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Companies Collaborate to Improve HydroPack Design

Hydration Technology Innovations (HTI), Eastman Chemical Co. and Modern Edge joined forces last month to improve the design and technology of HTI's HydroPacks, an emergency hydration solution.

The HydroPacks use a forward osmosis membrane to filter water from any source to make it safe to drink. Powdered electrolytes and nutrients, which turn the water into a sports drink, enter the water as it diffuses through the membrane. HTI deployed more than 24,000 HydroPacks after the Haitian earthquake in January 2010.

Haws Corp. Restructures Sales Department

Haws Corp. announced a number of changes to its sales department. Tony Caiazzo and Tom Guile will take on added geographic responsibilities as directors of sales for the West and East, respectively. Larry Knight will continue to manage Haws' government and healthcare segments, while adding new responsibilities as director of business development. Sam Sarver will become director of sales—industrial. Bob Hanby will retire at the end of the year, but will continue to support the company's Brita Hydration Station as director of sales—Canada. Michael Chambon also will continue to work with Brita as business director—Brita partnership.

Pentair Acquires Brazilian Water Filter Manufacturer

Pentair Inc. announced an agreement to acquire Hidro Filtros do Brasil, a leading manufacturer of water filters and filtering elements for residential and industrial applications operating in Brazil and neighboring countries. Hidro Filtros, headquartered in Caxias do Sul, will operate under the brand name Pentair Hidro Filtros and will be positioned within Pentair Residential Filtration, a division of Pentair.

Networking News

TST Industries LLC of Temecula, Calif., acquired Payne Industries LLC. John Guest USA Inc. appointed Kent Nichols and William Slone as sales managers.

Water-Right appointed Mike Speicher regional sales manager for the Great Lakes region. *wqp*

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Chromium Concerns

A recent report from the Environmental Working Group revealed the presence of hexavalent chromium in the tap water of 31 of 35 cities. Norman, Okla., had the highest level of all the cities tested. *Water Quality Products (WQP)* spoke with Dr. Robert Nairn of the University of Oklahoma (OU) to learn more about chromium-6.

drinking water has not been definitively determined.

However, the U.S. Environmental Protection Agency (EPA) did issue guidance for enhanced monitoring of chromium-6 in drinking water on Jan. 11, 2011.

Wilhelm: Is there any way to tell if the chromium-6 detected occurs naturally or is present due to manmade causes?

Nairn: Chromium-6 may be present due to both natural processes (e.g., erosion) and anthropogenic activities (e.g., industrial processes).

Determination of source would depend on site-specific conditions. In most cases, chromium-6 levels in natural waters unaffected by pollution are quite low.

Wilhelm: Are most water supplies currently tested for chromium-6, or just total chromium? Is there a way to separate these?

Nairn: At this time, concentrations of total chromium are regulated and are therefore typically determined.

Because chromium-6 is not regulated, it is typically not included in a common suite of analyses designed to meet regulatory needs.

Measurement of chromium-6 and total chromium are both possible, although via different analytical techniques.

Wilhelm: Is there a way for the

public to test their water at home for chromium-6?

Nairn: Because of the analyses required, it would be most appropriate to contract with a private laboratory for chromium-6 analysis.

Wilhelm: Do you expect the EPA to set a new, stricter regulation for chromium? If so, when do you predict that would happen?

Nairn: The U.S. EPA already regulates total chromium under the Safe Drinking Water Act and, prior to the recent report, had already begun a review of the health effects of chromium-6 in drinking water, which was released in draft form in September 2010. A final determination of whether to modify or add regulations is scheduled for 2011. *wqp*

Dr. Robert Nairn is OU associate professor and water quality expert. Nairn directs OU's Center for Restoration of Ecosystems and Watersheds and serves as an associate director of the OU Water Technologies for Emerging Regions Center.

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For more information on this subject write in 1009 on the reader service card or visit www.wqpmag.com/lm.cfm/wq021109.

Dr. Robert Nairn



Rebecca Wilhelm: What is chromium-6?

Robert Nairn: Chromium-6 is one form of the element chromium. In water, depending on pH and oxidation conditions, dissolved chromium may be present as the trivalent cation (Cr+3) or as hexavalent anions, in which chromium has an oxidation state of Cr+6.

Cr+3 is an essential micronutrient and is sometimes added to vitamins as a supplement. Cr+6 is currently being evaluated for its possible human carcinogenicity via ingestion (it is a known inhalation hazard).

Wilhelm: While Norman's level of chromium-6 tops the list, is this amount really dangerous?

Nairn: The reported results are apparently for a single water sample (collected from a single random tap on a single date) and although measurable concentrations were found, a thorough sampling and analysis program would be required to draw defensible conclusions.

Also, at this time, federal and state drinking water quality standards for chromium-6 do not exist.

Total chromium is regulated, and analyses of Norman's water supply show it to be well below the regulated concentration.

Although chromium-6 has been determined to be an inhalation hazard in occupational settings (and is regulated as such), its carcinogenic level in

Chromium-6 Resources

Environmental Working Group Report, "Chromium-6 is Widespread in U.S. Tap Water": <http://static.ewg.org/reports/2010/chrome6/html/home.html>

WQA, "To Fight Chromium: Certified Products & Professionals": www.wqa.org/sitelogic.cfm?id=2306

EPA, "Basic Information About Chromium in Drinking Water": <http://water.epa.gov/drink/contaminants/basicinformation/chromium.cfm>

Agency for Toxic Substances & Disease Registry Toxicological Profile for Chromium: www.atsdr.cdc.gov/toxfaqs/TF.asp?id=61&tid=17

Occupational Safety and Health Administration Fact Sheet on Chromium: www.osha.gov/OshDoc/data_General_Facts/hexavalent_chromium.pdf

Centers for Disease Control & Prevention: www.cdc.gov/niosh/topics/chromium/