



human energy®

Pricing Support Deck

July 11, 2022



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.”

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

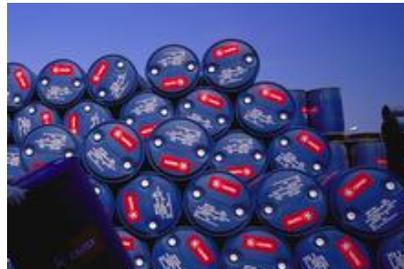


ADDITIVES

“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 Feedstock Prices?

Feedstock costs:

- “A vast majority of suppliers increased base oil postings, depending on the grade and the supplier, between June 14 and June 27. On the additives side, sources reported that two major additive producers have communicated price increases of up to 15%, expected to go into effect between June 27 and July 1.” ([Lubes'n'Greases – U.S. Base Oil Price Report – July 6, 2022](#))
- “Base oil initiatives were prompted by high crude oil and feedstock values, climbing production costs due to inflation, reduced vacuum gas oil availability and a tight base oil supply/demand ratio.” ([Lubes'n'Greases – U.S. Base Oil Price Report – May 25, 2022](#))
- “Base oil production has also been affected by refiners’ decisions in terms of fuel production versus base oils.” ([Lubes'n'Greases – U.S. Base Oil Price Report – May 18, 2022](#))
- “The ongoing Russian war on Ukraine continues to impact global crude oil supply, natural gas and refined product prices as bans on Russian imports were implemented by the U.S. and the European Union.” ([Lubes'n'Greases – U.S. Base Oil Price Report – May 25, 2022](#))

Demand:

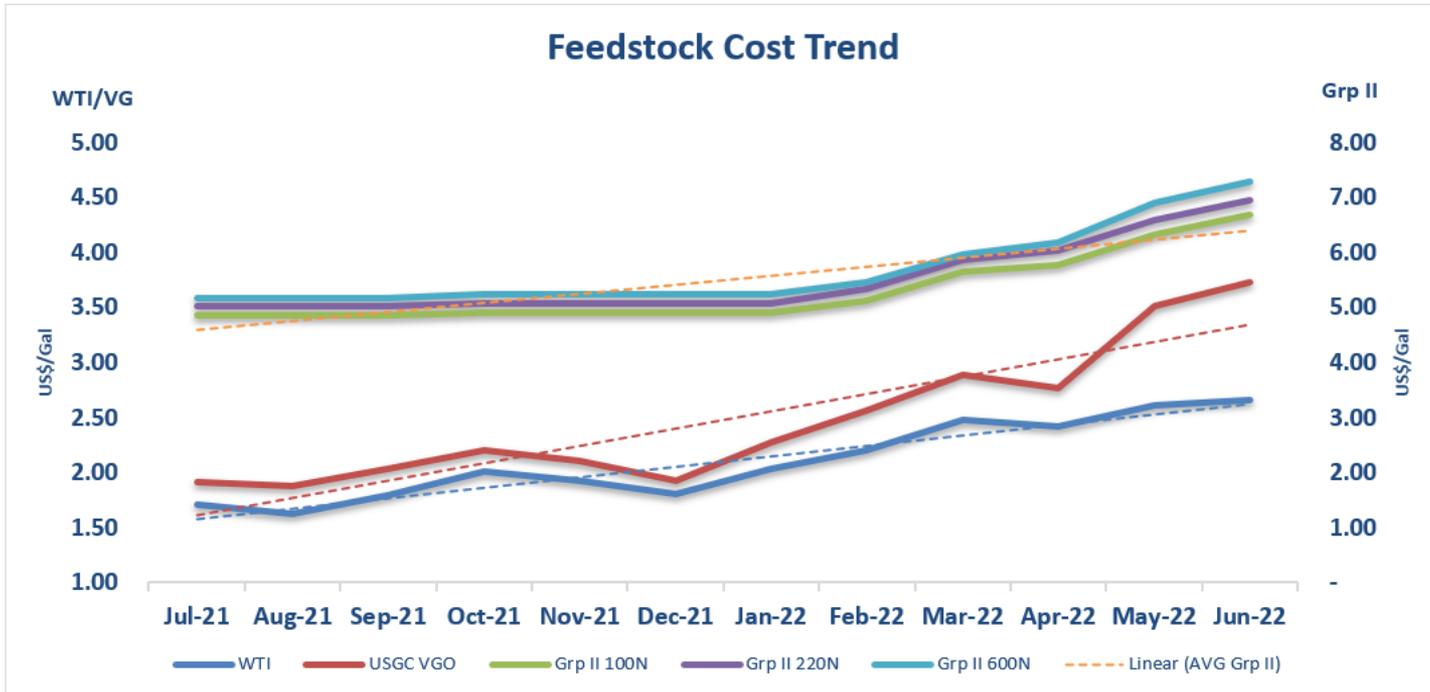
- “There has also been strong buying interest for U.S. base oil exports from Europe and Latin America over the last three months.” ([Lubes'n'Greases – U.S. Base Oil Price Report – July 6, 2022](#))
- “Preparations for emergency inventories were underway ahead of the start of the hurricane season in the Atlantic Basin, and buyers sought to secure additional base oil volumes” ([Lubes'n'Greases– U.S. Base Oil Price Report May 18, 2022](#))

Supply:

- “An additive producer has communicated a price increase on its automotive additives, plus its liquid viscosity improvers, of up to 15%, with other products from the same supplier increasing by up to 10%. These increases were expected to go into effect on July 1. This was the third round of additive increases since the beginning of the year. ([Lubes'n'Greases– U.S. Base Oil Price Report – June 8, 2022](#))
- “The additive segment has been plagued by production issues and other conditions leading to supply shortages” ([Lubes'n'Greases– U.S. Base Oil Price Report – June 8, 2022](#))
- “Transportation and logistics problems persisted, with suppliers expressing concern at the rising freight costs and the inability to meet delivery deadlines due to a lack of truck drivers and other staffing issues.” ([Lubes'n'Greases Special Report – Vol 28 Issue 2, 2022](#))
- “Record gas prices run the risk of climbing even more as a busy hurricane season could potentially result in refinery shutdowns.” ([Lubes'n'Greases– U.S. Base Oil Price Report – June 8, 2022](#))



Feedstock Price Trends

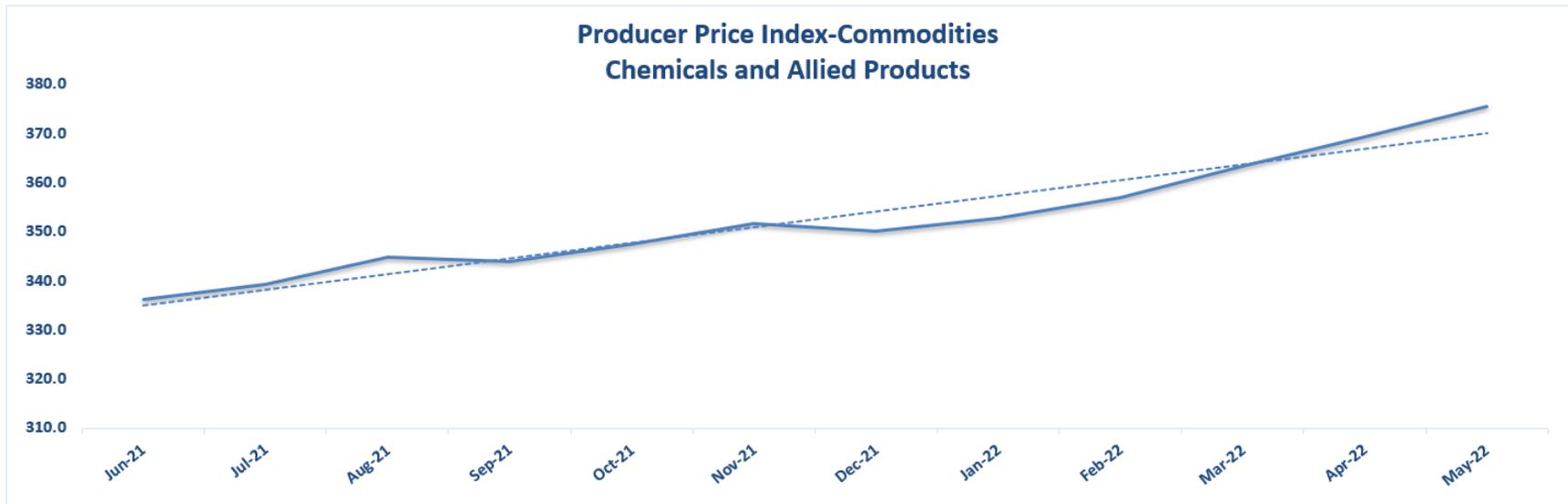


- USGC G2 average postings (Motiva, Excel Paralubes and Chevron)
- WTI crude increased by 53% since July 2021 and by 44% since year-end 2021.
- VGO rose by 84% since mid-2021 and by 82% since year-end 2021.
- Continued higher trend in Group II base oil cost (up 35 – 40 cpg since May) driven by higher crude oil/feedstock prices, squeezed margins, and tight base oil supply
- Continued rising transportation, labor, and energy costs were additional factors thought to be driving the increases.



Other Finished Lubricant Cost Component Additives

- The index below (PPI for Chemicals and Allied Products) was used as a representation for additives components.
- Many additive producers announced a third round of price increases (up to 15%) since the beginning of 2022, driven by raw materials shortages and production issues.
- Capacity constraints drove higher inbound logistics costs also impacted total additives cost.

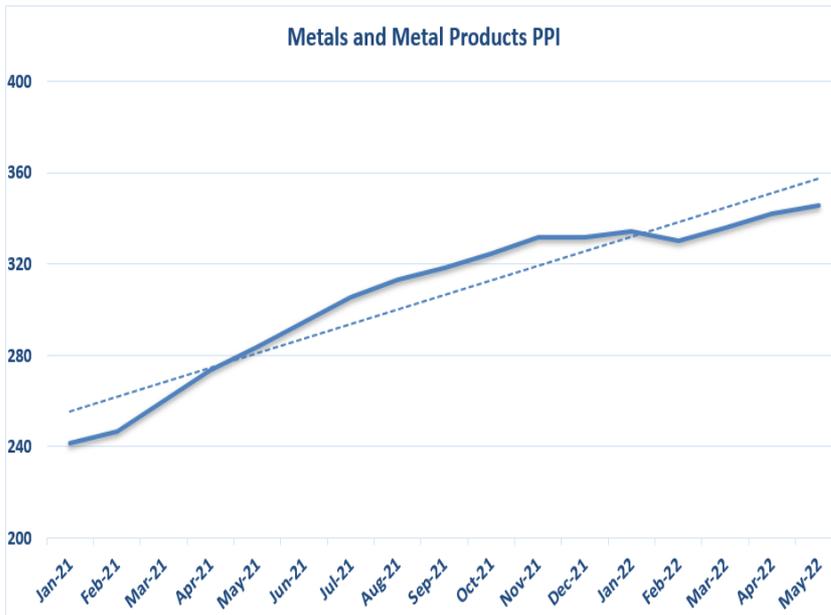


Sources: [United States Department of Labor, Bureau of Labor Statistics](#); Lube Report



Other Finished Lubricant Cost Component

Packaging Cost Trend



- Metals and Metal Products PPI increased 17% since 2H2021. The data indicates another 5% over last 90 days.
- Lubricant's producers continue to struggle with inventory of drums, totes, and other types of packaging in which to ship their products to their customers. This lack of steel supply is a key driver in the upward trend in pricing.
- Rising inbound logistics cost due to imbalances in equipment and driver shortages affected total packaging cost.

Sources: [United States Department of Labor, Bureau of Labor Statistics; Lube Report](#)



General Overview

Data show a continued upward trend in all cost components. The increases are driven by tight supply conditions, healthy demand, firm feedstock and crude oil prices, and rising production costs. Lubricant producers continue to be impacted by growing additives and packaging costs due to a climbing trend in raw materials cost and higher logistics rates. Tight capacity, lack of drivers and higher driver diesel prices drove the higher in-bound logistics freight rates.



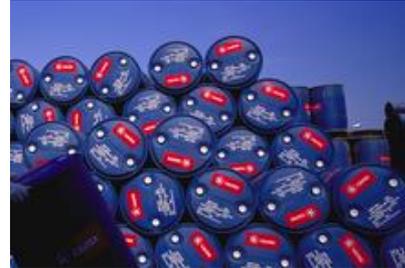
BASE OILS

“Basic lubricant building block.”



ADDITIVES

“Used to enhance the performance of an oil”



PACKAGING

“Ensures safe handling and consumer convenience”



OTHER COMPONENTS

- Import Duties
- Manufacturing Cost
- In-Bound Logistics Cost

