2011 Annual Meeting Abstracts

Exhibitor Showcase

MONDAY

N/A

TUESDAY

MORNING

EXH 1: Exhibitor Showcase

Chair(s): J. Dau, TMC Industries, USA

New Advances in the Use of Fourier Transform Spectroscopy for the Analysis of Oils, Fuels and Nutraceuticals. B. Stefl, Cognis Corporation, now a part of BASF, Cincinnati, OH, USA

The QTA® System provides a turnkey solution for implementing FT spectroscopy in quality control and production monitoring. New applications include quantitative analysis of nutritional oils and vitamins in softgels, powders and other formulations, and biofuel analysis in volatile matrices. Validation protocols for the QTA System method, now published as AOCS Standard Procedure Ck 2-09, will be described.

Dequest PB, A Natural Based Polymer for Laundry Applications. J. Kolpa, Thermophos USA, Mechanicsville, VA, USA

Currently, many companies rely on synthetic based polymers to improve cleaning performance in laundry applications. Dequest PB is a natural based polymer that is used in place of conventional polyacrylates to provide co-builder properties. Dequest PB increases laundry performance at lower "as is" use rates for both warm and cold water washes while improving the overall performance of detergents.

Practical Approach in Edible Oil Refining. H.K. Shukla, Fenix Process Technologies Pvt. Ltd., Pune, India

The refining of edible oils is well known to the world for decades. The plant manufacturers design refining process based on very basic fundaments of acid degumming, adsorption and steam distillation. Edible oils are heat sensitive and have tendency to get oxidized, accelerated deterioration has been noticed at elevated temperature. The oil refining plants are undergoing with new developments to minimize the above-mentioned unwanted phenomenon during processing. However still there are some possibilities to improve the product quality and reduce cost of production further. The incorporation of structured packing, falling film reboilers, condensing beds or internal condensers, improved mechanical seals and flangeless joints would considerably improve the quality of refined oil. Therefore it became necessary to consider and evaluate the risks and impacts of higher skin temperature at deodorizers, residence time in high temperature zones, liquid gas ratios, and pressure drop in columns, the air ingress, and the

material of construction well before conceptual design. The reduction of the pressure drop across column by incorporating structured packing results in quick removal of fatty acids. The falling film reboilers considerably reduce the skin temperature and ensure optimum evaporation of desired component by suitably controlling the heat. The condensation of fatty acid vapors in packed bed / inbuilt condenser is instantaneous and quicker which results in better heat utilization and also lowers the pressure drop.

Process Plus: Providing Process Solutions for the Chemical Industry. G. Mitchell, Process Plus, Cincinnati, OH, USA

Process Plus has been delivering process solutions to the Chemical Industry since 1996. Our engineers are experts in multiple aspects of the chemical industry. You can count on the knowledge of our team to define the process and engineering solutions that are right for your operations.

Why Deal with Tomorrow's Challenges if You Can Inhibit Them Today? R. Nolles, Cosun Biobased Products, Breda, The Netherlands

Various industries are facing two major challenges: rising cost of raw materials and reducing environmental impact. Carboxymethyl inulin (CMI) is an environmentally friendly antiscalant/co-builder which has proven to be cost-effective in detergents and water treatment applications. This Showcase will give more insight into sustainable solutions for the future, available today.

Pilot Scale Extraction of Microalgae Oil at POS Bio-Sciences. R.C. Green, POS Bio-Sciences, Saskatoon, SK, Canada

POS Bio-Sciences has assembled a new microalgae processing line to extract the oil and other components from the biomass. This presentation with review the equipment for processing microalgae and analytical capabilities to support process development work.

New Highly Reactive Biobased Polyols for Polyurethane Applications. R. Heggs[1], S. Turner[2], [1]Battelle, USA, [2]Emery OleoChemcials LLC, USA

Oleochemicals LLC have joined together to offer a new class of highly reactive and versatile ester polyols for a wide range of polyurethane applications. These materials utilize Emery?s long term expertise in ozonolysis of fatty acids from natural oils and fats and Battelle?s laboratory synthesis and product application capabilities.

Nature's Solution for Effective Cleaning with L (+) Lactic Acid. Rebecca Wietting, Purac, Lincolnshire, IL, USA

RevealX™ Technology Improves Purification of Lipid Compounds by Flash Chromatography. K. Lawrence[1], K. Chodavarapu[1], B. Winckley[2], R. Bose[2], [1]Grace, Columbia,

MD, USA, [2]Grace, Deerfield, IL, USA

Pharmacologically active drugs may be composed of lipid molecules that facilitate better drug absorption and bioavailability for poorly soluble drug compounds. Advancement in the field of lipidology and therapeutic medicine requires successful drug development for treating cardiovascular and neurological diseases. During purification, identification of lipid-based compounds can be difficult and may require universal detection capability for non-chromophoric molecules. Traditional flash chromatography, as preferred by synthetic chemists, is normally equipped with Ultraviolet (UV) detection that fails to detect targets and impurities that are either present at low levels or lack chromophores. This may result in poor separation leading to impure targets and low recoveries. This paper shows the detection and purification of lipids and lipid related compounds using multiple signal-processing from UV and ELSD (Evaporative Light Scattering Detection). Using RevealX™ detection technology in the Reveleris™ flash chromatography system, chemists can detect both chromophoric and non-chromophoric compounds present in the sample matrix, with speed and greater recovery.

A New Category of Enzymes to Improve Stain Removal in Detergents. S. Friis-Jensen, Novozymes, Denmark

Thanks to continuously improved stain removal technologies, consumers increasingly see good stain removal from their detergents, even at low temperatures. However, there are still everyday stains consumers struggle to remove; and among them are stains from fruit- and vegetable-based products. In response to these needs formulators are being constantly challenged to find innovative solutions for stain removal and whiteness maintenance. In many European markets, proteases, amylases, lipases, mannanases, and cellulases are well established detergent enzymes. This presentation will describe a new category of detergent enzymes that remove a broad range of stains from fruit- and pectin-based products , hence increasing wash performance.

Chemical Analysis of Commercial Detergent and Home Care Products. Franco Pala, Battelle, Duxbury, MA, USA

Preparation Plant Equipment. Rich Barton, N. Hunt Moore/CPM Roskamp Champion, USA

AFTERNOON

PRO 3.1/EXH 2: Processing Exhibitor Presentations

Chair(s): T. Neuman, GEA Westfalia Separator Inc., USA; and J. Piazza, Alfa Laval Inc., USA

Winterisation - Comparison of the Classical method and HF?s Combined Process. R. Speck, Harburg-Freudenberger Maschinenbau GmbH, Germany

New Drives for Separators and Decanters. T. Neuman, GEA Westfalia Separator, USA

The New Sieve Tray Oil Stripper, Efficiency and Reliability. A. Subieta, Desmet Ballestra, Marietta, GA, USA

A new, more efficient Final Oil Stripper is in the market. It is designed to increase the contact oil/steam for a better stripping efficiency. At the same time, the stainless steel trays are less prone to fouling than that of the traditional carbon steel disk and donut trays. This in turn makes the new Sieve Tray Oil Stripper a very reliable one.

Saving on Energy: Waste Heat Utilization in Crushing Plants. F. Salaria, Solex Thermal Science, Calgary, AB, Canada

The use of efficient heat transfer equipment to reduce steam consumption is an easy way to reduce overall energy costs in a crush plant.There are various sources of waste heat in an oilseed plant where low grade energy can be recovered as hot water. This recovered energy can be utilized in the the preparation step of the plant to reduce steam consumption. However, only efficient modes of heat transfer, can justify the use of additional capital cost required to accompolish this. Calculating savings on steam based on typical steam rates and consumption, at various ambient temperatures through the year,show a payback period of two years or less.

Dry Condensing. S. Lassen, GEA Process Engineering A/S, Soeborg, Denmark

Precise Control of Suspended Solids, Dissolved Solids, Clarity, and Color in Process Water and Oil using Specific Light Wave Technology. Tom Schwalbach, Optek Inc., Germantown, WI, USA

Introduction to the use of light waves for precise and repeatable control of turbidity and color change in a real time process.We will explore the edible oil industry uses of this technology and why it is used for Condensate monitoring, Waste water control, filter monitoring and Bleaching process color control of impurities.

The Technology of Soybean Dehulling. Chuck Brockmeyer, Buhler Inc., Plymouth MN, USA

Buhler is a global specialist in the field of process technology, a leader in supplying equipment for grinding, blending and mixing, bulk handling, thermal treatment, and shaping for processing cereal grains and foods. Buhler?s top priority is to improve our customers? performance. To this end, Buhler collaborates closely with customers throughout the life cycles of their production facilities, thereby enhancing the value of their products. Buhler employs over 7,500 people

around the world. In 2010, the Group generated sales of $2 billion.

Purification of Glycerin from Biodiesel Plants. Perry Alasti, Artisan Industries Inc., Waltham, MA 02451, USA

With the expected growth of biodiesel production in North America thanks to reinstatement of the blender?s tax credit, coupled with the global political turmoil causing oil to potentially reach $100/barrel or higher, we can expect a glut of crude glycerin in the coming years, as more biodiesel plants come on stream and existing plants will begin to ramp up production. Refining glycerin to various purities will be instrumental in insuring profitability regardless of feedstock and energy costs. We will present Artisan?s refining process and compare it with two alternate processes currently available in the market.

The Next Generation of High Speed Separators - The Alfa Laval eDrive Author. J. Piazza, Alfa Laval Inc., USA

WEDNESDAY

N/A