

# CHEMSYSTEMS®

**PROSPECTUS** February 2012

## **Process Evaluation/ Research Planning 2011 PERP Program**

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*CHEMSYSTEMS – a brand owned by Nexant, Inc. that provides support to decision makers in the petroleum, chemical and petrochemical industries*

Nexant's *ChemSystems* Process Evaluation/Research Planning (PERP) Program is recognized globally as the industry standard source for information relevant to the chemical process and refining industries and has run for nearly 40 years. PERP produces twenty reports each year covering analysis of technological and commercial developments in areas of interest to the allied chemical industries. Two types of reports are published:

**Petrochemical Updates** give up-to-date information on major petrochemicals and polymers.

**Special Reports** are selected based on what is of most pertinent and current interest to the allied chemical and oil industry. Special reports cover a wide area and might include, specialty chemicals (e.g., cyclic olefin copolymers, oleochemicals), advanced materials (e.g., carbon fiber), process operation (e.g., production plant scale-up, safety in chemical and refining plants), gas developments (e.g., coal bed methane, unconventional natural gas), refining downstream developments (e.g., lube oil, catalytic processing of crude residue), "green" and bioengineering topics (e.g., algae technology, biobased commodity feedstocks).

Emphasis is placed on discussing process technology and cost of production economics with information derived from our relationships with licensors and producers, publicly available literature (patents, journals, company news, etc.). A typical PERP report format includes:

- **Technology:** Discussion of the chemistry, process design and flow diagrams, are given for new/developing/alternative technologies and compared to the conventional (mature) technologies against which they will have to compete.
- **Economics:** Costs of production models for the different technologies are compared; and different regional cost of production estimates are given.
- **Commercial Analysis:** Each report also contains supply/demand balances, and extensive regional plant capacity listings; an overview of commercial applications is given (existing and potential markets are surveyed).

Strategic assessments, tying together the technical and commercial issues, are also discussed.

**PERP reports provide a valuable insight into areas of economic value:**

- **Identify new investment opportunities:**
- **Project planning:** evaluate new investment decisions using PERP reports for techno-economic data, commercially realistic investment cost and operating data.
- **Process research:** PERP makes you aware of other companies' technology development efforts and of the current and future economics of new and existing processes.

Subscription to the 2011 PERP Program is available at a cost of US\$42,500. This annual subscription includes twenty (20) reports from the current program year or any earlier year. The subscription includes one hard copy of each report, unlimited downloads of soft copies of the reports via a password-protected area at our website, and up to two-man days of desk-based consulting services per year.

Alternatively, single reports from the 2011 program can be purchased for US\$9,250 per report, and the titles of reports issued and to be issued as part of this program are shown below. The following pages give the titles of reports published as part of the 2007 through 2010 programs and the purchase price of individual reports from these years. The prices of single reports from earlier program years, as well as tables of contents and abstracts for all published reports in the last twenty years, can be accessed via the link below:

<http://www.chemsystems.com/reports/index.cfm?catID=2>

## 2011 PERP PROGRAM

### PETROCHEMICAL UPDATES

		<b>Estimated Publication Date</b>
2011-1	Benzene/Toluene	September 2011
2011-2	Oxo Alcohols	June 2012
2011-3	Formaldehyde	June 2012
2011-4	Nitrobenzene/Aniline/MDI	March 2011
2011-5	Polypropylene	April 2012
2011-6	Vinyl Acetate	June 2012
2011-7	Chlor-Alkali	February 2012
2011-8	Polystyrene	March 2012

### SPECIAL REPORTS

2011S1	Polyoxymethylene (Polyacetal)	October 2011
2011S2	Polymethyl Methacrylate (PMMA)	May 2012
2011S3	Bio-Routes to <i>para</i> -Xylene	January 2012
2011S4	Plastics from Trees	May 2012
2011S5	Algae Technology	January 2012
2011S6	Oleochemicals	January 2012
2011S7	Methanol to Gasoline	December 2011
2011S8	Lube Oil	April 2012
2011S9	Carbon Fiber	March 2012
2011S10	Biosuccinic Acid	May 2012
2011S11	Developments in LAO Comonomer Technologies for Polyethylene	June 2012
2011S12	“Green” Tires	June 2012

**2010 PERP PROGRAM**  
*(November 2011)*

**PETROCHEMICAL UPDATES**

**Publication Date**

09/10-1	Caprolactam	July 2011
09/10-2	Acrylonitrile	November 2011
09/10-3	HDPE	January 2011
09/10-4	Phenol/Acetone/Cumene	February 2012
09/10-5	Butadiene/Butylenes	September 2010
09/10-6	Terephthalic Acid	May 2011
09/10-7	Polycarbonate	December 2011
09/10-8	Xylenes	October 2010

**SPECIAL REPORTS**

09/10S1	Epichlorohydrin	August 2011
09/10S2	Safety in the Chemical and Refining Industry	May 2011
09/10S3	Coal Bed Methane	May 2011
09/10S4	Biobased Commodity Feedstocks	February 2011
09/10S5	Phosphate and NPK Fertilizers	November 2011
09/10S6	Catalytic Processing of Crude Residue	December 2011
09/10S7	Acrylic Fiber	December 2011
09/10S8	“Green” Glycols and Polyols	December 2010
09/10S9	Cyclic Olefin Copolymers	August 2011
09/10S10	Non-Sequestration Utilization Options for CO <sub>2</sub>	February 2012
09/10S11	Carbon Monoxide	December 2010
09/10S12	Renewable Liquids as Steam Cracker Feedstocks	October 2010

**2009 PERP PROGRAM**  
(July 2010)

**PETROCHEMICAL UPDATES**

**Publication Date**

08/09-1	LDPE	December 2009
08/09-2	Adipic Acid	February 2010
08/09-3	Acrylic Acid	July 2010
08/09-4	Vinyl Chloride/Ethylene Dichloride	September 2009
08/09-5	Ethylene	September 2009
08/09-6	Ethanol	March 2010
08/09-7	Methyl Methacrylate (MMA)	March 2010
08/09-8	Ethylene Oxide/Ethylene Glycol (EO/EG)	December 2009

**SPECIAL REPORTS**

08/09S1	Air Separation Technology	February 2010
08/09S2	Phosphoric Acid	April 2010
08/09S3	Unconventional Natural Gas	July 2009
08/09S4	Thermoplastic Fabrication Processes	March 2010
08/09S5	Direct Coal Liquefaction	March 2010
08/09S6	BPA-Free Baby Bottle Resins	December 2009
08/09S7	“Green” Acetyls	July 2010
08/09S8	Alternative Routes to Propylene	December 2009
08/09S9	PET Bottle to Bottle Recycling	March 2010
08/09S10	Gas to Ethylene	September 2009
08/09S11	Developments in <i>para</i> -Xylene Technology	December 2009
08/09S12	Styrene Block Copolymers	January 2010

These reports are available for US\$9,250.00 each, includes one hard copy and online web access.

**2008 PERP PROGRAM**  
*(May 2009)*

**PETROCHEMICAL UPDATES**

**Publication Date**

07/08-1	LLDPE	October 2008
07/08-2	Methanol	November 2008
07/08-3	Hydrogen Peroxide	May 2009
07/08-4	Styrene/Ethylbenzene	March 2009
07/08-5	Polyethylene Terephthalate	March 2009
07/08-6	Propylene Oxide	November 2008
07/08-7	Polyvinyl Chloride (PVC)	September 2008
07/08-8	Maleic Anhydride	February 2009

**SPECIAL REPORTS**

07/08S1	Polybutylene Terephthalate	September 2008
07/08S2	Developments in Biodiesel Production Technologies	September 2008
07/08S3	Dimethyl Ether Technology and Markets	November 2008
07/08S4	Developments in Non-Phthalate Plasticizers	August 2008
07/08S5	Olefins via Enhanced FCC Processes	December 2008
07/08S6	Nylon 6 and Nylon 6,6	February 2009
07/08S7	Linear Alkyl Benzene (LAB)	January 2009
07/08S8	Sulfuric Acid	December 2008
07/08S9	Developments in TDI Process Technology	September 2008
07/08S10	Floating LNG Production	December 2008
07/08S11	“Green” Propylene	January 2009
07/08S12	Competing Feedstocks for VCM Production	January 2009

These reports are available for US\$9,000.00 each, includes one hard copy and online web access.

**2007 PERP PROGRAM**  
*(May 2008)*

**PETROCHEMICAL UPDATES**

**Publication Date**

06/07-1	Acetic Acid	March 2008
06/07-2	Polypropylene	November 2007
06/07-3	Propylene	January 2008
06/07-4	1,4-Butanediol/THF	March 2008
06/07-5	Alpha Olefins	April 2008
06/07-6	Benzene/Toluene	July 2007
06/07-7	Bisphenol A	November 2007
06/07-8	Oxo Alcohols	July 2007

**SPECIAL REPORTS**

06/07S1	Hydrogen Production in Refineries	October 2007
06/07S2	Hydrogen Peroxide-Based Propylene Oxide	December 2007
06/07S3	Urea	October 2007
06/07S4	Glycerin Conversion to Propylene Glycol	March 2008
06/07S5	Biomass Gasification	April 2008
06/07S6	Phthalic Anhydride	August 2007
06/07S7	Benefits of Refinery/Petrochemical Integration	September 2007
06/07S8	ABS Resins	August 2007
06/07S9	Aromatic Polyamides (Polyaramids)	May 2008
06/07S10	NGL Extraction Technologies	December 2007
06/07S11	“Green” Polyethylene	March 2008
06/07S12	MTBE/ETBE Update: Technical and Commercial Effects of U.S. MTBE Phaseout	May 2008

These reports are available for US\$8,500.00 each, includes one hard copy and online web access.

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Nexant will provide to Subscriber the following information and services in connection with the Program (collectively, the "Program Information"):

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    - Benzene/Toluene
    - Oxo Alcohols
    - Formaldehyde
    - Nitrobenzene/Aniline/MDI
    - Polypropylene
    - Vinyl Acetates
    - Chlor-Alkali
    - Polystyrene
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