



Graver Technologies

Disposal of Exhausted MetSorb HMRG 16/60

MetSorb® HMRG 16/60 adsorptive media, developed and manufactured by Graver Technologies LLC, is the leading filtration technology for arsenic removal from public or private water supplies.

MetSorb HMRG is a titanium oxide based media that removes arsenic by adsorption to the media matrix. After many bed volumes (BV) of treated water the exhausted media is removed and replaced.

Following exhaustion, the question regarding the proper disposal of spent MetSorb HMRG is often asked. Many applications have determined the spent media safe for landfill disposal as a nonhazardous material. Arsenic (or "heavy metal") laden MetSorb HMRG 16/60 has been evaluated using both the EPA TCLP and California WET methods and has been found to be nonhazardous and safe for landfill disposal.

Because of the concern regarding disposal of spent arsenic removal media, a study was conducted by The Center for Environmental Systems at Stevens Institute of Technology in Hoboken, New Jersey in conjunction with the New Jersey Department of Environmental Protection. This study¹, by Jing, Liu, Patel, and Meng and published in *Environmental Science and Technology*, evaluated arsenic leaching from commercially available adsorptive media. Their study found that arsenic from exhausted MetSorb TiO₂ based media did not exceed the TCLP concentrations that would characterize the spent media as a hazardous material. They also found that MetSorb outperformed iron based GFH under the more stringent requirements of the California WET method. An additional study by Meng et. al. showed that under reducing conditions typically found in landfills, titanium based media released significantly less arsenic than iron based media.



Typically upon exhaustion a composite sample of the media is collected and evaluated for criteria required by the regulating authority.

Since each application differs, exhausted MetSorb HMRG 16/60 should be evaluated following all federal, state, and local regulations regarding necessary approvals for landfill disposal. However, various studies have found MetSorb HMRG 16/60 safe for municipal landfill disposal without any special handling considerations.

For additional information contact your dealers, original equipment manufacturer or Graver Technologies at 1-800-533-6623 or jvandien@gravertech.com

¹ Jing, Chuanyong, Sugun Liu, Manish Patel, and Xiaoguang Meng. "Arsenic Leachability in Water Treatment Adsorbents." *Environmental Science & Technology* 39 (2005): 5481-5487. ("Arsenic Leachability in Water Treatment Adsorbents" by Chuanyong Jing, Sugun Liu, Manish Patel, Xiaoguang Meng)



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