

GREAT AMERICAN GROUP ADVISORY & VALUATION SERVICES

Chemicals, Plastics, and Packaging Monitor October 2011 - Volume 4

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Introduction

Welcome to the fourth issue of the *Chemicals, Plastics, and Packaging Monitor* from Great American Group Advisory & Valuation Services (“GA”). This publication will provide you with market value and industry trends for a variety of chemicals and plastic-based products. The enclosed information represents a composite of GA’s industry expertise, well-respected industry publications, liquidation and appraisal experience, and contact with industry personnel. Due to the commodity nature of certain chemicals and plastic resins, timely reporting is necessary to understand an ever-changing marketplace. In addition, pricing trends are impacted by a number of macroeconomic indicators that should be monitored, and GA strives to contextualize these indicators in order to provide a more in-depth perspective of the market as a whole.

The *Chemicals, Plastics, and Packaging Monitor* relates information covering many chemicals and plastics, including industry trends, market pricing, and their relation to our valuation process. GA provides our customer base with a concise document highlighting the chemicals and plastics industry. Please feel free to utilize our contact information shown in this and all *Chemicals, Plastics, and Packaging Monitor* issues. GA welcomes the opportunity to make our expertise available to you in every possible way.



Trends in Recovery Values

Trend Tracker
NOLVs: Increasing
Sales Trends: Mixed
Gross Margin: Mixed
Inventory: Increasing
Pricing: Mixed

Recovery values for chemicals, plastics, and plastic packaging were mixed in the third quarter of 2011 as compared to the second quarter of 2011, but remained above levels from the same period in 2010. In general, recovery values ranged between two points down and two points up, related primarily to a company’s ability to pass along raw material costs to customers, as well as the lag period between market fluctuations and price adjustments.

In the valuation of chemicals and plastic resins, GA compares the selling price, market price, or acquisition price per unit of the inventory to the cost per unit. GA has presented observations regarding some of the recent trends in Net Orderly Liquidation Values (“NOLV”), but recognizes that these trends should not be generalized to all companies.

Due to lags in updating standard costs or other factors, recovery values may fluctuate significantly from deal to deal. GA recommends that lenders monitor chemicals and plastics deals quarterly, as market prices can shift dramatically based on oil and natural gas prices.

GA internally tracks recovery ranges for various chemicals and plastic resins, but we are mindful to adhere to your request for a simple reference document. Should you need any further information or wish to discuss recovery ranges for a particular segment, please feel free to contact your GA Business Development Officer.

ABOUT GREAT AMERICAN GROUP

GA is a leading provider of asset disposition solutions and valuation and appraisal services to a wide range of retail, wholesale and industrial clients, as well as lenders, capital providers, private equity investors, and professional services firms. In addition to the *Chemicals, Plastics, and Packaging Monitor*, GA also provides clients with industry expertise in the form of monitors for the metals, food, automotive, and building materials industries, among many others.

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EXPERIENCE

GA has worked with and appraised numerous companies within the chemicals, plastics, and packaging industries. While our clients remain confidential, they include well-known and significant global, national, and regional producers and distributors of commodity and specialty chemicals, chemical intermediates, plastics, and resins for uses throughout the construction, automotive, oil and gas, food and beverage, manufacturing, and agricultural industries.

GA has appraised companies such as the following:

- A global manufacturer of chemicals and plastics, a refiner of crude oil, and a significant manufacturer of fuel products, with annual sales of nearly \$20 billion;
- One of the largest global manufacturers and distributors of high-performance polymer resins and resin-based products, with locations throughout the world and sales exceeding \$3.5 billion annually;
- A manufacturer of plastic packaging such as containers, closures, tubes, and bottles, with annual revenue of \$3.5 billion;
- Two of the world's largest producers of integrated fibers and polymers, with annual sales of \$1.4 billion and \$3 billion, respectively;
- One of the nation's leading specialty chemical producers, with annual revenue of over \$1.5 billion;
- Manufacturers and distributors of retail packaging and packaging products such as point-of-purchase displays, protective packaging materials, and pressure-sensitive labels for a variety of industries, including a global company with annual sales exceeding \$5 billion; and
- Manufacturers of flexible packaging products such as specialty bags, sheets, wraps, wrappers, sleeves, and other packaging products for snack food and candy manufacturers, quick-service restaurants, food-service companies, and grocery stores, including manufacturers with annual sales greater than \$300 million.

GA also maintains extensive appraisal experience with a variety of plastic bottle and plastic container manufacturers as well as foam and foam product manufacturers. GA has also appraised a variety of small and middle market commodity and specialty chemical manufacturers and distributors. In addition to our vast liquidation and appraisal experience, GA maintains contacts within the chemicals/plastics industry that we utilize for insight and perspective on recovery values.

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OVERVIEW

CHEMICALS

According to a report by Bloomberg, the low price of domestic natural gas is driving a revival in the U.S. chemicals industry, which, in recent history, has been rapidly moving overseas. Dow Chemical Co. is a leader in the movement to increase U.S. production, with plans to construct new cracker facilities in the U.S. for the first time since 2001.

According to Andrew Liveris, chief executive officer of Dow Chemical Co., “The U.S. now has investment-grade economics, and because of shale we are going to lock those economics in. We can grow our Americas base off our U.S. Gulf Coast assets. This is a big change.”

Dow is not the only manufacturer with plans for expansion. At least three other producers are considering plants on the Gulf Coast, while Shell may build a cracker in Appalachia.

PLASTICS & PACKAGING

According to the *2010 Plastics Research Review*, a publication of BCC Research (“BCC”), the North American transparent plastics market continues to grow. More than 3.3 billion pounds were processed in 2010, and BCC predicts that 4.0 billion pounds will be processed in 2015, a compound annual growth rate of 3.7%.

Plastic format flexible packaging could also be boosted as manufacturers, retailers, and consumers prefer more energy-efficient packaging. According to the Flexible Packaging Association, flexible plastic packaging is lighter, more compact, more resistant to damage, and less environmentally costly to produce than traditional can, bottle, hard plastic, and light and heavy cardboard packaging.

Despite the industry’s growth projections, the business environment has not been friendly to plastic container and bottle manufacturers in recent years. Plastic industry growth was contained during the economic downturn. The demand for plastic packaging is ultimately tied to overall economic growth, which fell significantly in 2008 and 2009. However, as the economy recovers, figures from the plastics industry are improving as well.

GREEN PACKAGING

The projected packaging industry growth comes in the face of increasing interest among consumers in “green,” or environmentally sustainable, living. In recent years, plastic water bottles in particular have been the target of environmental groups and public officials. Plastic container manufacturers have responded to the focus on “green” living by informing the public about the numerous recycling opportunities available for plastic products, as well as reducing the amount of plastic in containers and bottles. A recent analysis released by the International Bottled Water Association indicates that over the past eight years, the average weight of single-serve water bottles has decreased by 32.6%.



RECENT APPRAISAL TRENDS

COMMODITY CHEMICALS

Gross recovery values for commodity chemicals have remained relatively flat in the third quarter of 2011 as compared to the second quarter, as market prices have finally started to stabilize. Gross recovery values remain above year-ago levels, when the industry was exiting the recession.

As the U.S. economy continues to recover, sales within the sector have continued to increase, due predominantly to continued strong demand from downstream manufacturers. Gross margins have been flat to down as prices have stabilized or even decreased for certain commodity products, the result of decreasing oil and gas costs.

SPECIALTY/FINE CHEMICALS

Gross recovery values for specialty/fine chemicals were mixed in the third quarter of 2011 as compared to the second quarter, but remained above 2010 levels. NOLV trends were dependent upon a manufacturer's ability to pass along raw material price increases, and the speed at which such adjustments could be made. Companies that quickly passed along increases tended to experience slight NOLV gains of up to two percentage points, while companies that had difficulty in passing along prices tended to experience equivalent decreases.

Specialty chemical manufacturers continued to experience increased sales in the third quarter of 2011, which is due primarily to increased production in downstream industries.

Consistent with the previous quarter, most manufacturers within the sector have experienced flat gross margins or modest gains, as these producers cannot typically pass along increased costs in short time periods.

PLASTIC RESINS

Gross recovery values for plastics and resins have increased up to two percentage points in the third quarter of 2011 as compared to the second quarter of 2011 and remain higher than year-ago levels. Demand from downstream manufacturers remains high. Feedstock costs have stabilized or, in many cases, decreased.



Plastic and resin producers have experienced relatively flat sales in the third quarter. Gross margins have decreased slightly, as manufacturers have had difficulties in passing along increased input costs. However, as falling commodity prices begin to work into costs, margins should increase.



RECENT APPRAISAL TRENDS

PACKAGING

Recovery values for packaging products have been flat or decreased as many as two points in the third quarter of 2011 as compared to the second quarter. Negative recovery values were primarily driven by adverse changes in gross margin for companies that were unable to successfully pass through raw material price increases.

Sales have been flat or increased slightly, driven by the gradual recovery of the U.S. economy and increased downstream production levels.

Gross margins have decreased slightly, a result of increased commodity costs through the first two quarters of 2011. Plastic packaging manufacturers may maintain pricing contracts with customers that allow for the pass-through of resin costs or establish a fixed dollar-per-unit of gross margin. However, there is typically a lag period between fluctuations in market prices and when a company is able to adjust its own pricing, which results in short-term swings in gross margins.



MONITORING POINTS

Monitoring Point	Impact
Monitor oil and natural gas prices.	As oil and natural gas are the primary feedstocks for a majority of chemicals and plastics, any shifts in pricing would impact downstream prices.
Monitor the state of the automotive and housing markets.	Chemicals and plastics are used in many industries, particularly the automotive and housing markets. As a result, any changes in these markets could significantly impact recovery values.
Monitor inventory levels.	As the majority of commodity chemicals and plastics operations run continuously, significantly high inventory levels could indicate a lack of demand, while significantly low inventory levels could indicate production issues or inventory shortages.
Monitor inventory costing.	Due to the potential for dramatic price shifts, the frequency of updates to standard costs and reserve amounts should be monitored. Changes in market prices may not be reflected in the recovery values if inventory costs are not updated.
Monitor the state of the global chemicals and plastics industry.	The chemicals and plastics industry is significantly impacted by new capacities and global demand. Should expected capacity come online in the Middle East, or should Asian demand not meet expectations, overall market dynamics would be impacted.
Monitor packaging market conditions.	A downturn in the packaging manufacturing industry, or in customer markets such as food service and consumer goods, could have a negative impact on sales. In addition, increased competitive pricing pressures, and/or a decrease in market share could have a negative impact on sales, gross margin, and weeks of supply.
Monitor ICIS, CMAI, <i>Plastics News</i> , and CME for plastic and chemical market prices, as well as the company's acquisition costs and gross margin.	An increase in market price and/or acquisition costs without a corresponding increase in product selling prices would decrease the gross margin. The decline of market prices below the inventory at cost would have a negative impact on recovery values.

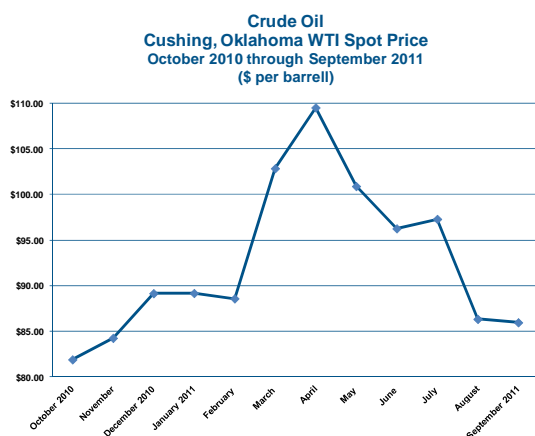
PRICING TRENDS - FEEDSTOCKS

FEEDSTOCKS OVERVIEW

A majority of chemicals and plastics are derived from petroleum or natural gas. Any fluctuations in the prices of these commodities impact the downstream chemicals and plastics sectors.

PETROLEUM

According to data from the Energy Information Administration (“EIA”), West Texas Intermediate crude oil prices averaged nearly \$110 per barrel in April. Since then, prices have fallen considerably, averaging \$85.96 per barrel in September.



According to the EIA, U.S. crude oil inventory for the week ended September 30, 2011 totaled 336.3 million barrels, a decrease of 4.7 million barrels from the previous week. Inventory levels are “in the upper limit of the average range for this time of year.”

On August 5, 2011, Standard & Poor's downgraded the United States' credit rating from AAA to AA+, citing concerns over large amounts of debt and the recently-raised debt ceiling. In reaction, crude oil prices plummeted on Monday, August 8. According to a report by the Wall Street Journal, light, sweet crude for September delivery fell as low as \$82.65 per barrel. In general, oil prices fell more than 10% in one week. Although a decrease in oil costs bodes well for downstream manufacturers, the falling prices underline deeper troubles in the U.S. economy.

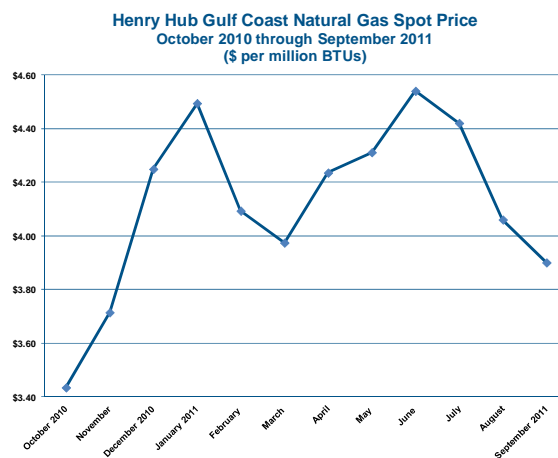
NATURAL GAS

According to estimates from the EIA, working gas in underground storage totaled 3,409 billion cubic feet (“Bcf”) as of September 30, 2011, which represents a 97 Bcf net increase from the previous week.

The following table illustrates working gas in underground storage in the lower 48 states (Units in Bcf):

Region	9/30/11	9/30/10	% Change
East	1,881	1,912	(1.6%)
West	468	497	(5.8%)
Producing	1,060	1,077	(1.6%)
Total	3,409	3,487	(2.2%)

For the week ended September 30, 2011, Henry Hub Gulf Coast natural gas spot prices increased \$0.038 from the previous week, to \$3.81 per million BTUs. On a monthly basis, natural gas hit its low in October 2010, at \$3.43 per million BTUs. Prices climbed through January 2011, when they peaked at \$4.49, before falling to \$3.97 in March. Prices spiked to a new high of \$4.54 in June, before dropping significantly to average \$3.90 in September.



PRICING TRENDS - CHEMICALS

CHEMICALS OVERVIEW

The American Chemistry Council (“ACC”) reports that the U.S. chemicals sector generates \$720 billion annually. Demand is largely driven by industrial production, which has softened in recent months.

Overall U.S. chemical production increased 1.7% in August 2011 versus 2010, according to the ACC, and exhibited gains in all regions but the Gulf Coast. The U.S. Chemical Production Regional Index, which measures production fluctuations from month to month, was flat in August, following a 0.5% decrease in July.



PARAXYLENE (“PX”)

PX is a key feedstock of purified terephthalic acid, which, in turn, is a key feedstock of PET, the plastic used to produce plastic water and soft drink bottles, as well as other polyesters. PX prices in the U.S. tend to closely follow Asian markets. In recent weeks, PX prices have continued to increase, driven by constricted supplies, as well as strong demand from downstream polyester manufacturers.

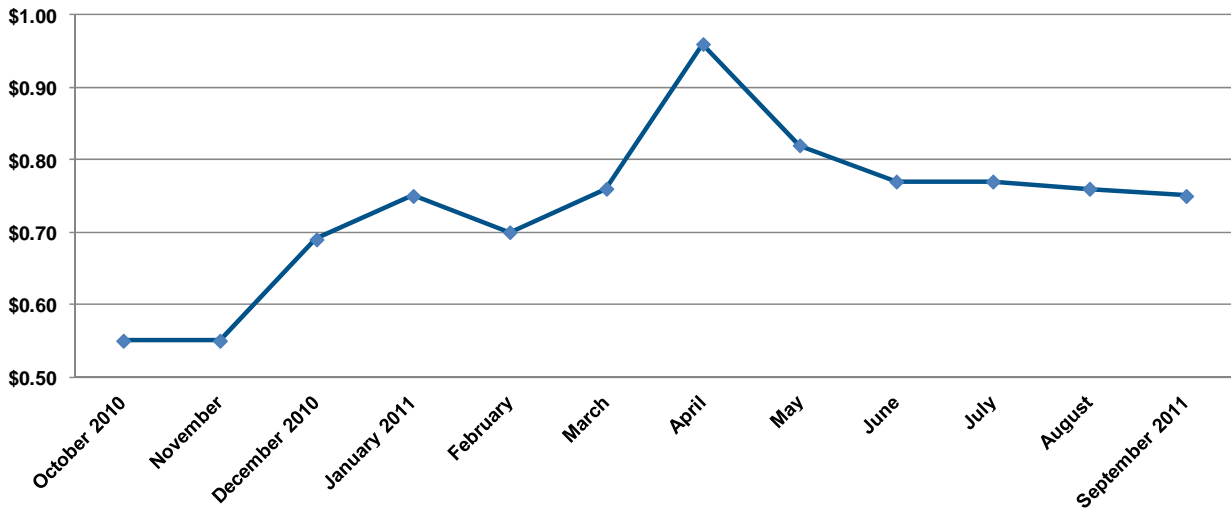
PURIFIED TEREPHTHALIC ACID (“PTA”)

As mentioned above, PTA is a feedstock of polyester, with nearly all PTA utilized in the production of polyester fiber, PET bottle resins, and polyester film. Prices have increased in recent months on the back of higher PX feedstock prices, as well as increased demand for polyester, particularly in Asian markets.

PROPYLENE

Propylene supplies remain fairly low due to a shift to processing natural gas rather than refining oil. Despite the low supplies, prices have remained fairly steady for four consecutive months. Some industry experts are predicting that the new trends toward natural gas cracking will require dedicated propylene producers to come online in the near future to prevent supply from falling below demand.

Propylene - Monthly Spot Bulk Prices
October 2010 through September 2011
(\$ per lb)

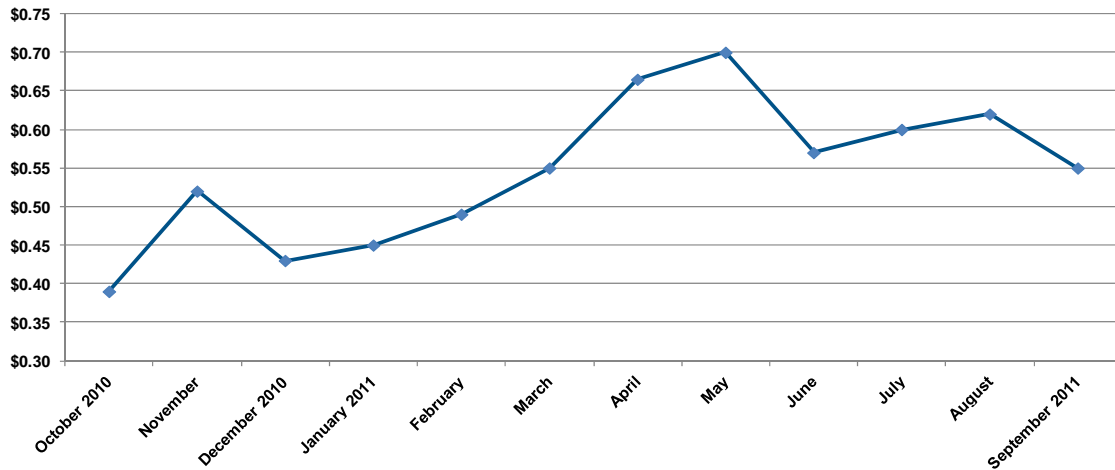


PRICING TRENDS - CHEMICALS

ETHYLENE

Ethylene margins decreased significantly over the course of September, as spot market prices tumbled while production costs increased, driven by higher costs of ethane feedstocks. The decrease in spot market prices has been attributed to increased supplies, as well as falling demand. Going forward, however, producers, including Dow Chemical, believe that demand is set to exceed supply.

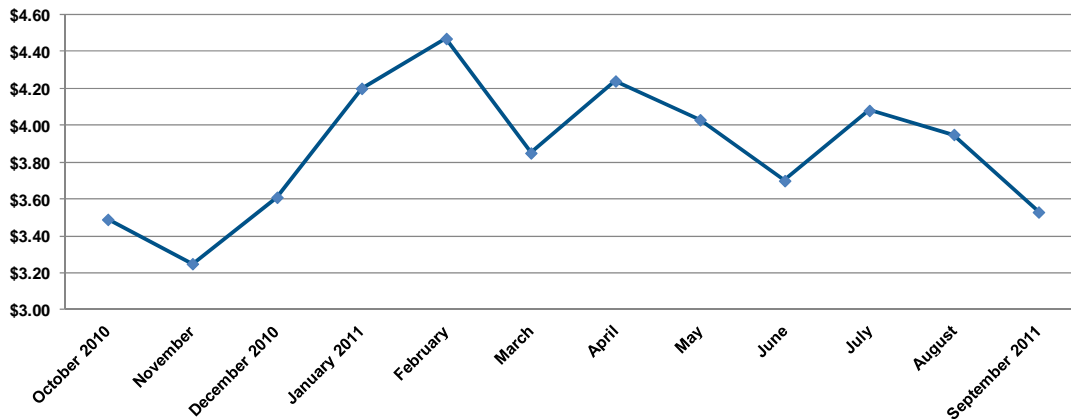
Ethylene - Monthly Spot Bulk Prices
October 2010 through September 2011
 (\$ per lb delivered)



BENZENE

In recent months, benzene prices have fallen significantly. The decline is partially attributable to falling crude oil prices, as benzene is a petroleum-based chemical. Preliminary reports indicated that prices fell even further going into October, with some industry insiders quoting a 21% decrease from September to October. The decline has also been spurred by weak demand, particularly from downstream styrene manufacturers.

Benzene - Monthly Spot Bulk Prices
October 2010 through September 2011
 (\$ per gallon FOB)



PRICING TRENDS - PLASTIC RESINS AND POLYMERS

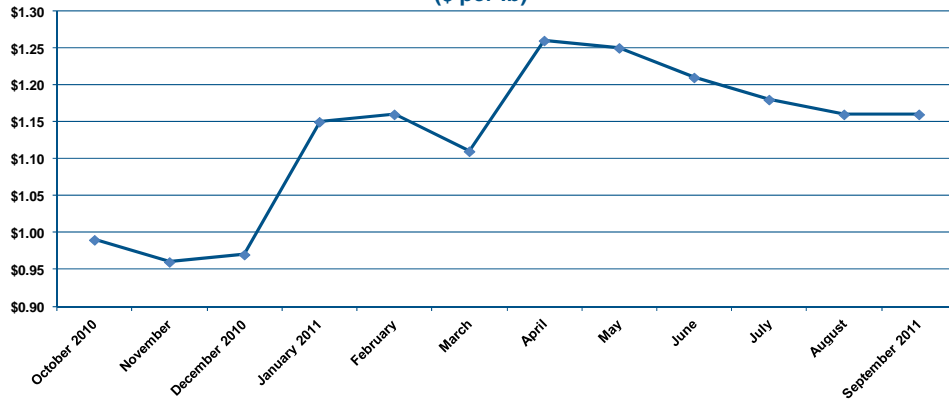
PLASTIC RESINS AND POLYMERS OVERVIEW

According to a report by the American Chemistry Council, U.S. plastic resin production increased 2.0% in July 2011 versus 2010, with production totaling 6.6 billion pounds. Sales and captive use for the month totaled 6.4 billion pounds of major plastic resins, which represents a 3.4% decrease from July 2010. Year-to-date, production has increased 1.0% from 2010, to 44.4 billion pounds. Sales and captive use have increased 0.6% in 2011, to 43.6 billion pounds.

POLYPROPYLENE

In the second quarter of 2011, polypropylene prices rose on the back of increased propylene feedstock costs. In recent months, however, prices have remained fairly consistent, once again due to fairly constant upstream propylene costs. Going forward, however, prices may increase, as propylene stocks may constrict in the coming year, which will have an immediate impact on polypropylene.

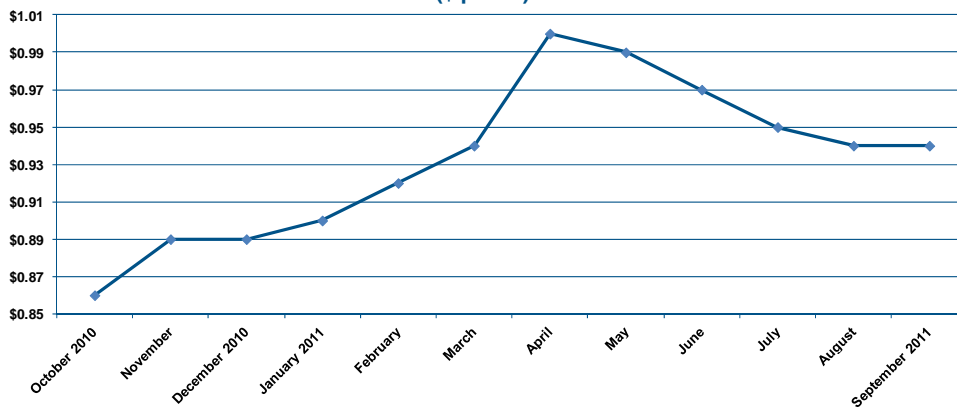
Polypropylene - Monthly Spot Bulk Prices
October 2010 through September 2011
(\$ per lb)



POLYETHYLENE

Polyethylene may be the world's most widely-used plastic. Its primary applications are the production of downstream flexible packaging products, such as plastic bags and films. Prices for high density polyethylene have fallen from a peak of around \$1.00 per pound in April to \$0.94 per pound in September. Industry experts attribute the decrease in polyethylene prices to excess ethylene supply, as well as lower feedstock costs.

HDPE - Monthly Spot Bulk Prices
October 2010 through September 2011
(\$ per lb)



PRICING TRENDS - PLASTIC RESINS AND POLYMERS

POLYVINYL CHLORIDE (“PVC”)

U.S. demand for PVC continues to stagnate, largely due to poor performance in the housing and construction industries, as these markets represent a large sales base for PVC products, such as pipe and conduit. The domestic decline is partially offset by international demand, as low costs have resulted in high levels of exports. Some experts estimate that up to 40% of domestic PVC production is sold through the export market.

On a pricing basis, PVC has remained relatively stable in recent months, due largely to the poor domestic demand and excess of supply. Prices should remain fairly constant for the foreseeable future, until the housing industry undergoes a significant recovery and demand improves to historical levels.



POLYETHYLENE TEREPHTHALATE (“PET”)

PET prices rose in both August and September after three months of fairly consistent pricing. The recent increases are the result of steadily increasing input costs, particularly for PX and PTA. PTA is the primary feedstock for PET, while PX is a feedstock of PTA.

In producer news, DAK Americas recently acquired the U.S. PET resins business of Wellman.

According to recent reports, Coca-Cola Great Britain is in the process of replacing its conventional PET bottles for Coca-Cola, Diet Coke, and Coke Zero with PlantBottle, which consists partially of plant-based plastics. PlantBottles are 22.5% plant-based material and up to 25% recycled PET.



Coca-Cola expects that there will be over 200 million PlantBottles on shelves in the United Kingdom in 2011. Globally, the company expects five billion PlantBottles to be circulated through 20 countries.

POLYSTYRENE

Polystyrene prices have increased up to 30% over the past year, driven by increased feedstock costs. In industry news, California is currently a leader in the effort to ban plastic foam containers. According to a report by KABC Los Angeles, Senator Alan Lowen has penned a bill that intends to ban restaurants, grocers, and other commercial businesses from serving food in polystyrene containers. If the bill is passed, such regulations would begin in 2016. Many of the businesses that would be impacted oppose the bill, stating that alternative packaging would take away from already tight margins.

CHEMICALS AND PLASTICS REFERENCE SHEET

Chemicals and plastics pricing trend changes for the third quarter 2011 versus the second quarter 2011 are as follows:

	% Change		% Change
Commodity Chemicals		Commodity Plastic Resins	
Propylene	(5%)	Polypropylene	(5%)
Ethylene	(5%)	Linear Low-Density Polyethylene	(5%)
Toluene	(5%)	Low-Density Polyethylene	(5%)
Benzene	(5%)	High-Density Polyethylene	(5%)
Styrene	5%	Polystyrene	5%
Methanol	5%	PVC	0%
Phenol	(10%)	Recycled PE	10%
Butadiene	(15%)	PET	5%
Paraxylene	0%	Feedstocks	
		Oil	(15%)
		Natural Gas	(15%)