

March 2021

MARKET OVERVIEW

- The U.S. raw material market is still recovering from the effects of Hurricane Uri while end-market demand continues to grow, driving continued tightness in the market
- ICIS estimates that ~20% of US total chemical capacity is still offline following the polar storm
 - Some plants have begun gradually restarting but the disruption is expected to last from weeks-months as the return of production will slowly ripple through the supply chain
 - Issue is that security of supply is a key focus for many customers and downstream users may have to close production facilities in order to manage costs while feedstocks remain unavailable
- Globally, petrochemical prices have been at record highs driven by recent strong demand and reduced supply, which has only been exacerbated by the winter storms and disrupted logistics
- Additionally, the global tightness has also led to “panic buying” in some consumer industries that are desperate to maintain security of supply as demand increases → further exacerbation
- The high commodity petrochemical price environment is likely to persist given current constraints of supply and current patterns of demand, but production volumes will return gradually through 2021



- The underlying issues will not be solved in the short term:
 - COVID-19 impact on staffing, production facilities, ports, logistics; quarantined production removes days of labor, and maintenance on sites is slowed due to reduced on-site labor
 - Population shifts → labor relocation from high-cost areas
 - PPP favored unemployment vs. return to work

“For every container that cannot be unloaded in one place is a container that cannot be loaded somewhere else”

STATE OF THE RESIN MARKET

- Price Increase Announcements Feb/Mar 2021
- Products highlighted in **RED** have supply on Force Majeure

ABS	NYLON	PE	PP	PVC
ASA	PBT	PMMA	PP-ENG	SAN
CPE	PC	POM	PS	TPU

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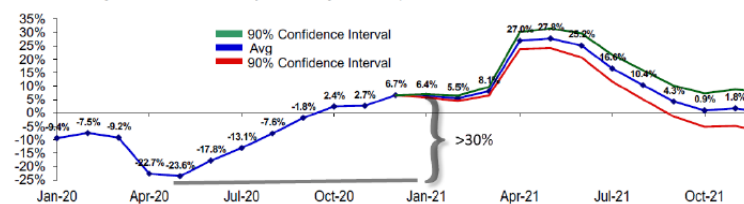
FREIGHT DEMAND FORECAST

The Cass Shipment Index

- Compares the monthly YoY percentage change in shipper volume over the entire nations supply chain
- The sudden rebound in demand has caused **a 30% upswing in freight activity** throughout our nation's already congested network

Cass Shipment Index Trends & Straight-Line Forecast

Exhibit 19: Straight-Line Forecast for Monthly YoY % Change in Cass Shipment Index



Source: Cass Freight Index, Morgan Stanley Research

FREIGHT CONGESTION

Significant logistical concerns exist. There is expected to be a shortage of trucks and railcars to meet the surge in high demand, which will likely result in bottlenecking. Finding sufficient freight will be a major challenge.

Port of Los Angeles & Long Beach California March 2, 2021



<https://www.radar-live.com/p/ship-radar.html>

RAW MATERIAL / PLANT RESTARTS (Since March 4th)



Plant restarts for Base Oils:
Princeton, LA



Plant restarts for Butadiene:
Houston, TX



Plant restarts for PE:
Matagorda, TX; La Porte, TX;
Victoria, TX; Chocolate Bayou, TX
Plant restarts for PP:
Lake Charles, TX, Bayport TX
Plant restarts for PO/Styrene:
Channelview, TX
Plant restarts for Olefins:
Channelview, TX



Plant restarts for Olefins/PE:
Cedar Bayou, TX
Plant restarts for Gasoline/Refined Products:
Pasadena, TX



Plant restarts for Methanol:
Clear Lake, TX



Plant restarts for Methanol:
Beaumont, TX



Plant restarts for Isocyanate:
Geismar, LA