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PETRO - OLEO BATTLE ENGAGING IN HIGHER ALCOHOLS MARKET

The 1.7 million ton higher alcohols market is witnessing one of the first major challenges of petroleum-based chemical economics under the current regime of \$60+ crude oil. New oleo alcohol plants based on renewable raw materials - coconut and palm kernel oils - are scheduled to add close to a million tons of alcohol capacity to the market over the next two years. In 2005, oleo-based alcohols from existing plants already supplied 61 percent of the higher alcohols market, and their share will increase to at least 65 percent by 2010, according to a new study by Colin A. Houston & Associates, Inc. (CAHA), a consulting firm in Brewster, NY.

According to CAHA president Joel Houston, the new oleo alcohol capacity will impact not only petro-based alcohols, but also the 2.6 million ton market for linear alkylbenzene (LAB), the major competing detergent intermediate. He points out that already, "many alcohol prices have fallen below LAB pricing in the different regions but attention will be focused in Asia where the oleo producers compete with their lowest costs."

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Little alcohol is used in laundry detergents in Asia now and personal care already uses large volumes of oleo alcohols, so the LAB/alcohol rivalry will be acute as alcohol producers move to expand into detergents there. Surplus alcohols will be exported to Western markets but the extent will be limited by factors such as logistics and the infrastructure to convert these detergent intermediates into surfactants through ethoxylation. These hurdles will slow the penetration of new Asian supplies and will pressure the new manufacturers to quickly develop complete solutions for the end user customers.

Six of the twelve new plants are from new higher alcohol producers, but most have been oleochemical producers. Only one new producer, Oxiteno, is forward integrated into surfactants, although two others are integrated through alliances/partnerships. Palm Oleo/KLK and Musim Mas, among others, will be important new additions to the merchant alcohol business. The new plants are shown below with both total and C₁₂₊ capacity .

OUTLOOK FOR HIGHER OLEO ALCOHOL CAPACITY ADDITIONS BY PRODUCER, 2006-2007 (thousand tons)							
	Location	2006	2007	Net Total	Net C ₁₂₊ Basis	New	Surfactant Integration
Sasol/Wilmar JV	China		60	60	60		X
Liaoyang Hua Xing	China	80		80	68		
Teck Guan	China		100	100	85	X	
Kao Philippines	Philippines	70		70	55		X
Pan Century	Philippines	30		30	30	X	
Musim Mas	Indonesia		100	100	100	X	
Ecogreen Oleo	Indonesia	50		50	50		x
Sawit Mas	Indonesia	40	120	160	150	X	(X)
PalmOleo/KL Kepong	Malaysia		100	100	100	X	
Cognis Thai	Thailand		100	100	85		X
Godrej	India	30		30	30		X
Oxiteno	Brazil		80	80	80	X	X
TOTAL		300	660	960	893	6	

Three surfactants accounted for over two-thirds of the 1.7 million tons of higher alcohols consumed in 2005: alcohol ether sulfates - 34%, alcohol ethoxylates - 22%, alcohol sulfates - 17%, and they will continue to dominate alcohol use in every region. The ethylene oxide/ethylene glycol (EO/EG) market will play an important role in how the competitive surfactant situation develops. Delays in the on-stream dates of new EO/EG producers has delayed a full correction in EO/EG prices. Until this correction occurs, alcohol ethoxylates and alcohol ether sulfates will remain restrained as competitors to LAB. Once the EO/EG correction takes place, surfactant competition will reach full strength.

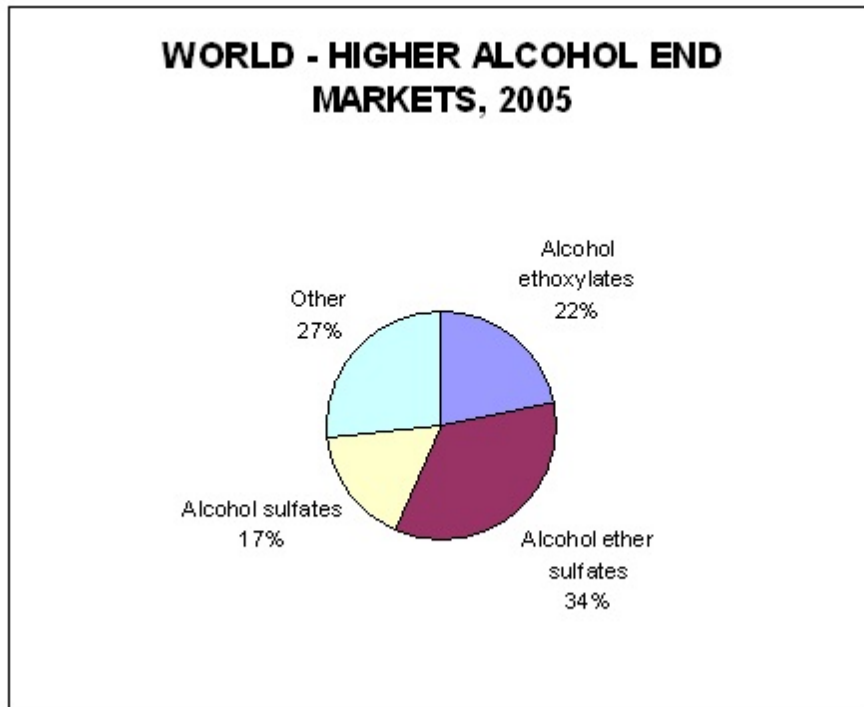
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The higher alcohols market is growing at a base level of 3.8 percent per year to 2020, but any substitutions for LAB will drive the market above this rate.

CAHA's new study includes alternative demand scenarios to help identify the scope of the market's potential response to oleo - petro alcohol intercompetition.

The new 400-page report just issued by CAHA entitled, *Higher Alcohols - Forecast to 2020*, is available in both print and electronic versions. For more information contact Colin A. Houston & Associates, Inc., phone 845 279-7891, or visit www.colin-houston.com.