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Interview US Eastman technology spurs HTI emergency water innovation

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By **Ben DuBose**

HOUSTON (ICIS)--US-based Eastman Chemical and water technology firm Hydration Technology Innovations (HTI) are producing filtration pouches that could replace bottled water in disaster-relief efforts, company executives said on Thursday.

With the *HydroPack* pouch, which HTI says with shipment is less expensive than bottled water, disaster victims can transform water sources such as lakes, streams, pools and mud puddles into nutrient-enriched sports drinks, the companies said.

"It's not transformational to our business in terms of sales," said **Eastman's** Brad Lich, vice president and general manager of coatings, adhesives, specialty polymers and inks. "We're first focused on the humanitarian aspect."

"But as a company, we've intensified our focus to drive new application development in areas related to sustainability," he added. "This sets up very well for renewable content."

On a one-to-one basis, the *HydroPack* is slightly more expensive than bottled water, said Walter Schultz, chief executive with **HTI**. But on an emergency shipment basis, planes can carry about 15 *HydroPacks* in the space of one water bottle, based on their small size.

The pouches are initially 4 x 6 inches (10cm x 15cm), including sealed-in electrolytes and nutrients in powder form, Schultz said.

From there, the pouches use Eastman's cellulose acetate as the backbone for a proprietary membrane, said Jos de Wit, an Eastman senior scientist who worked with HTI on the project. After that, the membrane - in a process HTI calls Forward Osmosis - allows only water molecules to pass through, excluding larger molecules and toxic contaminants.

In eight to 12 hours, the pouch fills to become a 12-ounce sports drink, the companies said.

"It's a very good collaborative effort," de Wit said. "I look at cellulose acetate as the 'Swiss army' polymer, because there are so many attachments we can put on that backbone."

Lich said the polymer had been used in the past for markets like automotive coatings, electronic coatings and liquid crystal displays (LCDs).

De Wit said HTI had bought cellulose acetate from Eastman for "some time", and approached the company about two years ago with the project.

From there, HTI tested the pouches throughout 2009, and deployed more than 24,000 of the *HydroPacks* to Haiti in the days following the January 2010 earthquakes.

More recently, HTI on 18 January launched a research project in Kenya in which the company is seeking to prove the cost, logistical and health benefits of the *HydroPack* over bottled water. The testing in Kenya's flood-prone Budalangi region would continue through 28 January, and was being observed by organisations including the Red Cross.

"A paradigm shift needs to take place that recognises the *HydroPack* as a superior solution to bottled water," said Schultz.

"The research will give us independent data to allow disaster relief organisations and international governments to consider the *HydroPack* as a superior solution."

HTI was prepared to increase production from current 1m/year levels if organisations act following the 10-day research demonstration in Kenya.

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