4, F, SO_4.