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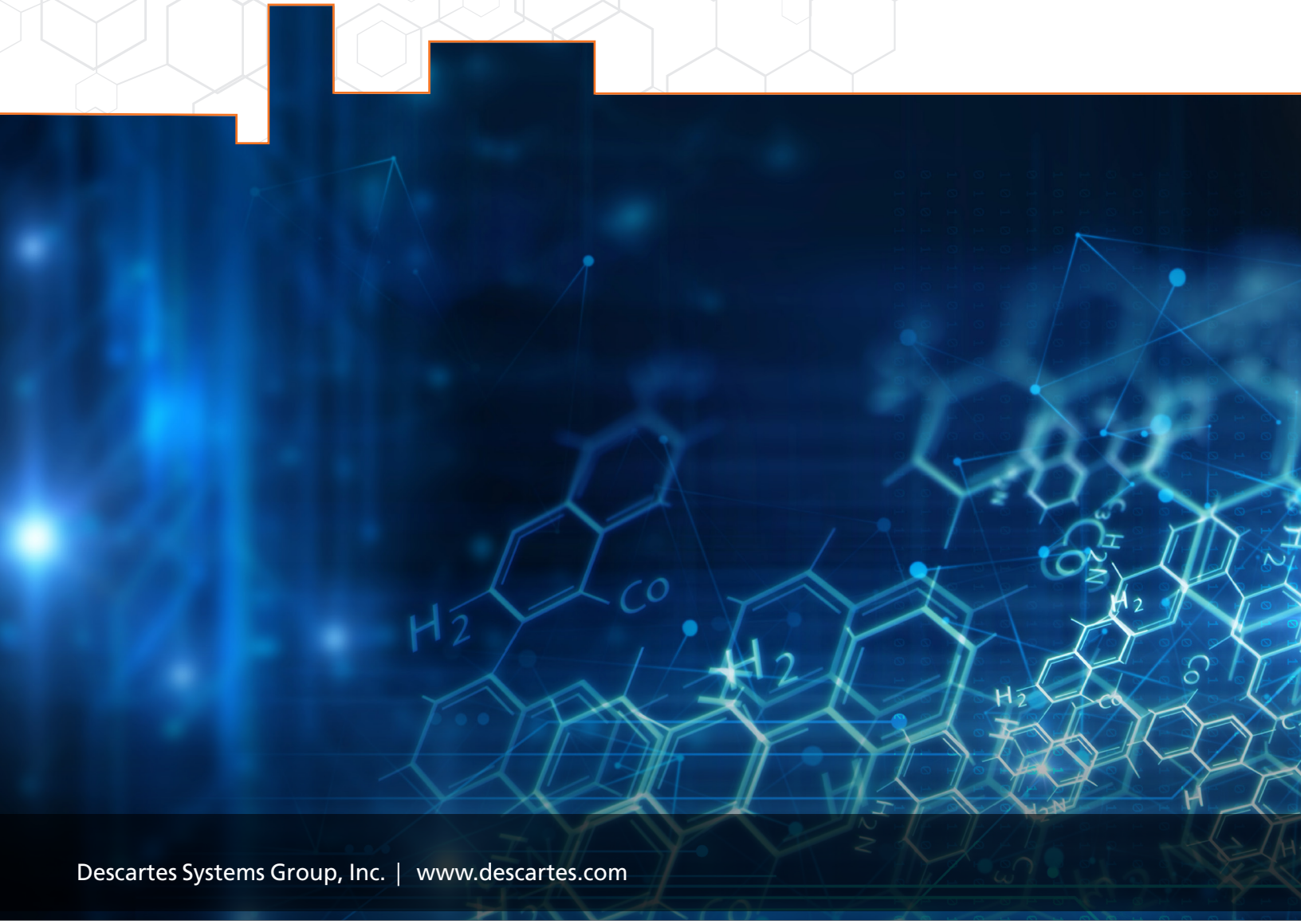
The Chemicals Industry In-Focus

A Close Look at the Benchmark Chemical Sodium Hydroxide, 2020 Market Review And Analysis



Introduction

Falling under Chapter's 28 and 29 of the U.S. Harmonized Tariff Schedule, the chemical industry is a cornerstone of the United State's domestic economy. It is one of the largest manufacturing industries in the country, catering to both large domestic demand and an expanding global market.

Accounting for 18% of global chemical shipments, the United States is a world leader in chemical production and exports and generates well over $500 billion USD in sales annually.

The importance of the chemical industry to the U.S. market cannot be understated, with basic, specialist, and consumer chemicals combining for nearly 15% of total U.S. trade.

Over the past several years, overall total sector growth has been led by exports of petrochemicals and the industry is poised to help narrow the U.S. trade gap. Strong investment has created production facilities that far outstrip domestic need and cheaper energy supplies combine to make U.S. chemicals highly competitive. Only trade tensions with China, a top market for U.S. exports overall, impair an otherwise healthy industry.

This white paper examines how benchmark commodities like sodium hydroxide, otherwise known as caustic soda or lye, can help businesses keep a pulse on the overall health of the industry and make better decisions.

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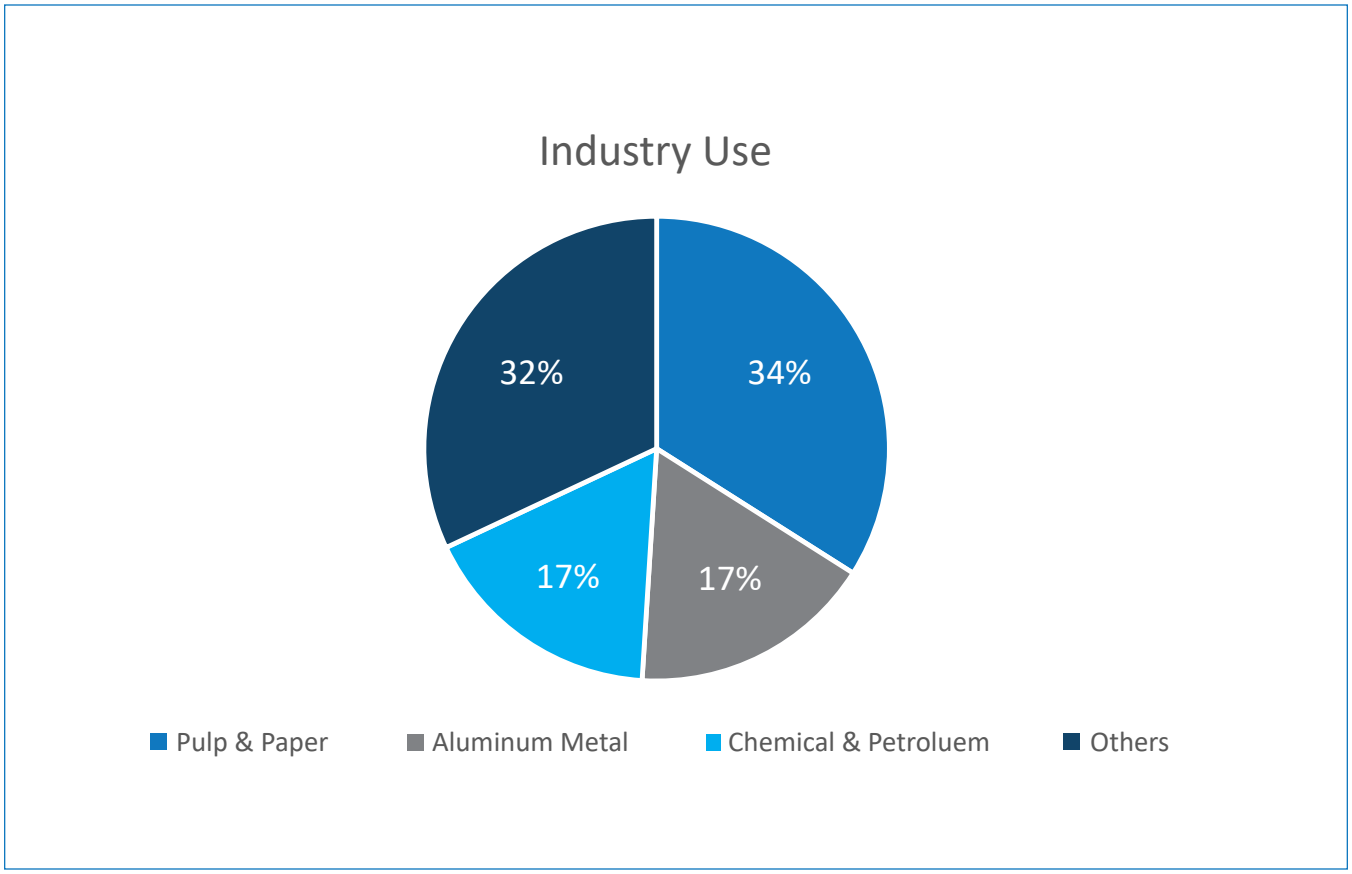
What is Caustic Soda?



Caustic soda is utilized as a raw material across several key industries including chemical, automotive, water treatment, and food and beverage. On account of its easy availability and affordability over its substitutes, it is regarded as one of the preferred chemical compounds employed to control acidity and remove heavy metals from water. Caustic soda is also used in the production of paper wherein it helps dissolve unwanted materials in wood pulp. Similarly, it helps separate ink from the fibers in paper recycling.

Sodium Hydroxide (Caustic Soda) is a relatively simple man-made inorganic compound comprised of sodium cations Na+ and hydroxide anions OH-. It is industrially prepared through the electrolytic Chlor-alkali process in which the electrolysis of aqueous sodium chloride solution produces chlorine gas and sodium hydroxide.

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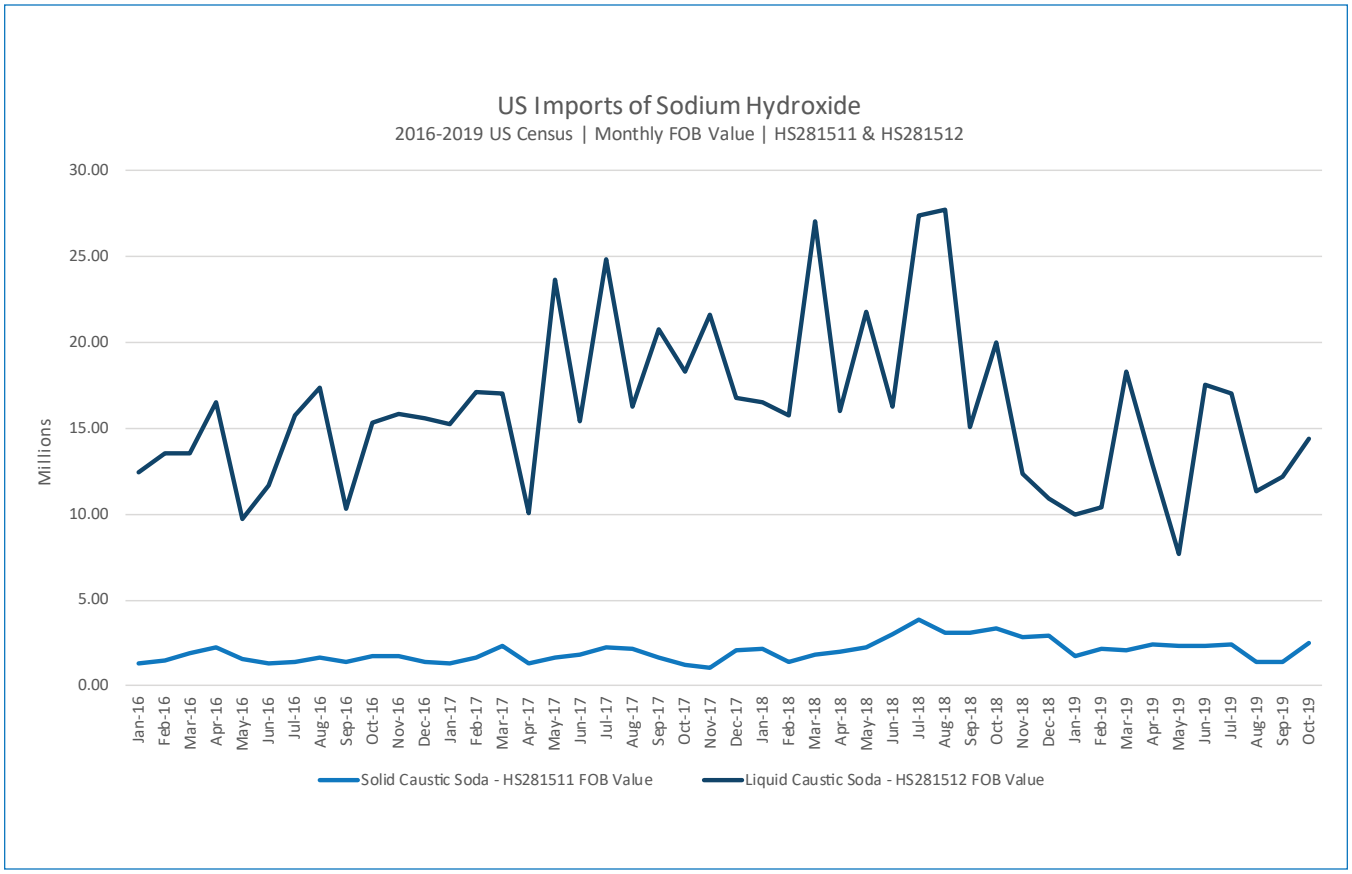
U.S. Imports: Caustic Soda



U.S. imports of Sodium Hydroxide (HS281511 & HS281512) as measured by total FOB value declined throughout 2019 compared to their peak in Q3 2018. Despite multiple price increases, overall FOB value has continued to fall. This not only impacts U.S. imports—most countries around the world have seen an erosion over the last year.

Comparing U.S. production over the past two years, as made available by the Chlorine Institute a chlor-alkali trade association, details a surplus in supply coming into Q1 2019. This was a factor in decreased imports and, as 2019 continued, these inventories depleted; however, there was only a slight rebound in import values.

This is the opposite of what should be expected of declining domestic inventories. This suggests a sharper fall in U.S. demand than anticipated by market watchers, as well as the pricing index, and served to refute a forecasted 6% annual growth rate.

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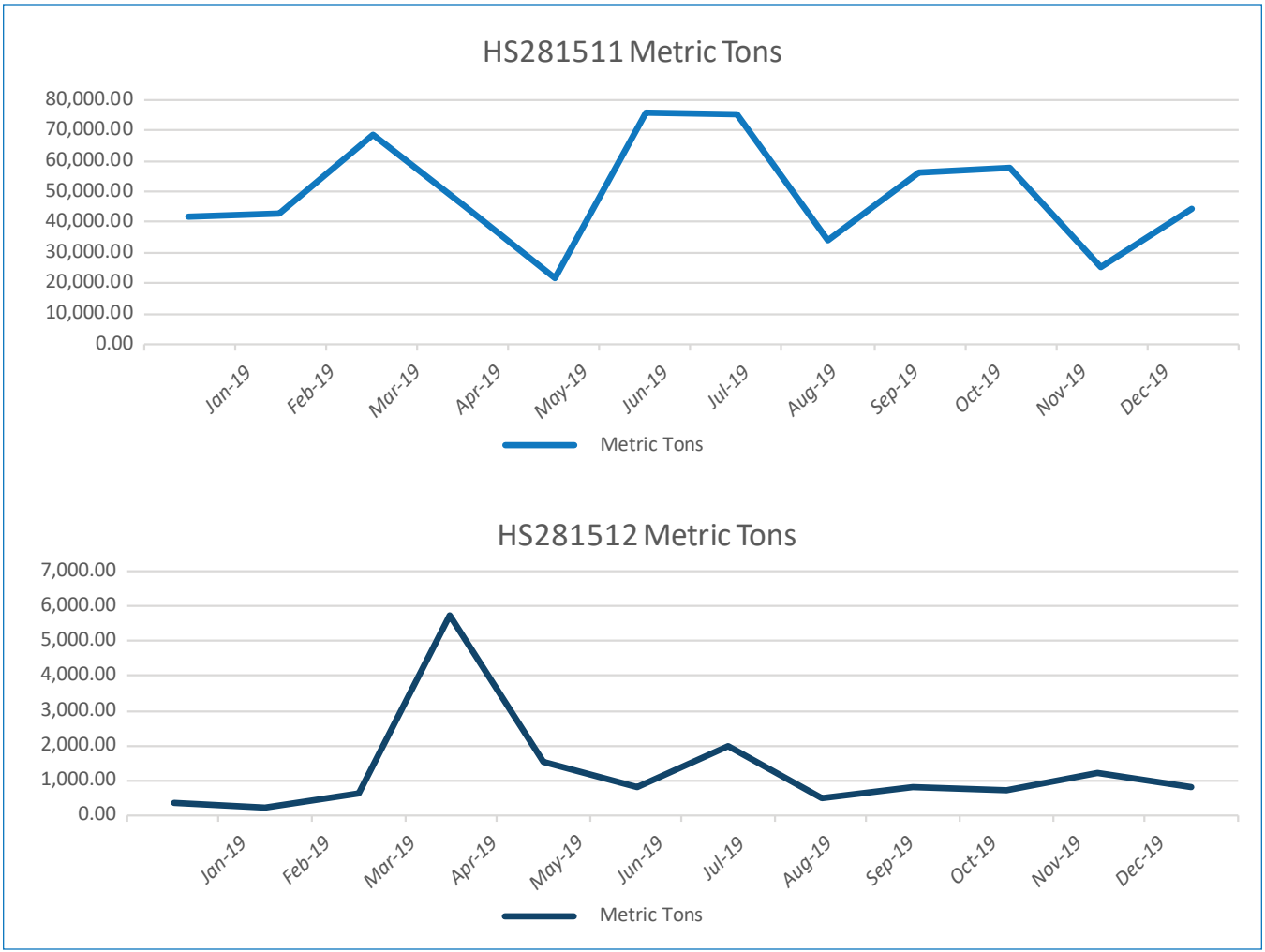
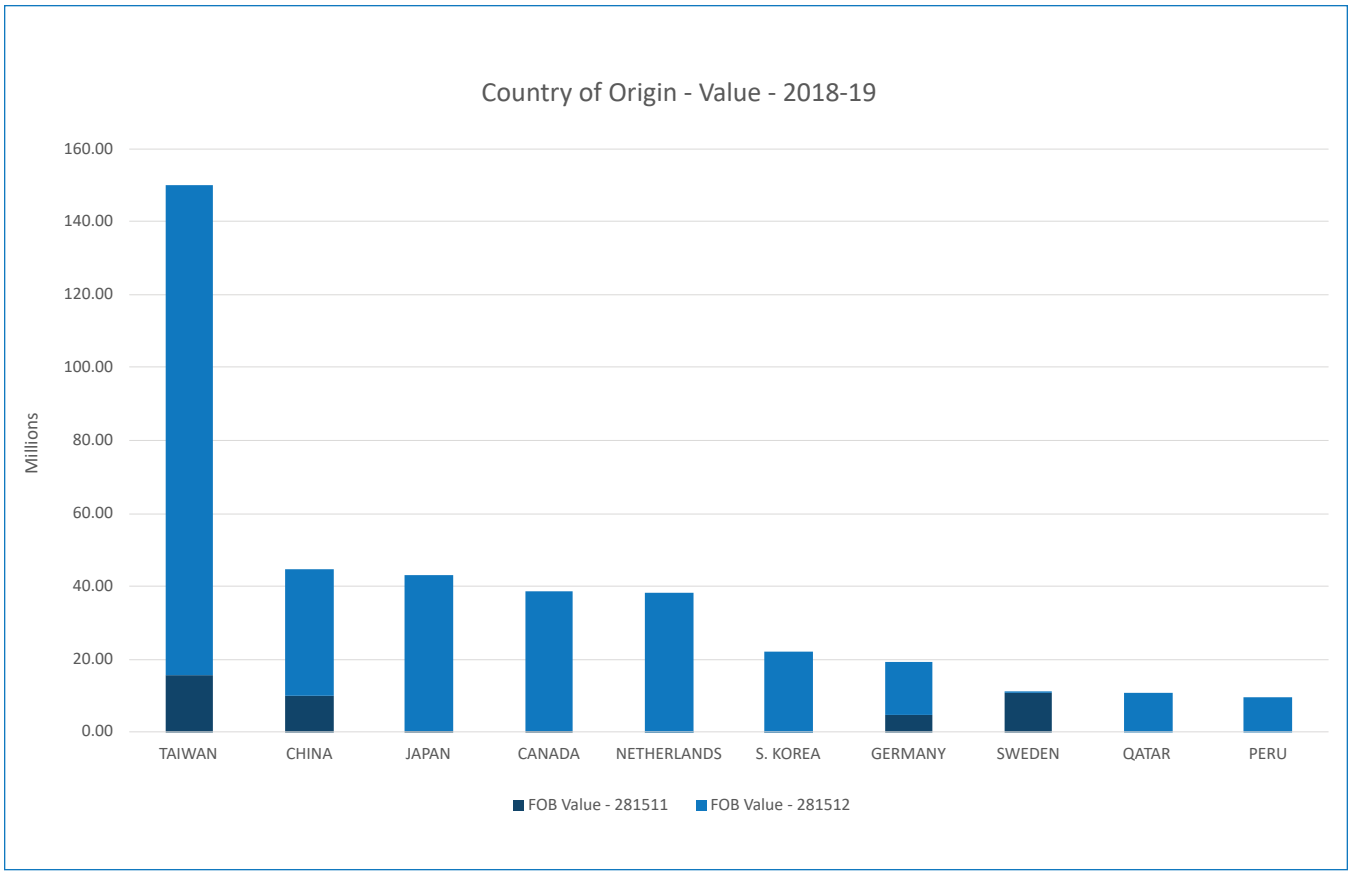


Caustic soda as a solid (HS281511) is a far cheaper commodity than its aqueous form at just over $40 per metric ton (mt) for solid or flake compared to over $28k per mt for aqueous solutions. Solid caustic soda represents the vast majority of shipment volume, amounting to 97% of total volume in 2019.

Aqueous sodium hydroxide saw a sizable spike in import volume during April of 2019, increasing from 600 tons in March to nearly 6,000, which coincided with a comparable drop in total FOB value.

Solid sodium hydroxide saw several price spikes throughout the year, reaching a peak of over 76k metric tons in June. This volume of imports ebbed off as the year came to a close and, with several high-profile paper and pulp mills closing their doors in 2019, this trend seems likely to continue.

Unlike market indexes and forecasting models, intelligent trade data enables better, more informed business decisions and market determinations while also allowing companies to identify potential market disruptions and establish a more resilient supply chain.



The ongoing trade dispute with China has dramatically impacted imports. Imports of sodium hydroxide from China dwindled to nearly nothing throughout 2019.

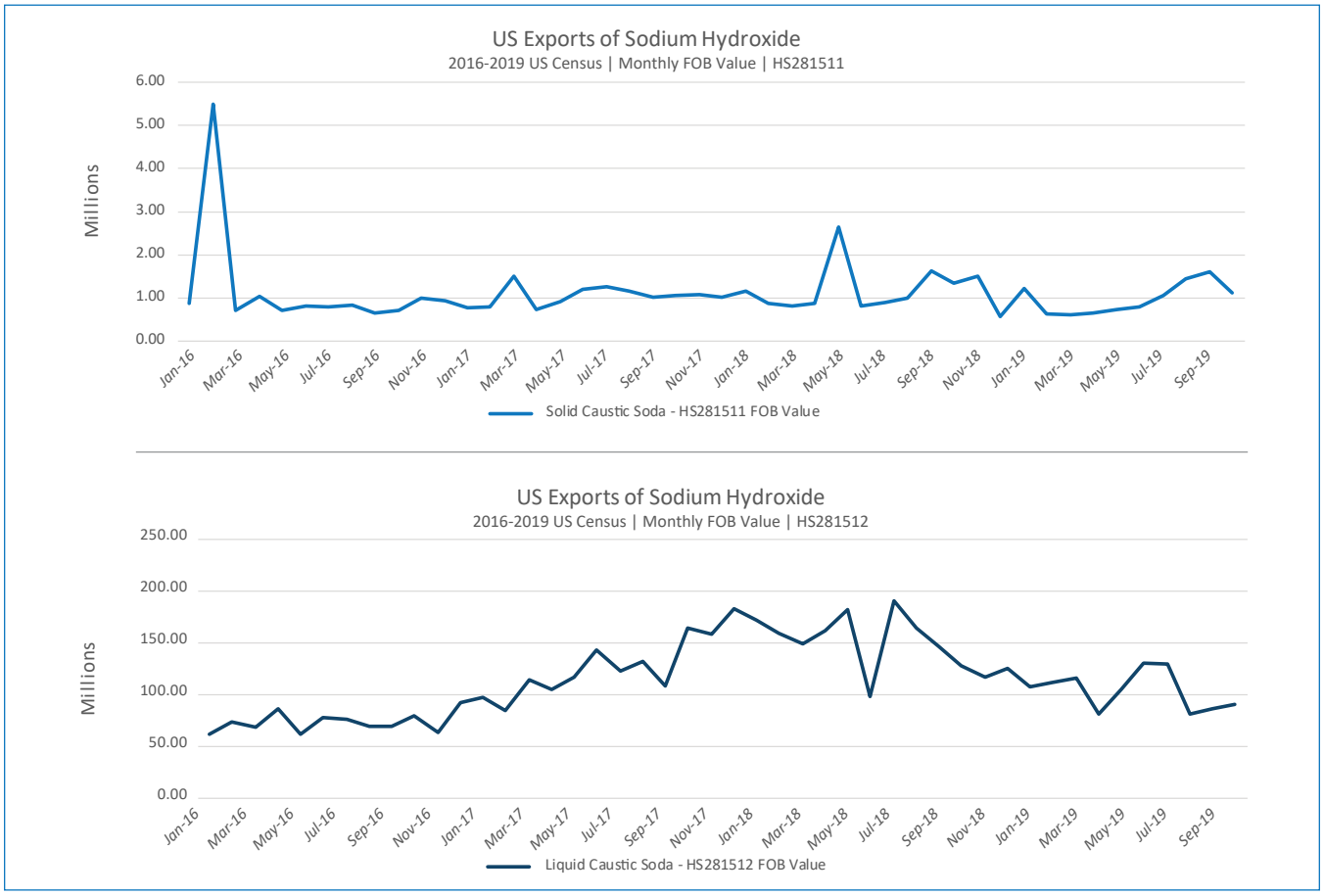
Caustic soda was among the $200 billion in Chinese goods upon which the U.S. imposed tariffs in September of 2018 and the impact of those tariffs has shifted supply chains of the inorganic compound. In 2017, U.S. buyers brought in over 162k metric tons from China. In 2019, this volume dropped 98% with the U.S. receiving a comparatively tiny 3k metric tons.

This sharp decline in imports from China has greatly benefited other international suppliers with Japan being the largest beneficiary of China's exclusion from the U.S. market. Exports from the island nation were 11 times higher in 2019 compared to pre-tariff imports.

Even among the falling U.S. demand, imports from Taiwan, the top country of origin for the United States, grew an additional 5.6%.

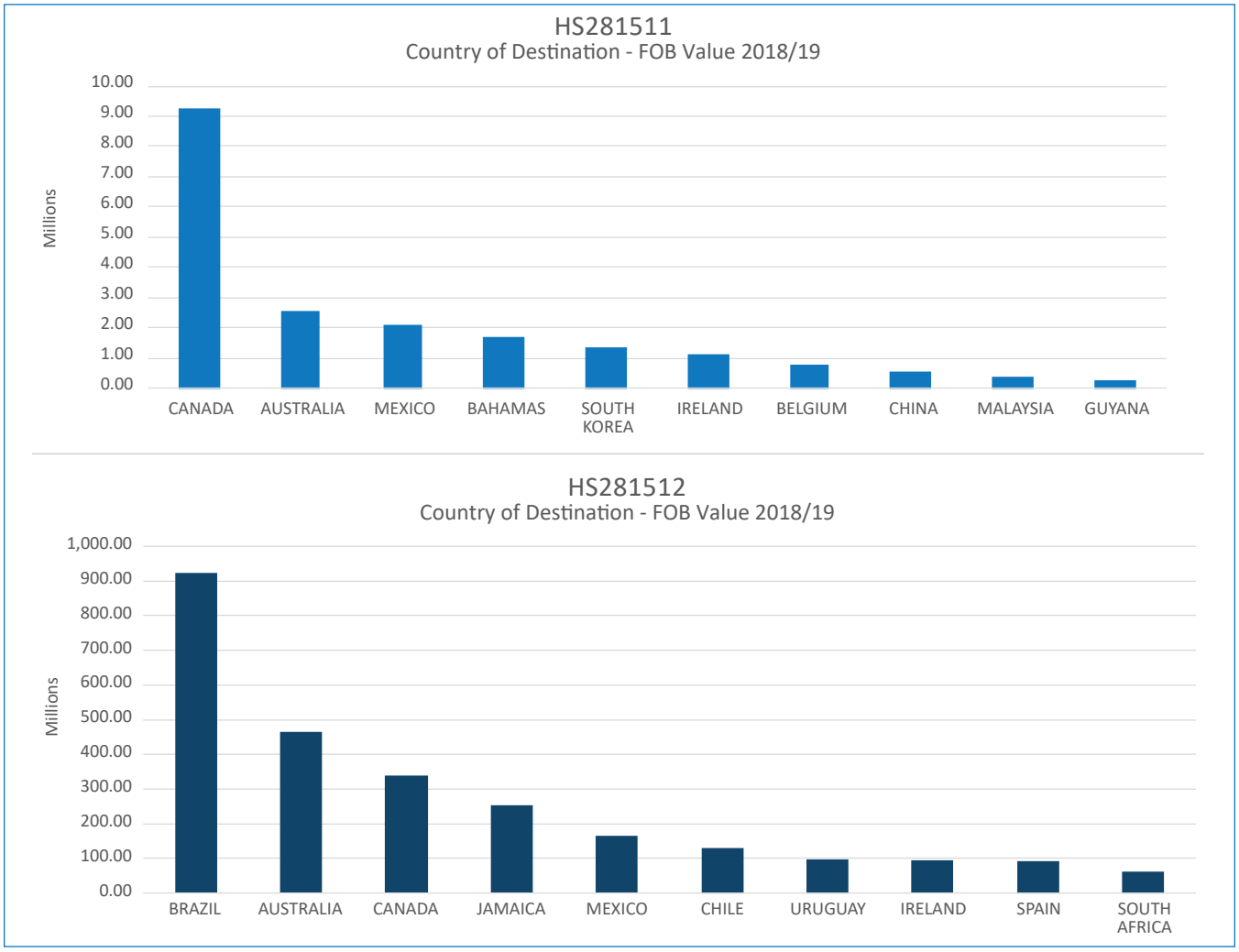
As shifting trade policy continues to have a major impact on supply chains and global commerce, it's critical to incorporate solutions that can monitor change. Accurate Global Trade Intelligence can minimize the impact of supply chain disruptions and is vital to the identification of potential new suppliers.

U.S. Exports: Caustic Soda



U.S. exports of aqueous sodium hydroxide, as measured by total FOB value, saw a dramatic increase in 2017 and 2018. As of early 2019, the value of exports began to decline. This trend did not coincide with volume shifts during the same period. A major part of the decline was a production cap in 2018 at the largest alumina refinery in Brazil, the top market for U.S. exports.

Perhaps coincidentally, a lawsuit has been filed against five of the top U.S. producers of caustic soda for violating antitrust laws, alleging that the companies conspired to artificially drive commodity index prices up from 2016 to 2018. Whether this impacted exports in addition to domestic purchases remains to be seen.



U.S. exports to Brazil increased throughout 2019 amid growing demand from Brazil's alumina refineries and petrochemical producers returned to near-capacity after a rate cut in 2018. Brazil is the largest destination for U.S. sodium hydroxide exports, more than doubling second-ranked Australia. During the first six months of 2019, exports to the South American nation grew 6% compared to 2018.

This increase is a rebound from reduced demand in the second half of 2018 after Brazilian alumina refineries reduced production by more than 50%, which decreased U.S. export volume by 21.7%. This decrease in export volume, coupled with steady U.S. production, lead to prices falling in late 2018 and early 2019 by almost 47%.

How to Make Trade Data Work for You

Caustic Soda is a top commodity in the Chlor-Alkali market, accounting for 46% percent of the total US market volume last year. Tracking import and export trends in benchmark commodities like sodium hydroxide can help businesses make better decisions and potentially gauge future trends based on previous patterns.

At the core of any analysis is accurate, current, import, and export data. Information from solutions such as Descartes Datamyne can power the analytics needed to speed and simplify trend spotting and can:

- Project demand to plan services, allocate resources, and focus sales efforts
- Monitor commodity volumes and values, investigate inventory build-ups or cutbacks
- Track and trace supply chains
- Monitor competitive trends

Beyond this, with potential market disruptors such as evolving tariffs, surprising opportunities can be revealed such as the shift from Chinese suppliers to Taiwan and Japan and vet the performance of suppliers in that region. It all starts with comprehensive data and smart analytics to pinpoint market opportunities, refine sourcing strategies, and thrive in a competitive industry.

Contact an industry expert at Descartes Datamyne to learn how intelligent, actionable trade information can provide you with the insight you need to improve business intelligence in the chemical industry or any other industry with accurate, up-to-date trade analytics

About Descartes Systems Group

Descartes (Nasdaq:DSGX) (TSX:DSG) is the global leader in providing on-demand, software-as-a-service solutions focused on improving the productivity, performance and security of logistics-intensive businesses. Customers use our modular, software-as-a-service solutions to route, schedule, track and measure delivery resources; plan, allocate and execute shipments; rate, audit and pay transportation invoices; access global trade data; file customs and security documents for imports and exports; and complete numerous other logistics processes by participating in the world's largest, collaborative multimodal logistics community. Our headquarters are in Waterloo, Ontario, Canada and we have offices and partners around the world.

Learn more at www.descartes.com and connect with us on LinkedIn and Twitter.

About Descartes CustomsInfo™

The meticulous nature of classification is challenging. When multiple clients, business units, time zones and product lines come into play, effective classification can become a sink for vital time and resources. Descartes CustomInfo™ is the world's leading online research tool to improve classification determinations. Powered by a sizable database of over 6 million reference documents, including an Export Control Classification Number locator, Customs Info can help you make better classification decisions. Our trade content service offerings also include classification services, where our team of highly experienced compliance professionals can help deliver a custom solution to deliver quality determinations in a compliant and defendable format. Freeing up time and resources better spent on operational goals.

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About Descartes Datamyne™

With a comprehensive database of accurate, up-to-date import-export information, Descartes Datamyne delivers actionable intelligence for market research, sales insight, supply chain management, enhanced security and competitive strategy. The solution is powered by the world's largest searchable trade database, covering the global commerce of 230 markets across 5 continents. Manufacturers, shippers, wholesalers, transport and logistics service providers, management consultants, legal practitioners, industry analysts and more use our exceptionally accurate and granular data to initiate growth strategies, explore new markets, benchmark performance, monitor commodity volumes and values, simplify trade data research, discover buyer-seller relationships and refine sourcing strategies.

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Network. Applications. Content. Community.

Uniting the People & Technology
That Move the World.

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