

## Ashland launches food ingredient solutions targeting guar market shortage

WILMINGTON, Del. – Ashland Specialty Ingredients, a commercial unit of Ashland Inc. (NYSE: ASH), has launched two new cellulose gum products – <u>Aquacel</u><sup>T</sup>CSA and Aquacel GSH – in response to the current guar shortage affecting the <u>food and</u> <u>beverage industries</u> to help supplement or replace guar. These cellulose gums, which can be used either to supplement or replace guar, offer cost-effective alternatives for beverage, bakery and dairy applications at a time when they are needed most by these markets.

"Volatility in guar availability and pricing has left food manufacturers scrambling for a replacement," explained Laurie Kronenberg, new product leader, Nutrition Specialties. "In the U.S., guar gums are being used in the oil and gas industry for lubrication. Using guar in this manner is not new, but the recent surge in horizontal drilling technology has increased the demand for guar gum significantly."

Aquacel GSA and GSH cellulose gums have been developed to enable synergy with guar to provide higher viscosity in liquid phase, moisture holding, fast hydration development, as well as practical application by simple dry mixing. Synergies have been demonstrated in guar gum-to-cellulose gum ratios, ranging from 80:20 to 40:60. This maximizes flexibility when adding cellulose gum. In addition, there is high viscosity across a wide range of blend ratios, allowing for reduced doses of guar in the final formulation.

"Less dosing means less guar is needed during this supply shortage and that there is a cost-effective alternative to escalating prices of guar," Kronenberg said.

Ashland is a world leader in cellulosic food ingredients, with our products meeting formulation customers' health, convenience, quality and processing requirements in major food applications. Ashland creates value through applications knowledge, market insight and a powerful product portfolio, including: <u>Aqualon</u>,<sup>TM</sup>Aquacel<sup>TM</sup>Aquacel<sup>TM</sup>Aquasorb,<sup>TM</sup>Blanose<sup>TM</sup>And Bondwell<sup>T</sup>Cellulose gum (CMC); <u>Benecel</u><sup>TM</sup>MC and HPMC, <u>Klucel</u><sup>TM</sup>And <u>AeroWhip</u><sup>TM</sup>PC, and <u>Supercol</u><sup>TM</sup>Guar gum.

Ashland Specialty Ingredients offers industry-leading products, technologies and resources for solving formulation and product performance challenges in key markets including <u>personal care</u>, <u>pharmaceutical</u>, food and beverage, <u>coatings</u> and <u>energy</u>. Using natural, synthetic and semi-synthetic polymers derived from plant and seed extract, cellulose ethers and vinyl pyrrolidones, Ashland Specialty Ingredients provides comprehensive and innovative solutions for today's demanding consumer and industrial applications.

In more than 100 countries, the people of Ashland Inc. (NYSE: ASH) provide the specialty chemicals, technologies and insights to help customers create new and improved products for today and sustainable solutions for tomorrow. Our chemistry is at work every day in a wide variety of markets and applications, including architectural coatings, <u>automotive</u>, <u>construction</u>, energy, food and beverage, personal care, pharmaceutical, <u>tissue and towel</u>, and <u>water treatment</u>. Visit www.ashland.com to see the innovations we offer through our four commercial units—Ashland Specialty Ingredients, Ashland Water Technologies, Ashland Performance Materials and Ashland Consumer Markets.

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