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Jennifer Wilson, brand manager
1.800.803.5189
jwilson@biobased.net



Peer-Reviewed Study Shows Advantages of Using Soy in Manufacturing
Life Cycle Impact Analysis Documents Environmental, Energy Benefits of Agrol[®] Over Petroleum Polyols

SPRINGDALE, Arkansas (Feb. 4, 2010) – The United Soybean Board released a peer-reviewed life cycle profile this week that documents the benefits of soybean farming and processing and the advantages to manufacturers of integrating soy-based ingredients into their products.

The goal of the study was to update the life cycle inventory databases for soybean production and processing, but it also included a Life Cycle Impact Analysis for the conversion of soybeans into four key feedstocks, soy polyols, methyl soyate, soy lube base stock and soy resin, used in manufacturing.

The soy polyol LCIA compared production data for Agrol[®] polyol, a 96% pure soy-based polyol manufactured by BioBased Technologies[®], to data from five producers of petroleum-based polyols. The comparison looked at material and energy inputs for both processes. The soy polyol portion also included updated data on soybean agriculture, soybean crushing and degumming, soy oil refining and actual soy polyol production.

“In the past we’ve had to rely on historic and theoretical data for processing soybeans to determine the impacts of using soy feedstocks in place of petroleum feedstocks,” said Jim Pollack, life cycle project manager with Omni Tech International. “This study is a first in the soybean processing industry because we were able to use the most up-to-date data and actual production data from manufacturers.”

The soy polyol LCIA showed Agrol[®] has a lower global warming potential than petroleum-based polyols. It also documented a carbon benefit from using Agrol[®]. Five and one-half pounds of carbon dioxide equivalents are removed or prevented from entering the atmosphere for every pound of Agrol[®] that replaces a pound of petroleum-based polyol.

Production of Agrol[®], along with the other soy-based feedstocks, had significantly reduced greenhouse gas emissions and lower fossil fuel depletion impacts than the petroleum-based counterparts.

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“One of our biggest challenges has been determining the best way to present the benefits of Agrol[®] to the marketplace,” said Shelly West, sales manager for BioBased Technologies[®] Polyol Division. “The LCIA will help our customers demonstrate a measurable, verifiable benefit to the environment which is directly tied to the replacement of petroleum-based polyols with Agrol[®] .

“Although utilizing renewable-based raw materials can require an initial investment to maximize the chemistry and performance, we believe this LCIA will help our customers create a positive trade off and improve their sustainability profile with a substitution that is price comparable and made in the United States.”

Omni Tech International, Ltd conducted the study for the United Soybean Board. Four Elements Consulting, LLC performed the life cycle assessment modeling. A group of international reviewers verified the project was performed in accordance with ISO 14040/44 Life Cycle Requirements. For more details on the study visit www.soybiobased.org.

Agrol[®] polyols serve as a sustainable alternative to the petroleum-based polyols that are broadly used in the polyurethane industry. The Agrol[®] product line was developed for use in the production of a wide variety of products including coatings, adhesives, sealants and elastomers, flexible molded foam, rigid molded foam, slabstock foam and spray foam insulation. Agrol[®] is a 2006 P2 awardee by the United States Environmental Protection Agency.

For more information about BioBased Technologies[®] and its products, visit www.biobasedtechnologies or www.biobased.net.

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BioBased Technologies[®] is focused on developing and marketing sustainable solutions for the manufacturing and construction industries. Products offered by BioBased Technologies[®] include Agrol[®], soy-based polyols; and BioBased Insulation[®], bio-based spray polyurethane foam insulation and sealants. BioBased Technologies[®], LLC is headquartered in Northwest, Ark.