



human energy®

Pricing Support Deck

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Factors Affecting Finished Lubricant Cost

To understand the reasons for the rise in cost of finished lubricants, it's first important to understand the components that make up a finished lubricant product.

A finished lubricant product is made up of the following raw materials and components:



BASE OILS

“Basic lubricant building block.”

Makes up 80-99% of finished product

Factors Affecting Cost of Bases Oils

- Crude oil prices which determine the feedstock costs for base oils
- Competition for feedstock availability for other uses
- Supply/demand balance or capacity versus consumption

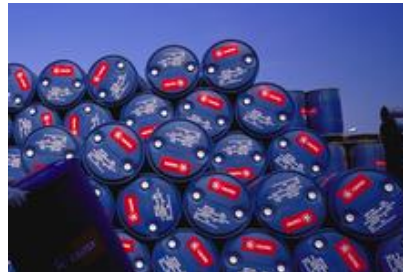


ADDITIVES

“Used to enhance the performance of an oil”

Factors Affecting Cost of Additives

- Crude oil prices, as many additives are derivatives of petrochemicals
- Base oil prices, as most additives contain base oil
- Supply/demand balance or capacity versus consumption



PACKAGING

“Ensures safe handling and consumer convenience”

Factors Affecting Cost of Packaging

- Crude oil prices, as plastics are derivatives of petrochemicals
- Steel costs driven by ore costs and milling capacity
- Supply/demand balance or capacity versus consumption



OTHER COMPONENTS

- Import Duties
- Freight Cost
- Manufacturing Cost

Single Biggest Finished Lubricant Cost Driver

Base Oil

- The biggest component affecting the price of a finished lubricant is the cost of base oil.
- Base oil makes up 80-99% of the total finished lubricant by volume.
- Base oil is also used in the manufacture of lubricant additives and quite often an increase in the cost of base oil will also lead to an increase in the cost of additives.



What is Driving Base Oil Prices?



Feedstock costs:

- “Due to the dramatic rise in feedstock prices, blenders have announced additional increases between 3% and 16%, scheduled to be implemented in April.” ([Lubes’n’Greases – U.S. Base Oil Price Report - March 9, 2021](#))
- “Blenders were not only affected by the higher raw material costs and the lack of base oils, but of additives as well, and as a result a number of lubricant manufacturers reduced or halted production temporarily, and several placed customers on allocation.” ([Lubes’n’Greases – U.S. Base Oil Price Report – April 21, 2021](#))
- “Crude futures finished higher, on optimism surrounding global oil demand recovery.” ([ICIS Pricing – Base Oil Report – April 27, 2021](#))
- “The increases were driven by the extremely tight supply conditions, healthy demand and higher production costs, including crude oil, feedstocks and transportation. .” ([Lubes’n’Greases – U.S. Base Oil Price Report – April 28, 2021](#))

Base Oil Demand:

- “Several producers announced posted prices increases, driven by extremely tight supply conditions, rising crude oil and feedstock prices and steady demand. These adjustments followed the onset of a fresh round of price hikes that a few suppliers had started last week”. ([Lubes’n’Greases – U.S. Base Oil Price Report - February 24, 2021](#))
- “The unplanned shutdowns exacerbated an already tight supply and demand scenario”. ([Lubes’n’Greases – U.S. Base Oil Price Report - March 10,2021](#))
- “Demand may be tempered by limited availability of additives, which could affect downstream run rates.” ([ICIS Pricing – Base Oil Report – April 27, 2021](#))

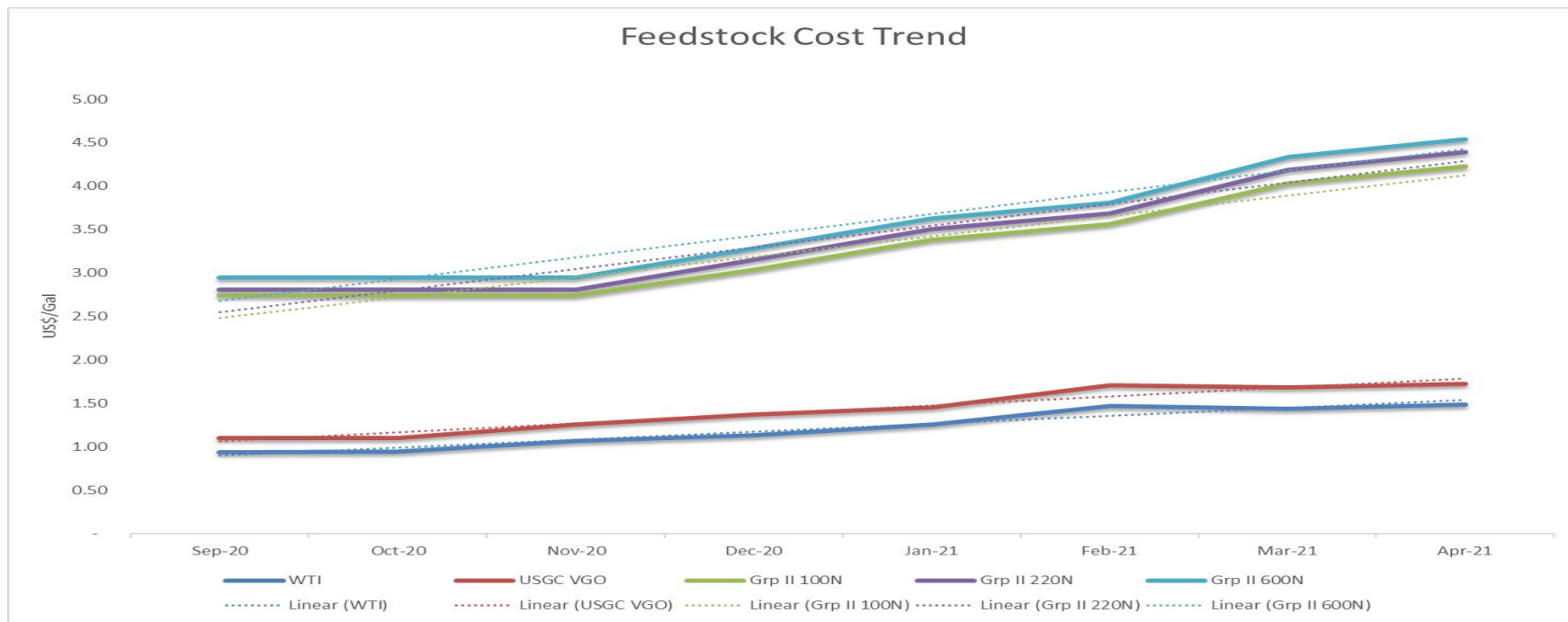
Supply for Base Oil:

- “Several producers in need of completing repairs caused by the storm were also dealing with disruptions in the supply chain and labor shortages due to coronavirus-related precautions.” ([Lubes’n’Greases – U.S. Base Oil Price Report – April 21, 2021](#))
- “The strained supply and demand ratio has been plaguing the base oils market since the third quarter of last year, when a number of hurricanes forced plants along the United States Gulf Coast to shut down. More recently, freezing temperatures along a large swath of the U.S. caused power outages and structural damages at several refineries and petrochemical plants in mid-February. These unexpected shutdowns, together with concurrent turnarounds, exacerbated the already snug supply conditions.” ([Lubes’n’Greases– U.S. Base Oil Price Report – April 28, 2021](#))



Base Oil and Feedstock Prices

Group II Base Oil Trend

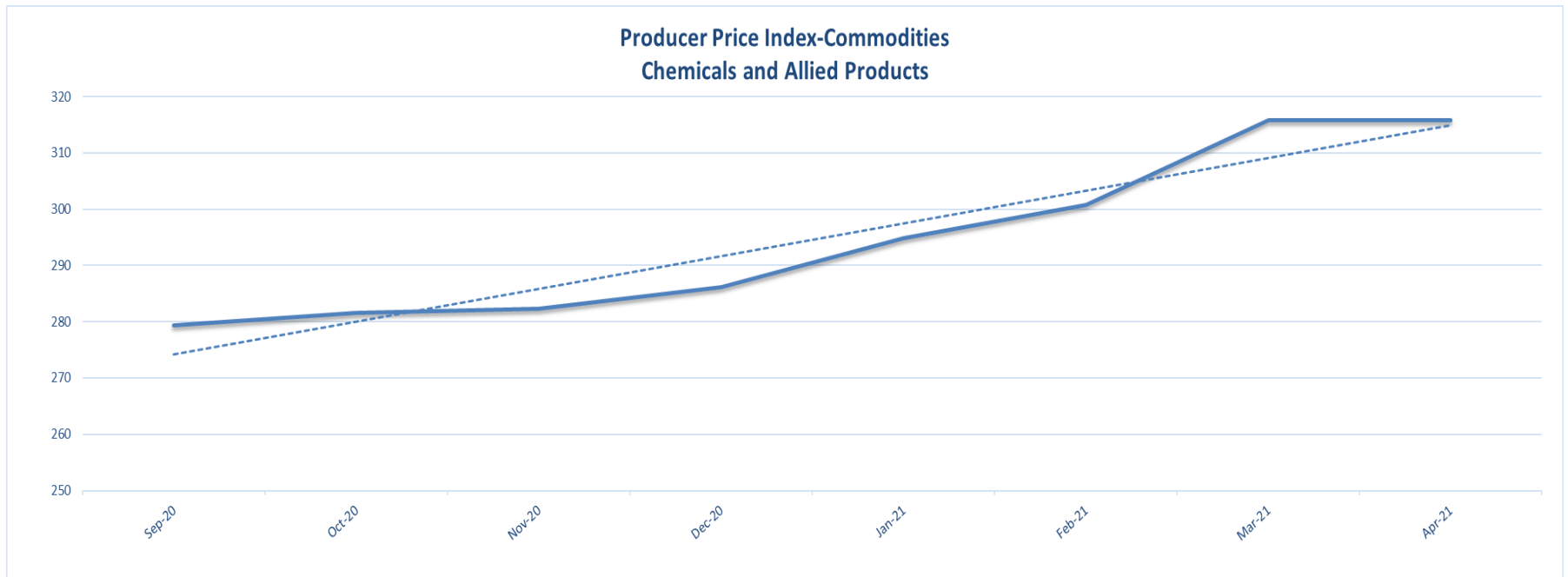


- USGC G2 average postings (Motiva, Excel Paralubes and Chevron)
- WTI crude increased by 60% since September 2020 and by 30% since year-end.
- VGO had an upward trend similar to crude.
- Group II base oil cost rose by 55% since September 2020, driven by five price increases due to tight supply conditions and higher crude prices.



Other Finished Lubricant Cost Component Additives

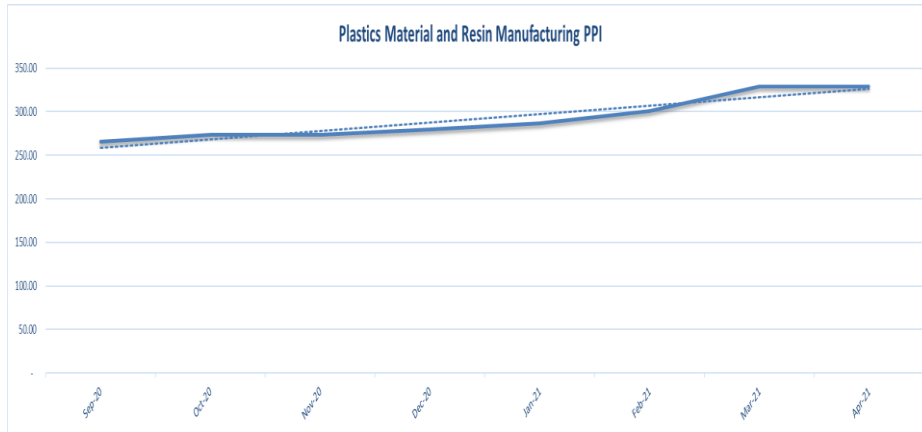
- The index below (PPI for Chemicals and Allied Products) was used as a representation for additives components.
- The data indicate an increase of 13% since September 2020 and 10% since year-end 2020.



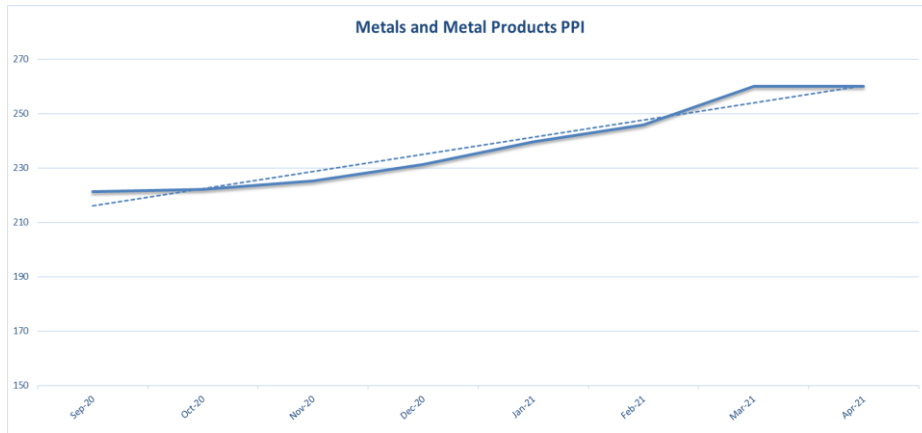
Source: United States Department of Labor, Bureau of Labor Statistics



Other Finished Lubricant Cost Component Packaging Cost Trend



- Plastics Material and Resin Manufacturing PPI increased 25% since September and 18% since December 2020.



- Metals and Metal Products PPI increased 11% over the last nine months. Since year-end 2020, the data indicate an upward trend of 6%.

Source: United States Department of Labor, Bureau of Labor Statistics



General Overview

An upward trend in all cost components since 3Q2020. The recent increase in base oil costs is driven by higher crude oil prices and supply constraints since the hurricane season which was followed by severe winter conditions in the United States.



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