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| **Environmental Enlightenment #211** By Ami Adini - Reissued July 10, 2017   |  | | --- | | This is a SHORT, LIGHT and SIMPLE newsletter. Its purpose is to rekindle in the initiated terminology they have once learned, and enlighten the uninitiated on terms they may have heard but never knew the meaning of. | | |  | | --- | | **Power of Simplicity The EPA’s Citizen’s Guide to Cleanup Technologies**  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image001.png  ***Series 10: Activated Carbon Treatment*** |   See our Newsletter, [*Environmental Enlightenment #200*](http://amiadini.com/NewsletterArchive/130107-NL200/envEnl-200.html)*,* for introduction to one highly valuable, plainly written series of Citizen’s Guides published by the EPA at <http://www.clu-in.org/products/citguide>  With this issue we introduce the EPA’s *Citizen’s Guide to Activated Carbon Treatment.* You can reach it through the hyperlink under the blue header below.  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image002.png  <http://www.clu-in.org/download/Citizens/a_citizens_guide_to_activated_carbon_treatment.pdf>Carbon is the 15th most abundant element in the Earth's crust and the fourth most abundant element in the universe by mass after hydrogen, helium, and oxygen. It is present in all known life forms.  The Universe Image courtesy NASA/CXC/CfA/R.Kraft et al., and MPIfR/ESO/APEX/A.Weiss et al.  Life on Earth is intimately fastened to carbon. It is *the* element of organic life.  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image005.jpg Copyright: clairev / 123RF Stock Photo (<http://www.123rf.com/profile_clairev>)   |  |  |  | | --- | --- | --- | | All organisms are built with compounds of carbon and use carbon in the production of the energy that makes them tick.  In the human body carbon is the second most abundant element by mass after oxygen.        Image courtesy Jrank Free Science Encyclopedia, <http://science.jrank.org/kids/pages/212/Common-Elements.html> |  | http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image006.jpg |   A porous substance is one for which empty pores make the bulk of its volume. In clay the empty pores can go to 70% of the volume.  Here’s a picture of porous volcanic rock:  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image008.jpg (Copyright: 5505292 / 123RF Stock Photo <http://www.123rf.com/profile_5505292>)    Activated carbon is a porous version of carbon that has uses in the purification of water, air and gas.   The pores provide expansive areas in the holes and tunnels all over their surface.  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image010.jpg Public Domain (Source: Wikimedia Commons)    We get carbon from coal, wood, nutshells or other carbon-rich materials.  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image012.jpg Photo by Tijuana Brass at en.wikipedia.org, licensed under GNU Free Documentation License, Version 1.2  Carbonization is the process of taking a carbon-rich piece of material and converting it to pure carbon through heating.   Carbon-rich material is cooked at extreme temperatures topping 2000 degrees Celsius. What remains is usually 20 to 30 percent of the beginning weight and consists of mostly carbon and some inorganic ash. In the next step, oxygen is bonded to the surface of the carbon, which now makes it “active.”  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image014.jpg Copyright: so47 / 123RF Stock Photo (<http://www.123rf.com/profile_so47>)  Acknowledgements:   * Wikipedia * <http://www.thomasnet.com/articles/chemicals/producing-activated-carbon>     Go to the EPA’s *Citizen’s Guide to Activated Carbon Treatment*[*http://www.clu-in.org/download/Citizens/a\_citizens\_guide\_to\_activated\_carbon\_treatment.pdf*](http://www.clu-in.org/download/Citizens/a_citizens_guide_to_activated_carbon_treatment.pdf)for the rest. It is simple and fun to read.  http://amiadini.com/NewsletterArchive/170707-NL211/envEnl-211_clip_image016.jpg | | You can find past issues of our "Environmental Enlightenment" at [amiadini.com](http://www.amiadini.com/) Wealth of information about environmental site assessments in the real estate transactions and issues concerning assessment and cleanup of contamination in the subsurface soil and groundwater. |  |  | | --- | | Call me if you have any questions. There are **no obligations.**  Ami Adini Environmental Services, Inc. Environmental Consultants & General Engineering Contractors California Lic. #1009513 A B HAZ ASB **818-824-8102**; [**mail@amiadini.com**](mailto:mail@amiadini.com) [www.amiadini.com](http://amiadini.com/)  Ami Adini is a veteran environmental practitioner with over 40 years of experience. He carries a Bachelor of Science degree (B.Sc.) in Mechanical Engineering including academic credits in Nuclear and Chemical Engineering and postgraduate education in these fields. His career includes design and construction of nuclear plant facilities, chemical processing plants and hazardous wastewater treatment systems. He is a former California Registered Environmental Assessor Levels I & II in the 1988-2012 registry that certified environmental professionals in the assessment and remediation of environmentally impacted land, and a Registered Environmental Professional (REP) since 1989 with the National Registry of Environmental Professionals (NREP). He is a California Business & Professions Code Qualifying Responsible Managing Officer (RMO) in the General Engineering Contractor classification with Hazardous Substance Removal and Asbestos certifications, and president of AMI ADINI ENVIRONMENTAL SERVICES, INC. (AAES), a general engineering contractor and consulting firm specializing in environmental site assessments, rehabilitation of contaminated sites and removal of environmental risks from real-estate transactions. (Contact Ami for a complete resume.) **AAES provides practical solutions to environmental concerns using the highest standards of ethics and integrity while providing its clients with maximum return on their investments.** | |