

# Raw Materials Update

## Q2 2017

### Macro-Economic Overview

The global economy was strong in Q1, which raised expectations for a solid 2017. Global GDP growth is projected to pick up from 2.5% in 2016 to 3.0% this year. US GDP growth in Q1 disappointed at 0.7% (recently revised up to 1.2%), but conditions are favorable with confident consumers, strong employment and low energy costs. Recent reports suggest the US economy is continuing to advance steadily in April-May with most businesses optimistic.

### North America Inflation Update

As we wrote to you in April, Q1 had unexpectedly strong global demand for materials accompanied by chemical supply interruptions and delays. This resulted in extraordinary inflation across many direct and indirect material categories. The most prominent cost increases came from adhesives, films and coatings. Some primary petrochemical inputs for adhesives and films spiked over 25% in less than 60 days.

When we wrote to you, we were hoping for some relief in Q2, which we have seen with polyester component price increases slowing in March, polypropylene increases slowing in April and most acrylic increases slowing in May. It appears that the worst inflationary conditions are over, but cost levels will remain high for much of 2017. At this point, we expect material costs overall to correct over the next 6-12 months to a rate of low single-digit year-over-year increase.

### Adhesives & Chemicals

**Acrylic Adhesives:** Monomer price hikes in the first half of 2017 increased by as much as 40% over the average prices of 2016 primarily driven by supply issues and capacity related delays. New propylene capacity is expected to come on-line in Q3 and the supply/demand balance should stabilize. Solvents also saw upward pressure in the first half of 2017, an area forecasted to moderate the rest of the year.

**Hot Melt:** Prices for synthetic rubber components and tackifiers spiked in Q1 following high auto/tire demand in Asia, a flood in Thailand and production outages. The price of butadiene, for example, doubled in Q1 2017 and is only now starting to retreat back toward 2016 levels. We expect a more stable outlook for the remainder of the year.

**Silicones:** Silicon metal and platinum pricing remain stable.

### Paper

NBSK pulp has been increasing every month this year, following demand increases for fluff pulp (for diapers, etc.) and tissue. Prices

are not expected to stabilize until June. Demand for thermal coated paper continues to rise with the shift from retail to e-commerce.

### Film

#### Polypropylene

Volatility with propylene monomer driven by supply issues spilled over to the polypropylene segment driving significant price increases in Q1 (30%). Pricing has subsided a bit in Q2 due to supply and demand fundamentals coming back into balance. Pricing is expected to remain stable in Q3 and Q4, but there are signs of a potential "bull market" which could drive pricing upwards from the perceived Q2 bottom.

#### Polyethylene

Strong demand in Q1 coupled with higher than expected feedstock prices and cracker maintenance/outages led to a run up in pricing (10%). This trend was expected to continue into Q2, but improved resin availability and soft demand has led to a substantial inventory build, driving pricing from flat to slightly down. With the Q2 inventory build and incremental

production capacity set to come online later this year, pricing should be stable in Q3 and Q4 with some potential upside.

#### PVC

Prices have trended upward \$0.05/lb during the first half of 2017 and then are forecasted to gradually reduce by \$0.04/lb toward the end of the year.

#### Polyester

Feedstock pricing dramatically increased in Q1 (mainly Ethylene Glycol - 20%) due to producers taking advantage of global economics while looking to expand their margins. This has led many PET suppliers to issue two separate general price increases into the marketplace. Q3 and Q4 outlook is that pricing will remain stable as fundamentals come back into balance.