Analysis of Section 301 Tariff Impacts on Chemicals Trade

Prepared by Trade Partnership Worldwide

for

American Chemistry Council

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Foreword

Dear Colleagues:

Virtually every U.S. manufacturing industry has felt the damaging effects of trade policy uncertainty and high and broad tariffs over the past four years. The U.S. chemicals industry, the heart of all U.S. manufacturing, was among the hardest hit industries during the Trump Administration's trade wars, with $20 billion in U.S. chemicals industry imports impacted by the China Section 301 tariffs.

Fast forward to today, and chemistry touches virtually all facets of the Biden Administration's February 24 Executive Order on America's Supply Chains and "Build Back Better" agenda. And yet, the tariffs continue to disrupt the U.S. chemical industry's supply chains and – most importantly – our ability to support priority Biden Administration objectives: making supply chains resilient; strengthening and building infrastructure; and establishing industries essential to American economic competitiveness.

The ongoing effects of the COVID-19 pandemic and subsequent surge in consumer demand are at the heart of this challenge. Both have caused major supply chain disruptions and exacerbated bottlenecks and capacity constraints across freight transportation modes. Addressing these short and long-term disruptions will require a broad range of solutions and collaboration between public and private stakeholders.

To supplement U.S. Administration's efforts to gather intelligence to properly address this concerning situation, the American Chemistry Council (ACC) asked Trade Partnership Worldwide to conduct a broad analysis that examines a range of trade and economic impacts of the Section 301 tariffs on the business of chemistry. We believe such sectoral analysis is useful for policymakers as they consider whether to roll back or change tariffs (or even possibly impose more tariffs) as part of a comprehensive plan to revitalize American manufacturing.

To that end, ACC believes this report has uncovered a potential offramp for the Biden Administration to rescind Section 301 tariffs and/or grant exclusions to products facing Section 301 tariffs, relieve inflationary and supply chain constraints, while at the same time deflecting possible criticism from those who might otherwise claim that the President is "being weak on China" by eliminating tariffs.

After summarizing several key findings from this report, we will describe two existing tools at Congress' and the President's disposal that would provide a viable path forward to accomplish this goal.

Key Takeaways

From ACC's perspective, the Trade Partnership Worldwide study supports the following conclusions:

- **Despite the high tariffs on U.S. imports from China, aggregate U.S. imports of chemicals have increased since June 2018, while U.S. exports to China have stagnated.** Chemicals are an outlier here, and there are two likely explanations. First, China is a source of many valuable inputs to U.S. manufacturing processes, and for which few or no alternatives exist. It could take years, and several billion dollars, to build manufacturing capabilities for these inputs in the United States. Therefore, U.S. firms chose to bear the cost of the tariff to continue to reap the value of the import. Second, although the number of chemical product exclusions granted to U.S. manufacturers was relatively small, the estimated tariff savings from those exclusions was comparatively high – approximately $2 billion.

- **Despite the retaliatory tariffs on U.S. exports, Chinese firms also have continued to buy U.S.-made chemicals and plastics due to their high quality and competitive price.** China's share of U.S. chemicals exports today is about the same as three years ago, despite China's retaliatory tariffs, which covered 86 percent of U.S. chemicals exports in 2017. For some sectors, exports to China even increased despite the high levels of retaliatory tariffs. China has a limited exclusion process for its tariffs which has provided relief to some exporters. It is critical that the U.S. government continue to work with its counterparts in China to extend and expand these measures. In many cases, the industry's exports support intra-company trade and significant investments in China, which are a key part of America's highly competitive global value chains.

Foreword (continued)

- **The United States had a trade surplus of $29 billion in chemicals and plastics in 2020 – and imported inputs from China and other trading partners, despite the tariffs, continue to help make this perennial trade surplus possible.** Chemicals manufacturers build production facilities around the world, including China, from a need to be physically close to feedstocks where they exist. U.S. companies often import intermediate inputs from China when they are not produced or available anywhere else. Even with the necessary resources, chemical manufacturing facilities can take as many as five or more years – and several billions of dollars – to build. More than half of all U.S. chemicals imports are intra-company – this is one of the hallmarks of an efficient supply chain at work. Imports of intermediate inputs indeed help strengthen U.S. manufacturing – limiting imports weakens manufacturing competitiveness.

- **Due to their critical importance and value added to other industries and manufacturing firms, U.S. chemicals and plastics products should be eligible for more exclusions than have been granted to date.** It is economically counterproductive to levy tariffs on imports of intermediate inputs that ultimately go on to strengthen U.S. manufacturing, boost exports, and contribute to the U.S. chemicals trade surplus. This conclusion is further supported by a Section 301 tariff exclusions and extension analysis by Mercatus Center. That analysis found that, of the 1,325 tariff waiver requests for chemical products, only 10 percent were granted, and 90 percent were denied. Of the 1,372 plastic product tariff exclusion requests submitted, 19 percent were granted, and 81 percent were denied.

- **The scarce resources U.S. manufacturers have allocated to make tariff payments would be better used to hire more employees or innovate new products.** Despite several welcomed product exclusions, U.S. chemicals manufacturers still paid $6.5 billion in Section 301 tariffs between the start of the trade war in June 2018 and June 2021. Eliminating tariffs – or at a minimum, granting more exclusions on imports of intermediate inputs – would help reduce costs for U.S. manufacturers, provide an immediate boost to U.S. manufacturing competitiveness, and create a ripple effect of cost-savings and new jobs among downstream customers of chemistry.

- **Instead of curbing China's unfair behavior, the tariffs are hurting American business, families, and consumers.** Earlier research from Moody's Investor Services reinforces this point, showing that American consumers are paying for the vast majority (90 percent) of the tariffs on imports from China, and U.S. exporters are absorbing most of the costs from retaliatory tariffs imposed by China.

- **Imports support American jobs – and taxing those imports can hurt job growth.** A separate, May 2021 Trade Partnership Worldwide study found that, contrary to popular belief, imports support 21 million American jobs. More than half of U.S. chemicals imports are intra-company – and they, too, support job growth throughout our industry and the downstream industries that rely on chemistry.

The Path Forward: Creating an Offramp for Easing Section 301 Tariffs

Given mounting inflationary pressures and supply chain constraints, the Biden Administration may be seeking an offramp to lift at least some tariffs on imports from China while also not "appearing weak on China," as some critics may try to claim. If so, this report offers a possible solution: **eliminating tariffs on intermediate inputs to U.S. manufacturing processes.**

Removing tariffs on imports of intermediate inputs from China is a wise political decision for four reasons:

1. **As this report indicates, tariffs, as a blunt instrument, are neither an effective nor productive deterrent against the exceptional case of imports of intermediate inputs.** Companies will pay the tariff to reap the value of an import in cases when little or no alternatives exist. Providing relief from tariffs ultimately strengthens U.S. manufacturing in the long run.

Foreword (continued)

2. **Although China may also benefit from tariff elimination, the net benefit for U.S. manufacturers and the broader U.S. economy is several orders of magnitude higher compared to what China might gain from such an action.**

3. **The Miscellaneous Tariff Bill (MTB), which expired after December 2020, is an existing legislative tool at the President's disposal to justify eliminating Section 301 tariffs on imported inputs that have already previously been deemed essential to U.S. manufacturing**. The MTB temporarily reduces or suspends tariffs on goods that are not made domestically or are not available in sufficient quantities in the United States. Approximately 89 percent of the MTB chemical petitions are also covered by China Section 301 tariffs of either 25 or 7.5 percent – on top of the most-favored nation tariff rates. This means that the vast majority of those imports, already deemed essential by Congress, are still being hit with a heavy tariff. In fact, since the MTB expired at the end of 2020, manufacturers and other businesses have been paying $1.3 million per day in anti-competitive tariffs.

4. **There is equally a space for the Administration to use the Section 301 product exclusion process to provide tariff relief for inputs of intermediate inputs from China which have previously been granted tariff relief by the 2018 MTB or may be granted relief by the next MTB.** This option is a secondary yet equally workable choice that could spur China also to exclude U.S. exports of chemicals and plastics from its retaliatory tariffs.

ACC and its members fully support President Biden's vision for a trade policy that benefits all Americans. The U.S. chemicals industry is uniquely prepared to supply the innovations needed to help fight climate change, and the new capital investment and exports to support job growth around the country.

Tariffs are not the answer. They are making a bad situation worse by adding to U.S. inflation and regressively taxing U.S. businesses and consumers. The tariffs – and especially uncertainty over the tariffs – weaken supply chain resilience, which is in stark contrast to the aims of the Biden Administration.

Suspending tariffs on imports of intermediate inputs would reduce costs for U.S. manufacturers, provide an immediate boost to U.S. manufacturing competitiveness, and create a ripple effect of cost-savings – and new jobs – among downstream customers of chemistry.

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Key findings

Section 301 Tariffs and Chemical Import Trends from China

- Section 301 tariffs affected about 75% of U.S. chemical imports from China, above the U.S. average of 62%
- Average tariffs on chemicals from China rose from about 4% to nearly 15%, while tariffs paid on such imports rose from about $1 billion in 2017 to $4.4 billion in the 12 months ending in June 2021
- An estimated $6.5 billion out of the $89 billion in Section 301 tariffs paid – or about $1 in $14 – was for chemicals
- Despite all the new tariffs, chemical imports from China grew and reached their highest level yet – $34 billion – in the 12 months ending in June 2021
- Tariffs did have an impact – imports of products on Lists 1-3 declined compared to the year before new tariffs were imposed – but they were more than offset by the nearly $5 billion increase for unaffected products
- The tariffs changed the composition of chemicals imported from China, with products not covered by Section 301 tariffs accounting for 37% of U.S. imports from China in the year ending in June 2021 (compared to 26% in 2017)

Section 301 Tariff Exclusions

- Exclusions eliminated an estimated $2 billion in tariffs on chemical imports from China through June 2021, or about 23.5% of the $8.5 billion in expected tariffs based on the published MFN and Section 301 rates
- Chemicals accounted for about $1 in $10 of all waived U.S. tariffs, and its share of tariffs waived exceeded the national average of 18%
- Section 301 tariffs had drastically different affects on chemical subsectors based on whether specific products were included or excluded from various lists, such that average tariffs on imports from China of miscellaneous chemicals (9%) are less than a third the rate as imports for resins and synthetic fibers (29%) or pesticides and fertilizers (29%)

State Impacts of Section 301 Tariffs on Chemicals

- Due to Section 301 tariffs, chemical imports from China into Idaho face tariffs averaging nearly 23%, more than any other state
- Chemical imports into California have faced an estimated $1.4 billion in extra tariffs due to Section 301 tariffs, more than any other state
- Despite the high tariffs, China accounts for a higher share of chemical imports today than in 2017 for 28 states, with China's share of Connecticut's chemical imports growing from 18% to 31%
- While many states buy relatively less from China, its continued importance and high tariffs has led average tariffs paid on chemicals from the world to increase in every state, including a 5-fold increase for Idaho

Key findings (continued)

Chemical Import Trends from China and the Rest of the World

- Section 301 tariffs failed to move chemical sourcing out of China and chemical imports from China have outperformed the rest of the world since June 2018
- Increased chemical imports from China ($5.0 billion) between the 12 months ending in June 2018 and June 2021 was equal to the next three countries combined – Mexico ($1.9 billion), Canada ($1.6 billion), Ireland ($1.6 billion)
- China's share of U.S. chemical imports increased by 2.2 percentage points, from 20.2% in 2017 to 22.4% in the year ending in June 2021, third among all sectors; China's share of total U.S. imports decreased from 21.6% to 18.6% over the same period
- China's growing importance for chemicals was an outlier, as U.S. imports other countries grew much faster than China for other sectors facing the most Section 301 tariffs (e.g., electrical equipment, computers, furniture)
- Plastics products and soap, cleaning agents, and toiletries drove China's overall growth, as imports from the rest of the world generally grew faster (or declined less) for the other chemical subsectors

Chemical Export Trends

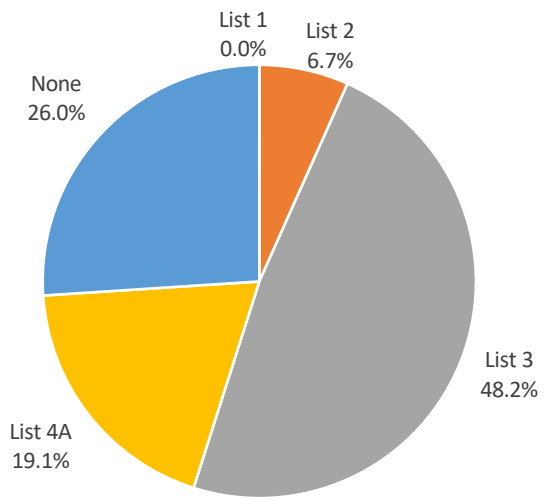
- China imposed retaliatory tariffs on about 85% of U.S. chemical exports that initially led to export declines – though exclusions and/or inclusion in the U.S.-China "Phase 1" deal could mitigate some of the impacts – and chemical exports to China performed similarly to exports to the rest of the world since June 2018
- Export trends did not always match what might be expected: China's share of U.S. miscellaneous chemical product exports increased the most despite nearly all products being subject to retaliation (while resins and synthetic fibers were least likely to face retaliatory tariffs yet saw China's share of exports decline)
- While China's growing share of trade for chemicals was as outlier on the import side, China's unchanged share of U.S. chemical exports since 2017 were well below the U.S. average (+0.8 percentage points)
- Data suggest that neither retaliation nor inclusion in the U.S.-China "Phase 1" deal impacted export trends, but potential exclusions from tariffs granted by China did
- Unlike China, retaliatory tariffs imposed by Canada, India, and Turkey had a clear impact on U.S. chemical exports
- Export performance was very mixed, with exports to China in several subsectors (e.g., plastics products; soaps, cleaning agents, and toiletries; misc. chemical preparations) clearly outperforming exports to the rest of the world, while exports to China underperformed in others (e.g., paints, coatings, and adhesives; resins and synthetic fibers)

Section 1: U.S. chemical import trends from China

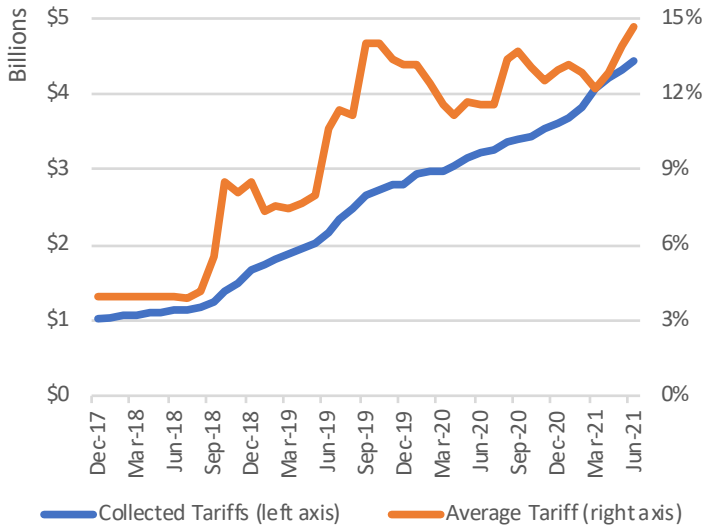
U.S. chemical import trends from China – overall changes

Like many industries, the U.S. chemical sector is impacted greatly by the Section 301 tariffs imposed on imports from China starting in mid-2018. Chemical imports from China have increased significantly over the past 20 years, from about $4.4 billion in 2002 to nearly $27 billion in 2017, the last year before any Section 301 tariffs were imposed. Section 301 tariffs, which eventually covered about three-quarters of the United States' pre-trade war imports from China, threatened to derail that growth.

Chemical Imports from China, by Section 301 List, 2017



Tariffs Collected (TTM) and Average Tariff (Actual) on Chemical Imports from China



The vast majority of affected chemical imports were on List 3 or List 4A. List 3 tariffs of 10% were imposed in September 2018 and increased to 25% in May 2019. List 4A tariffs of 15.0% were imposed in September 2019 and reduced to 7.5% in February 2020. About 26% of all chemical imports were from China were not included on any of the implemented lists, well below the U.S. average of 38% (*see Table 1 on next page)*.

After List 3 took effect, tariffs collected on chemicals imports from China started to rise quickly. Tariffs paid on chemical imports from China were about $1 billion in 2017, yet rose to $2 billion in the year ending in April 2019 and to $3 billion in the year ending in February 2020. Tariff costs continued to grow, albeit at a slower rate, throughout 2020 and started increasing faster again in 2021. For the year ending in June 2021, tariffs paid were $4.4 billion – a 334% increase from 2017.

The imposition of new tariffs, and changing rates for existing tariffs, can be seen in the average tariff rates on chemical imports from China. Tariffs on chemical imports from China averaged 3.9% in 2017 and hit a new high of 14.7% in the year ending in June 2018, nearly for times higher than before the trade war started.

Average tariffs on chemical imports from China have been trending up since April 2020 despite no new tariffs or list-wide tariff increases (e.g., when China List 3 went from 10% o 25%). Many factors affect the overall rate, such as the change in composition of chemical imports from China, but these preferences tend to show lower rates over times (e.g., buying less of products subject to tariffs and more of products not on any Section 301 list). Higher average rates, along with accelerating collected tariffs, likely reflect expired Section 301 exclusions. The impact of tariff exclusions are more apparent when examining changing rates *within* a given list, as shown on page 13.

U.S. chemical import trends from China – overall changes

By several metrics, chemicals fared much worse than other sectors by Section 301 tariffs. Overall, about $6.5 billion out of $89 billion in estimated Section 301 tariffs paid – or about $1 in $14 – was for chemicals. Average tariffs on chemical imports from China increase by nearly 11 percentage points versus slightly less than 9 percentage points nationally. As noted, about 26% of imports were excluded from all Section 301 lists, compared to the national average of 38%.

That said, several sectors saw much higher tariffs overall, tariff rate increases, and/or share of products affected. For example, Section 301 tariffs:

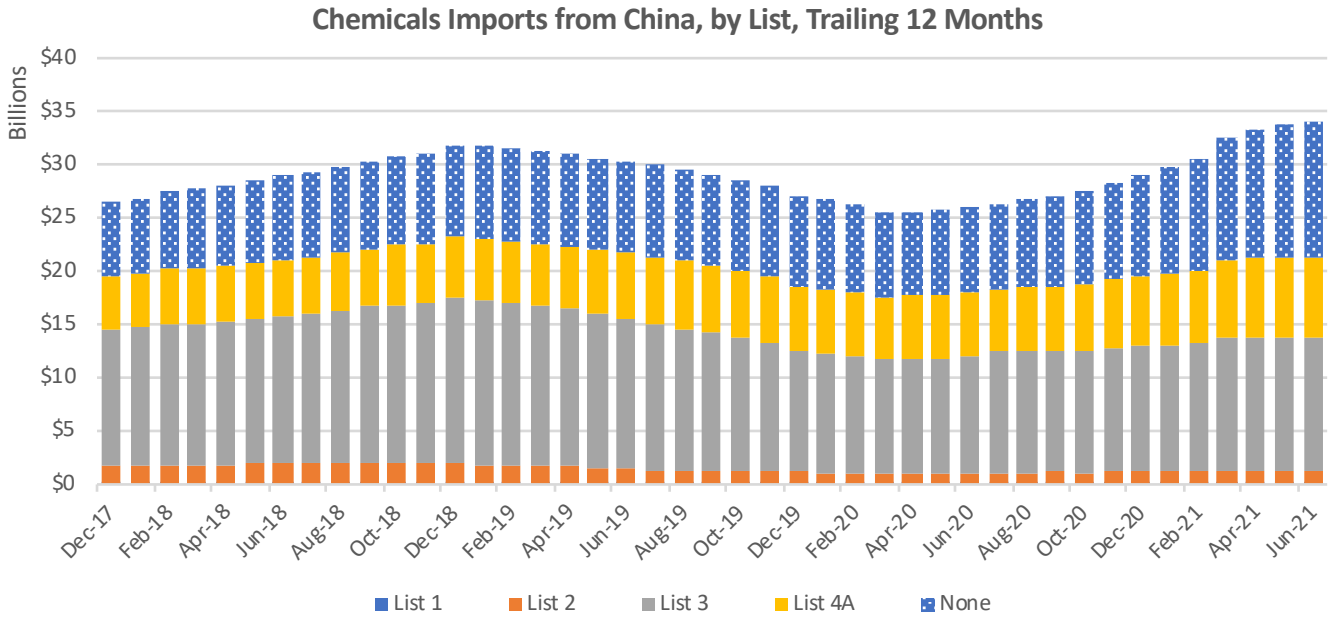
- Added estimated tariffs of $14 billion on electrical equipment, $13 billion on computers and electric products, and $12 billion on machinery;
- Increased average tariffs by over 20 percentage points on transportation equipment, furniture, and rubber products and at least 15 percentage points on machinery, fabricated metal products, food products, paper products, wood products, and textiles and fabrics, and
- Affected over 99% of imports of transportation equipment and food products and over 95% of machinery, furniture, paper products, and textiles and fabrics.

Table 1: Sector Comparison of Imports from China Subject to Section 301 Tariffs

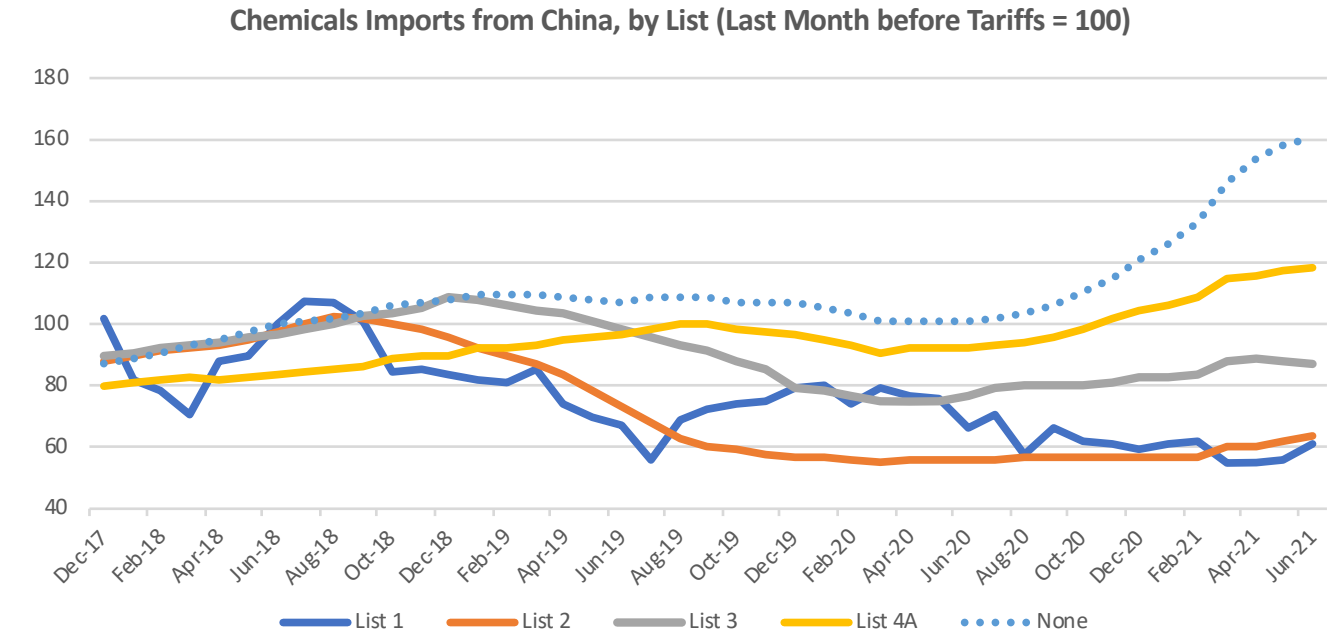
Sector	Estimated 301 Tariffs ($M)	Average Tariff on China, 2017	Average Tariff on China, June 2021	Share Hit by 301 Tariffs, 2017
Electrical Equipment	14,230	2.7%	17.1%	78.4%
Computer & Electronic Products	13,177	0.2%	3.7%	37.6%
Machinery, Except Electrical	11,959	0.8%	18.2%	95.0%
Fabricated Metal Products	8,175	3.1%	19.3%	85.7%
Furniture & Fixtures	8,162	0.3%	21.7%	95.1%
Transportation Equipment	7,812	2.4%	25.6%	99.9%
Chemicals	6,495	3.8%	14.7%	74.0%
Apparel & Accessories	3,337	15.6%	22.1%	92.6%
Leather & Allied Products	2,438	11.6%	19.0%	67.9%
Miscellaneous Manufactures	2,218	1.4%	3.8%	36.9%
Nonmetallic Mineral Products	1,904	4.9%	18.9%	79.6%
Textile Mill Products	1,662	7.6%	12.9%	65.4%
Food & Kindred Products	1,350	3.8%	22.8%	99.8%
Rubber Products	1,228	3.2%	23.7%	94.9%
Paper	1,203	0.5%	18.1%	95.7%
Wood Products	1,174	3.0%	20.9%	89.9%
Primary Metals	873	2.4%	19.9%	92.3%
Textiles & Fabrics	801	6.7%	23.3%	96.9%
Fish & Other Marine Products	415	0.1%	13.2%	83.9%
Printed Matter & Related Products	352	0.0%	6.2%	65.0%
Agricultural Products	190	0.9%	18.9%	94.6%
Pharmaceuticals & Medicines	147	0.4%	4.2%	0.7%
Forestry Products	44	0.5%	7.9%	99.3%
Petroleum & Coal Products	41	0.3%	7.8%	100.0%
Waste And Scrap	34	0.2%	8.1%	76.3%
Minerals & Ores	20	0.3%	6.4%	39.0%
Beverages & Tobacco Products	13	0.6%	15.3%	71.5%
Livestock & Livestock Products	1	0.0%	7.4%	100.0%
Oil & Gas	0	0.0%	9.8%	100.0%
Total	**89,466**	**2.7%**	**11.6%**	**62.2%**

U.S. chemical import trends from China – overall changes

Despite all the new tariffs, something strange happened: chemical imports from China recently hit their highest level ever. On a trailing 12 month basis, imports from China increased in each of the last 15 months and reached $34 billion in June 2021, nearly 30% higher than in 2017.

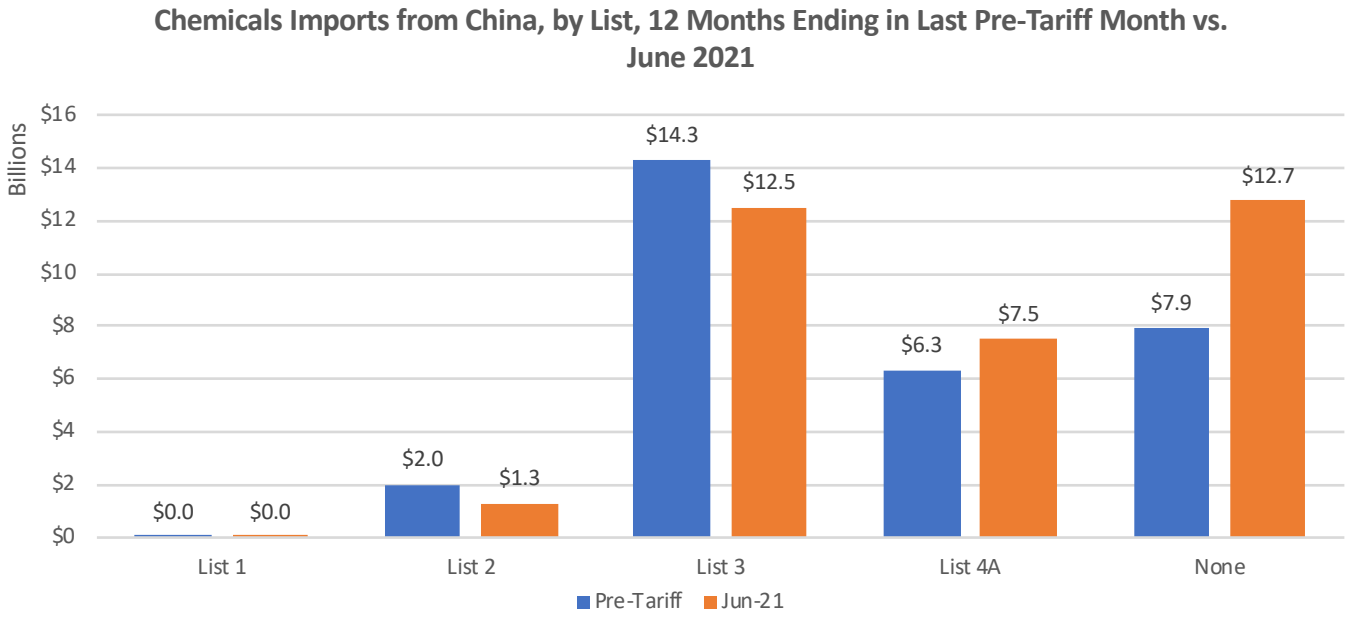


This is not to suggest tariffs had no impact. As shown in the graph below, imports of products on Lists 1-3 are down from the 12 months before tariffs took effect. Furthermore, imports are down more the earlier the tariffs were imposed. Imports of products on Lists 2-4A all were growing and reversed upon imposition of new tariffs, though List 4A products started growing again in early 2020 and were about 20% higher in the year ending in June 2021 than before tariffs took effect in September 2019. Conversely, chemical imports from China not subject to Section 301 tariffs have increased by about 60% over the last three years. (June 2018 =100 for products not on any list since that was the last month that no chemicals faced new Section 301 tariffs.)

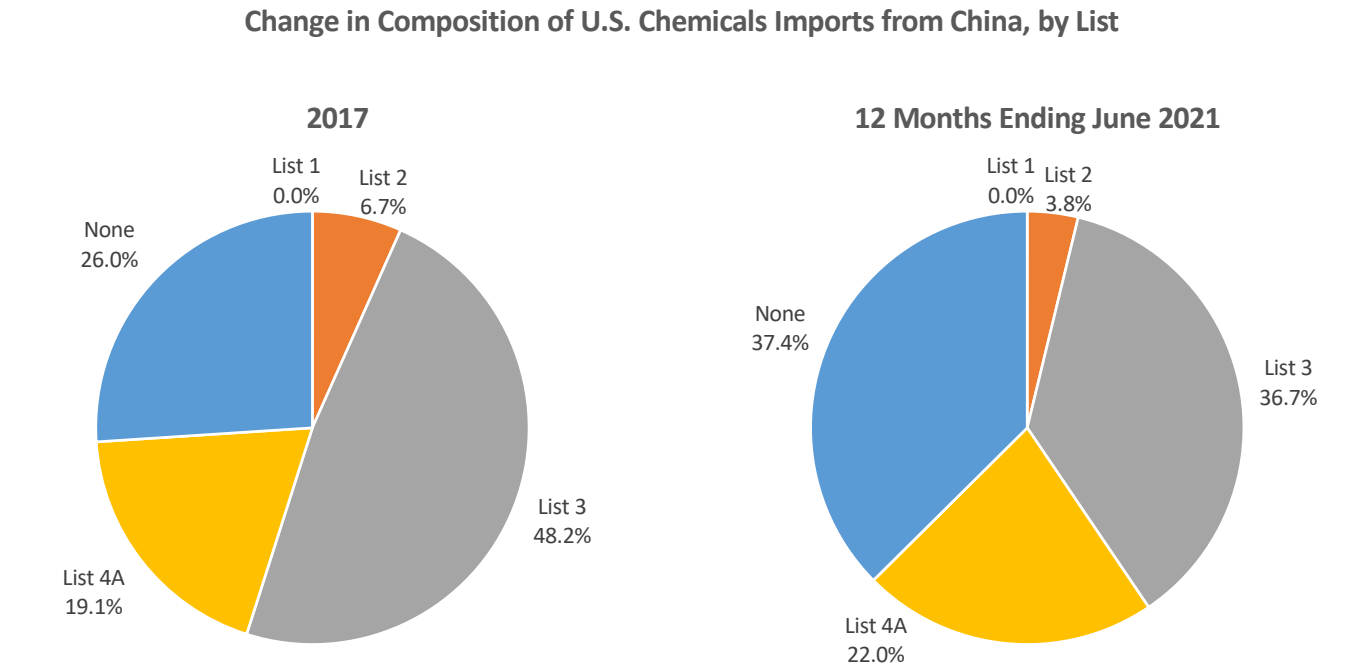


U.S. chemical import trends from China – overall changes

The graph below shows the dollar value changes in chemical imports from China for the year ending in June 2021 compared to the last 12 months "pre-tariff" for each respective list. The large share declines for Lists 1 and 2 had a relatively small dollar impact given their low import values pre-Section 301. The $1.2 billion increase in products on List 4A and $4.8 billion increase in products not affected by Section 301s more than offset the other category declines.

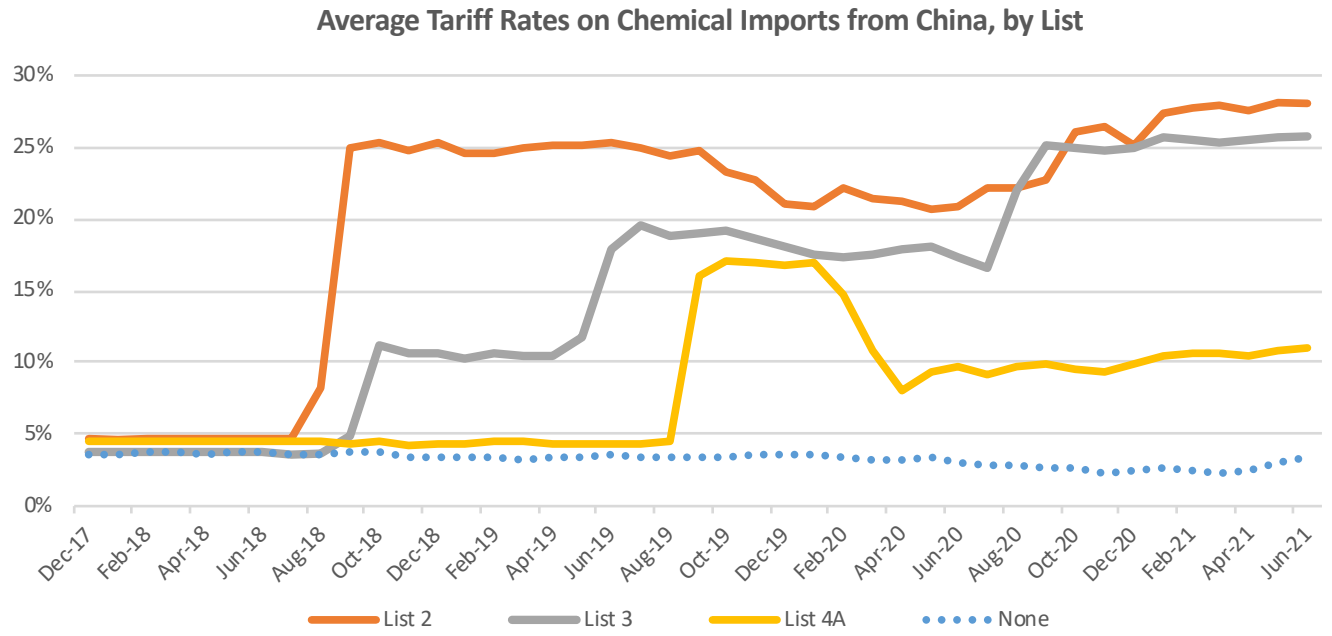


Comparing the breakdown of chemical imports from China by list for 2017 (the same graph as on page 9) and the breakdown for the year ending in June 2021 shows how the composition of trade has changed. Products not hit by Section 301 tariffs now account for 37% of chemical imports from China – up from 26% in 2017 – and have overtaken List 3 as the single largest import group. List 4A products account for 22% of imports now, up from 19% in 2017. There were large declines in the share of products on List 3 (from 48% to 37%) and List 2 (from 6.7% to 3.8%).



U.S. chemical import trends from China – the value of tariff exclusions

The composition changes are not surprising: it makes sense that U.S. importers would buy less Chinese chemicals subject to 25% tariffs and more Chinese chemicals facing lower (7.5%) or no Section 301 tariffs. It is less obvious that large shifts also have occurred *within* Section 301 lists due to product-specific exclusions, in part because exclusions typically are granted for subsets of products meeting descriptive criteria as opposed exclusions for whole categories or even tariff lines. The graph below shows just how much average tariff rates within Lists have changed over time as the composition of trade shifts between products with a 301 waiver and those without. (List 1 not shown due to very low trade affected.)



Before Section 301 tariffs took effect, there were clear differences in tariffs faced by the products that eventually were included in each list. Products on Lists 2 and 4A faced most-favored nation (MFN) tariffs around 4.7%, while products on List 3 or not on any list faced tariffs averaging around 3.5%. Trends were very stable, with little changes in average rates by group (e.g., declining because importers bought less 6.5% MFN tariff products and more duty-free MFN products). List 1 products are excluded from the graph because import levels are so low.

Section 301 tariffs changed all that. It is very clear when tariffs were imposed and when top-line rates changed (e.g., List 3 increase or List 4A decrease). Notably, at no time did the effective tariff rate ever reach what might be expected by adding the topline rate to the pre-Section 301 tariff (e.g., nearly 30% for List 2 based on a 25% topline rate plus the 4.7% pre-Section 301 tariff). Furthermore, some of the biggest swings are not explained by major announcements, such as the jump in effective rates on List 3 products in mid-2020 or the declining effective rates for Lists 2 and 3 over much of 2019.

Tariff exclusions would appear to explain both of those trends. Typically, average tariff rates jumped after new tariffs were imposed, but then declined as U.S. companies bought more products granted exclusions and less subject to tariffs. Since the import and tariff data are revised – most recently in June 2021 – retroactive exclusions appear in the data to have been granted immediately, even though tariffs were paid and then refunded.

Eventually the exclusions (mostly) expired. For List 3 especially, but also for List 2, exclusions expiring in late summer and early fall 2020 seem to have had a much bigger impact than the wholesale expiration of all non-Covid related exclusions on December 31, 2020. Yet the average tariff rate increased from December 2020 for all Section 301 List groups and are currently at their highest point of the trade war for products on Lists 2 and 3.

U.S. chemical import trends from China – the value of tariff exclusions

Analyzing the difference between estimated Section 301 tariffs paid and the expected tariffs that would have been collected at the published rates allows for estimates of the value of exclusions granted by sector. Such estimates are imperfect for several reasons (see the About the Data section at the end for information on known data limitations and steps used in this analysis to mitigate discrepancies), but they still help illustrate the importance of tariff exclusions, particularly across industries.

Section 301 exclusions appear to have had a very large impact on chemical importers. Exclusions eliminated an estimated $2 billion in tariffs on chemical imports from China through June 2021, or 23.5% of the $8.5 billion in expected tariffs based on the published rates. Chemicals accounted for about $1 in $10 of all waived U.S. tariffs, and the share of chemical tariffs waived exceeded the national average of 18%. Among other sectors, machinery had highest value of estimated tariffs waived at $4.3 billion. Textile mill products, which notably includes N95 and other cloth face masks, had the highest share of tariffs waived at 36%.

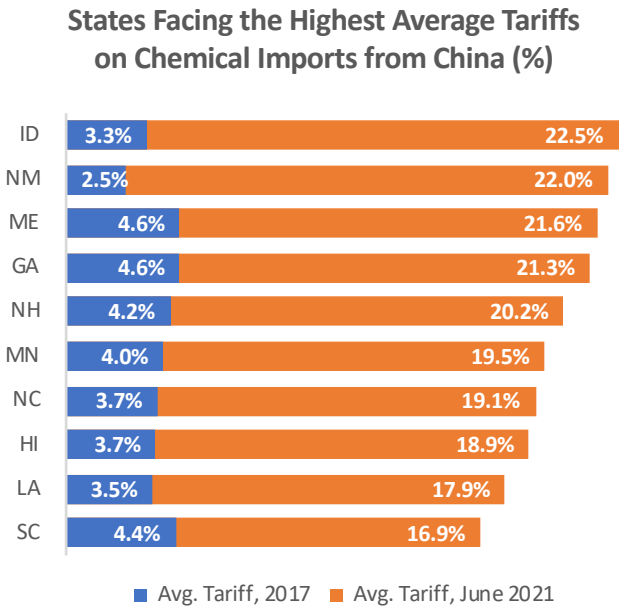
Two sectors – primary metals and pharmaceuticals – show small, "negative" tariffs waived. For primary metals, calculated tariffs are higher than the expected value due to the application of additional Section 232 tariffs on some of the products. For pharmaceuticals, the negative estimate likely results from mid-month tariff rate changes. The About the Data section provides more details on each of these issues.

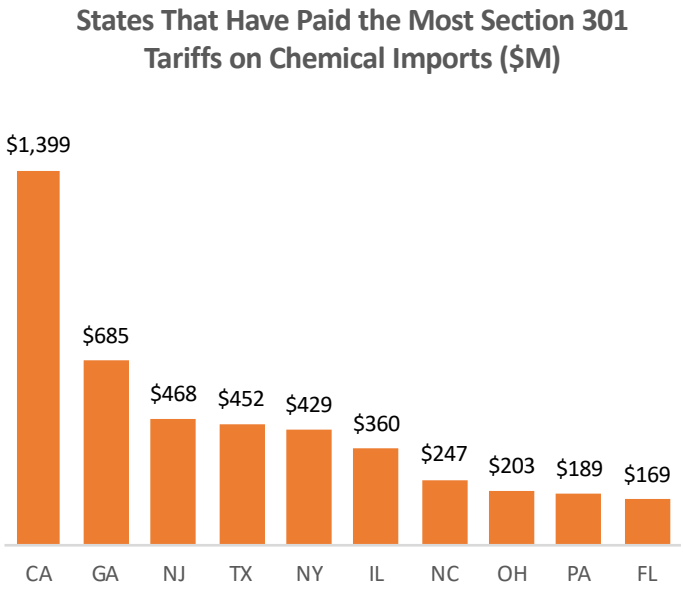
Table 2: Sector Comparison of Estimated Tariff Exclusion Values

Sector	Estimated 301 Tariffs ($M)	Expected 301 Tariffs ($M)	Estimated Tariffs Waived ($M)	Share of Expected Tariffs Waived (%)
Electrical Equipment	14,230	16,981	2,751	16.2%
Computer & Electronic Products	13,177	16,383	3,206	19.6%
Machinery, Except Electrical	11,959	16,286	4,327	26.6%
Fabricated Metal Products	8,175	9,385	1,210	12.9%
Furniture & Fixtures	8,162	9,428	1,266	13.4%
Transportation Equipment	7,812	9,696	1,884	19.4%
Chemicals	6,495	8,489	1,994	23.5%
Apparel & Accessories	3,337	3,801	464	12.2%
Leather & Allied Products	2,438	2,653	214	8.1%
Miscellaneous Manufactures	2,218	2,781	563	20.3%
Nonmetallic Mineral Products	1,904	2,104	201	9.5%
Textile Mill Products	1,662	2,593	932	35.9%
Food & Kindred Products	1,350	1,386	36	2.6%
Rubber Products	1,228	1,315	87	6.6%
Paper	1,203	1,367	165	12.0%
Wood Products	1,174	1,247	73	5.8%
Primary Metals	873	869	- 4	-0.5%
Textiles & Fabrics	801	963	162	16.8%
Fish & Other Marine Products	415	492	77	15.6%
Printed Matter & Related Products	352	358	6	1.8%
Agricultural Products	190	200	10	5.0%
Pharmaceuticals & Medicines	137	137	- 0	-0.2%
Forestry Products	44	44	-	0.0%
Petroleum & Coal Products	41	41	-	0.0%
Waste And Scrap	34	34	-	0.0%
Minerals & Ores	20	20	-	0.0%
Beverages & Tobacco Products	13	13	-	0.0%
Livestock & Livestock Products	1	1	-	0.0%
Oil & Gas	0	0	-	0.0%
Total	89,456	109,079	19,623	18.0%

U.S. import trends from China – impacts in the states

At the state level, trade flows largely reflect firm-to-firm connections. Policies that in theory would affect all states equally, such as raising tariffs on most chemicals from China, in reality have very disparate impacts based on which states' companies were buying from China in the first place (or import chemicals at all). Yet Section 301 tariffs – and China policy more generally – are as much or more a political question than an economic one, making such state-specific impacts important.





The table on the left shows the average tariffs paid on chemical imports from China in 2017 and June 2021. Companies in Idaho now pay average tariffs of nearly 23% on their chemical imports from China, with products such plastic closures and containers facing the most Section 301 tariffs to date. In New Mexico, plastic closures and adhesives drive high rates, while in Maine the most-tariffed imports were PVC flooring and polymeric MDI. No state has avoided the impact of tariffs on chemicals: every state paid average tariffs of *at least* 6.8% in June 2021 on imports from China, whereas every state paid tariffs averaging less than 5.7% in 2017.

Chemical imports into California have faced an estimated $1.4 billion in extra tariffs, more than any other state. Chemical imports into Georgia faced as estimated $685 million, well below California but above any other states. Imports into New Jersey, Texas, and New York all faced an estimated $400-$500 million in extra tariffs on chemicals due to Section 301 remedies on China.

Despite the high tariffs, China's importance as a chemical supplier grew in 28 states. In 2017, 17% of Connecticut's chemical imports came from China, but that increased to 31% in the 12 months ending in June 2021. Similarly, China's share of chemical imports increased from 30% to 39% in Colorado, 30% to 38% in Georgia, 24% to 30% in Washington, 27% to 34% in Arizona, and 26% to 32% in Nevada.

Some states do rely much less on China. In 2017, 26% of Nebraska's chemical imports came from China, but that fell to 10% in the 12 months ending in June 2021. Similarly, China's share of chemical imports decreased from 15% to 7% in New Mexico, 20% to 12% in Alaska, 29% to 21% in Minnesota, and 9% to 3% in Montana, and 37% to 31% in Missouri.

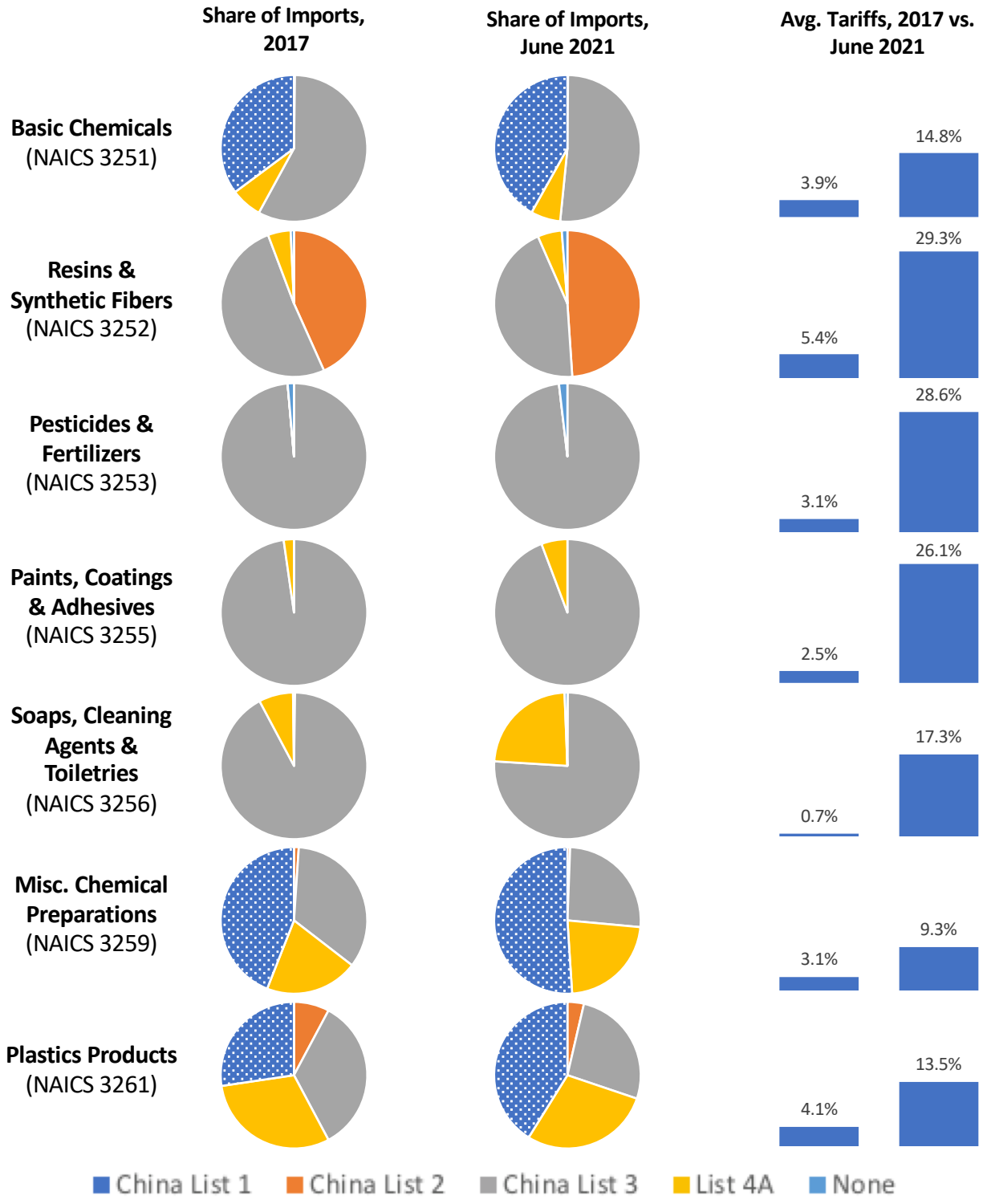
Even where imports from China have declined, the average tariff rate paid on chemical imports from the world increased in every single state. Average tariffs paid on all chemicals imports from all counties increased 5-fold for Idaho – from 0.9% in 2017 to 4.5% in June 2021 – and grew at least 2.5 times for Alaska, Georgia, New Mexico, Vermont, Utah, and Florida.

Section 2: U.S. chemical subsectors import trends from China

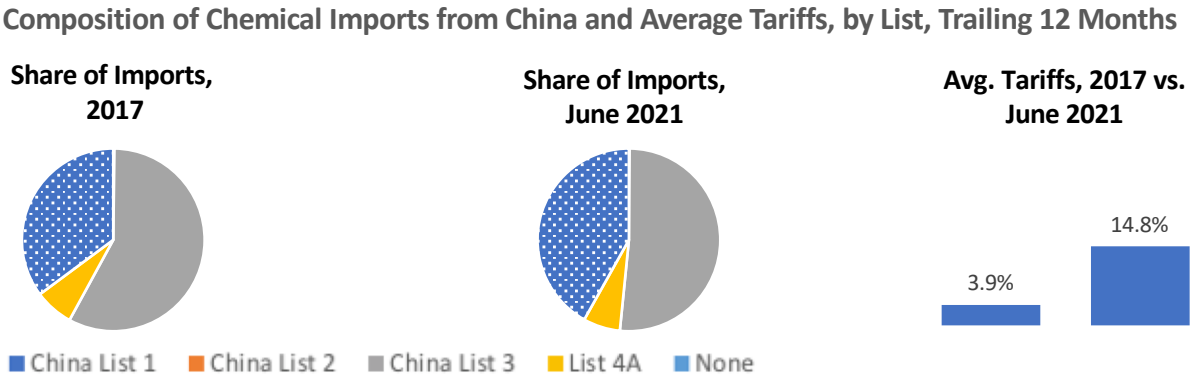
U.S. chemical import trends from China – chemical subsector imports

Just as chemical sector impacts from Section 301 tariffs differ greatly from other sectors, there are significant differences in Section 301 impacts between the chemical subsectors, as shown in the graphic below. For example, many imports of basic chemicals and plastics products were not on any list, but nearly all pesticides and fertilizers and paints, coatings and adhesives were on List 3. List 1 tariffs only impacted miscellaneous chemical preparations, while List 2 impacts largely were limited to resins and synthetic fibers. This leads to very different tariff rate increases as well. Impacts on each of these subsectors will be discussed in further detail.

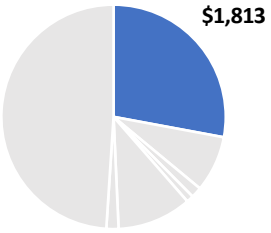
Composition of Chemical Imports from China by Subsector and List, Trailing 12 Months, and Average Tariffs



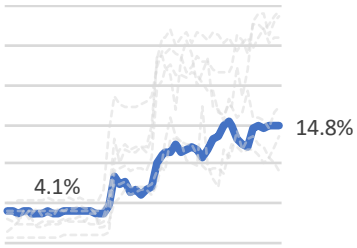
U.S. import trends from China – basic chemicals



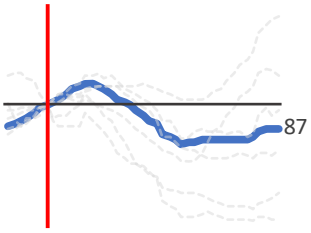
Basic chemicals are usually separate chemical elements or separate chemically-defined compounds, including certain petrochemicals (but not petroleum or gas), industrial gases, dyes and pigments, and other organic (e.g., ethyl alcohol) or inorganic chemicals. As raw materials for many other types of manufacturing, they were most likely to be excluded from any Section 301 list. Despite average tariffs that are now nearly 4 times higher than 2017, the composition of imports did not change much between 2017 and the year ending in June 2021.



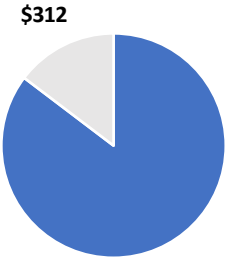
Estimated Section 301 tariffs paid – Basic chemicals imports from China faced an estimated $1.8 billion in extra Section 301 tariffs from China, accounting for about 28% of extra tariffs paid on chemicals. Miscellaneous chemical mixtures (HS 3824.99) accounted for much of the new tariffs: imports nearly quadrupled but tariffs paid grew from under $10 million in 2017 to $183 million in the 12 months ending in June 2021.



Average tariffs faced – Before Section 301 tariffs took effect, tariffs on basic chemical imports from China averaged about 4%. In June 2021, they averaged about 15%. Compared to other chemical sectors, tariffs on basic chemicals are in the middle of the pack due to about 40% of all imports facing no Section 301 tariffs (below only miscellaneous chemical products among the chemical subsectors.

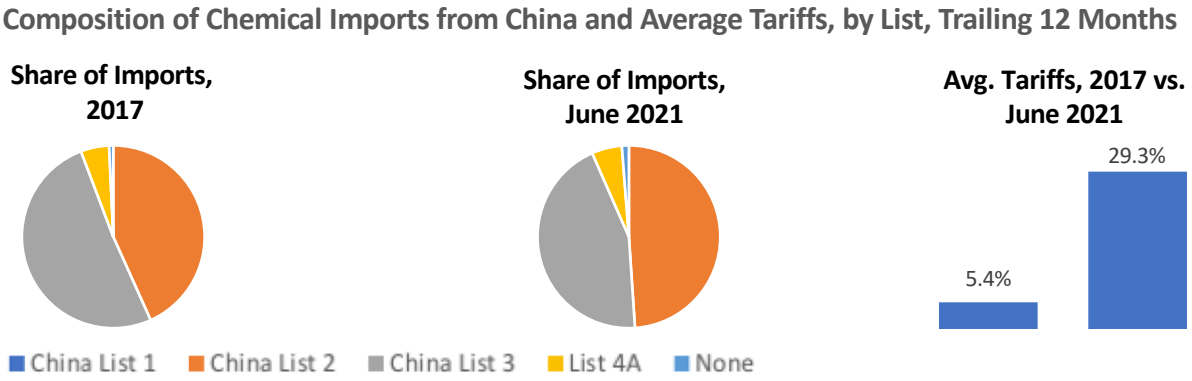


Import trends – Imports of basic chemicals from China were rising before Section 301 tariffs took effect and continued growing through late 2018/early 2019. However, they were about 30% below pre-tariff levels in the 12 months ending in February 2020. Basic chemicals imports are growing again despite facing their highest average rates yet, but were still 13% below their pre-tariff levels for year ending in June 2021.

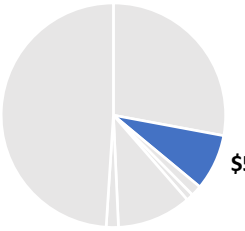


Tariff exclusions – Product-specific exclusions waived an estimated $312 million in additional tariffs on basic chemical imports from China. Overall, exclusions waived about 15% of all expected new tariffs, a higher share than any other chemical subsector. Key product exclusions appear to include mixtures (HTS 3824.99.92), aspartame/artificial sweetener (HTS 2924.29.10), and sorbic acids (HTS 2916.19.10, HTS 2916.19.20).

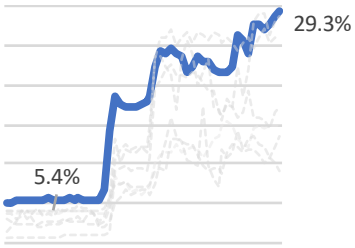
U.S. import trends from China – resins and synthetic fibers



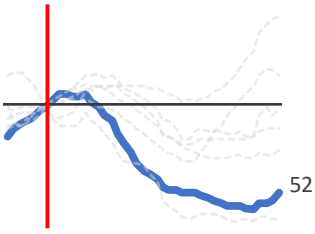
Resins and synthetic fibers include plastics materials, nonvulcanizable elastomers, synthetic rubber, and cellulosic (e.g., rayon) and noncellulosic (e.g., nylon or polyester) fibers and filaments that are generally raw materials for other types of manufacturing. They were the most-impacted chemicals from List 2, and over 99% of imports are subject to Section 301 tariffs. As such, trade shifts have been from some products affected by 301 tariffs to others. Average tariffs in June 2021 were higher than any other chemical sector.



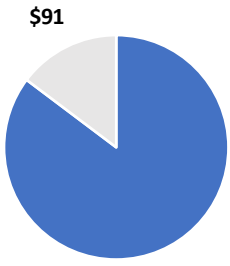
Estimated Section 301 tariffs paid – Resins and synthetic fibers imports from China faced an estimated $526 million in extra Section 301 tariffs from China, accounting for about 8% of extra tariffs paid on chemicals. In the 12 months ending in June 2021, tariffs paid on imports of polymeric MDI (HTS 3909.31.00) grew 267% despite a 22% decline in imports from from 2017. Similarly, tariffs on high-tenacity polyester yarn (HTS 5402.20.30) grew 55% despite a nearly 60% decline in imports.



Average tariffs faced – Before Section 301 tariffs took effect, average tariffs on resins and synthetic fibers imports from China were about 5.5%. In June 2021, they were over 29%. There was a clear decline in average tariffs starting in late 2019 and reaching as low as 21.2% in July 2020, but they have risen sharply to their highest levels ever as more and more exclusions expired.

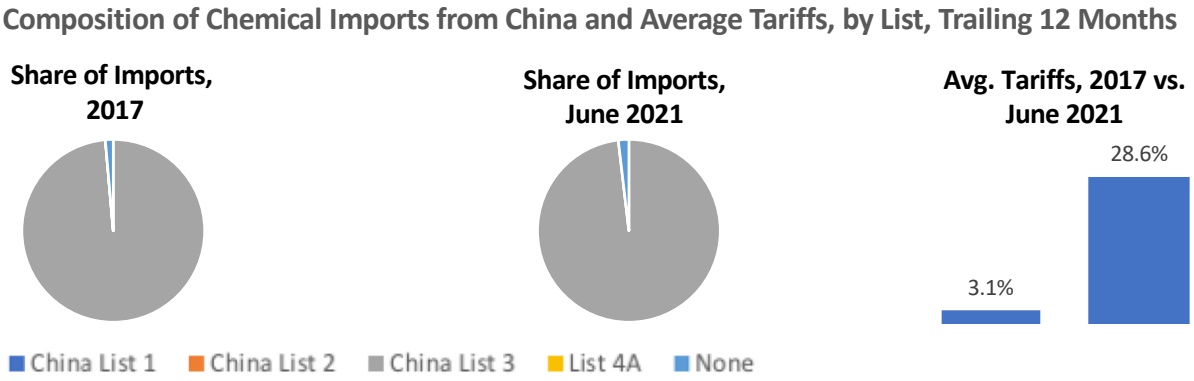


Import trends – Imports of resins and synthetic fibers from China were rising before Section 301 tariffs took effect but quickly reversed. They declined steadily and were about 60% pre-tariff levels in the 12 months ending in February 2021. Imports of resins and synthetic fibers have started climbing again in 2021 but remain at barely half of their pre-tariff levels.

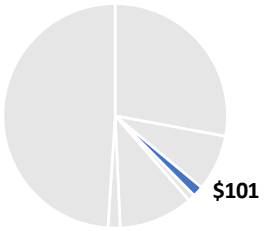


Tariff exclusions – Product-specific exclusions waived an estimated $91 million in additional tariffs on resins and fiber imports from China. Overall, exclusions waived about 15% of all expected new tariffs. Key product exclusions appear to include primary form silicones (HTS 3910.00.00), elastomeric ethylene polymers (HTS 3901.90.10), and elastomeric acrylic polymers (HTS 3906.90.50).

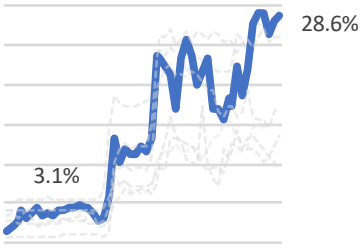
U.S. import trends from China – pesticides and fertilizers



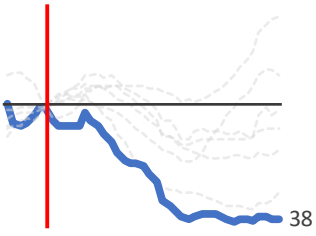
Pesticides and fertilizers nitrogenous or phosphatic fertilizer materials and agricultural chemicals such as herbicides, fungicides, insecticides, and rodenticides. Among the chemical subsectors, pesticides and fertilizers are an outlier in that all products were treated similarly: over 99% of these products' imports from China were on List 3. Despite relatively low initial tariffs, average tariffs in June 2021 were the second-highest among chemical subsectors.



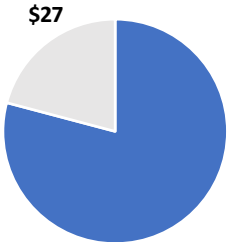
Estimated Section 301 tariffs paid – Pesticides and fertilizers imports from China faced an estimated $101 million in extra Section 301 tariffs from China, accounting for about 1.5% of extra tariffs paid on chemicals. Insecticides (HTS 3808.91) accounted for about a third of all estimated Section 301 tariffs. In the 12 months ending in June 2021, insecticides from China faced $18 million in tariffs on about $65 million in imports, compared to less than $7 million in tariffs on $135 million in 2017.



Average tariffs faced – Before Section 301 tariffs took effect, tariffs on pesticides and fertilizers imports from China averaged about 3%. In June 2021, they averaged nearly 29%. Since nearly all products were on List 3, the jumps following implementation of the 10% tariffs in September 2018 – and increase to 25% in May 2019 – are clear. e 2019 and reaching as low as 21.2% in July 2020, but they have risen sharply to their highest levels ever as more and more exclusions expired.

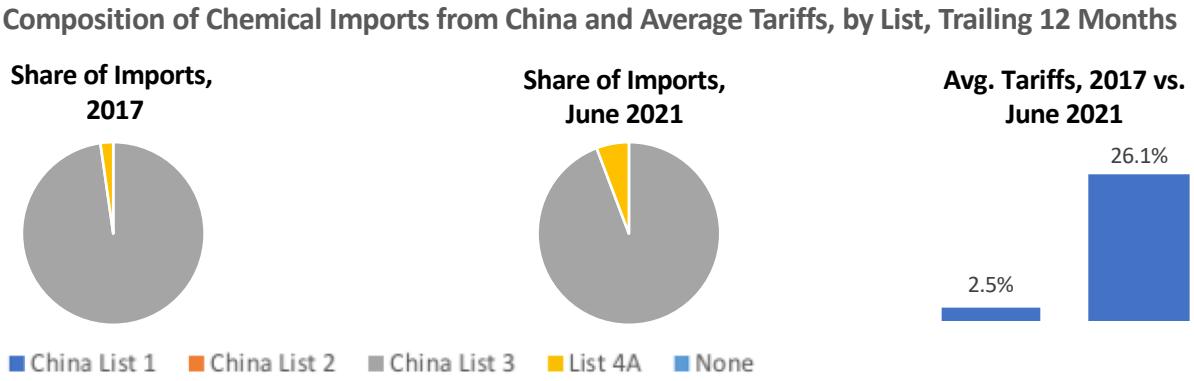


Import trends – Imports of pesticides and fertilizers from China were rising in the immediate run-up to Section 301 tariffs taking effect. Though imports declined slightly in the beginning, declines accelerated once the List 3 tariffs increased to 25% in May 2019. In the year ending in June 2021, imports from China of pesticides and fertilizers are down more than 60% compared to pre-tariff levels.

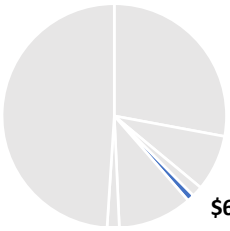


Tariff exclusions – Product-specific exclusions waived an estimated $27 million in additional tariffs on pesticides and fertilizers imports from China. Overall, exclusions waived about 21% of all expected new tariffs. The key product exclusion appears to be for herbicides (multiple codes under HTS 3808.93), though certain animal or vegetable fertilizers (HTS 3101.00.00) have also received exclusions.

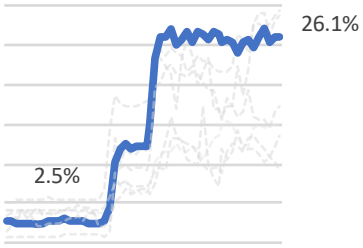
U.S. import trends from China – paints, coatings, and adhesives



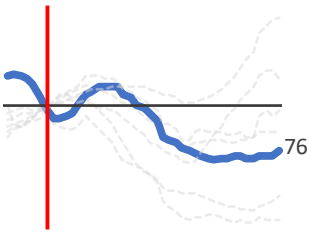
Paints, coatings, and adhesives include plastics and other coatings paints such as stains, varnishes, lacquers, enamels, shellacs, and water-repellents; related products such as putties, paint and varnish removers, paint brush cleaners, and adhesives such as glues and caulking compounds. About 98% of pre-tariff imports were included List 3, with the remaining 2% included on List 4A. By mid-2021, products facing lower List 4A tariffs had expanded to 6% of paints, coatings, and adhesives imports from China. Average tariffs are now nearly 10 times higher than pre-Section 301.



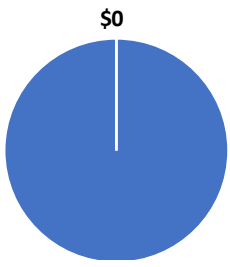
Estimated Section 301 tariffs paid – The smallest of the sectors, paints, coatings, and adhesives imports from China faced an estimated $66 million in extra Section 301 tariffs from China, accounting for about 1% of extra tariffs paid on chemicals. Glue put up for retail sale (HTS 3506.10.50) accounted for about $28 million of the subsector's tariffs faced. From 2017 to the 12 months ending in June 2021, tariffs paid increased from $2.2 million to $11.4 million despite imports declining from $107 million to $43 million.



Average tariffs faced – Before Section 301 tariffs took effect, tariffs on paints, coatings, and adhesives imports from China averaged about 2.5%. In June 2021, they averaged over 26%. Given the dominance of imports on List 3, the sharp increases after List 3 tariffs were imposed in September 2018 and increased May 2019 are clear. Average rates have been fairly consistent since, namely because no paints, coatings or adhesives received exclusions from Section 301 tariffs.

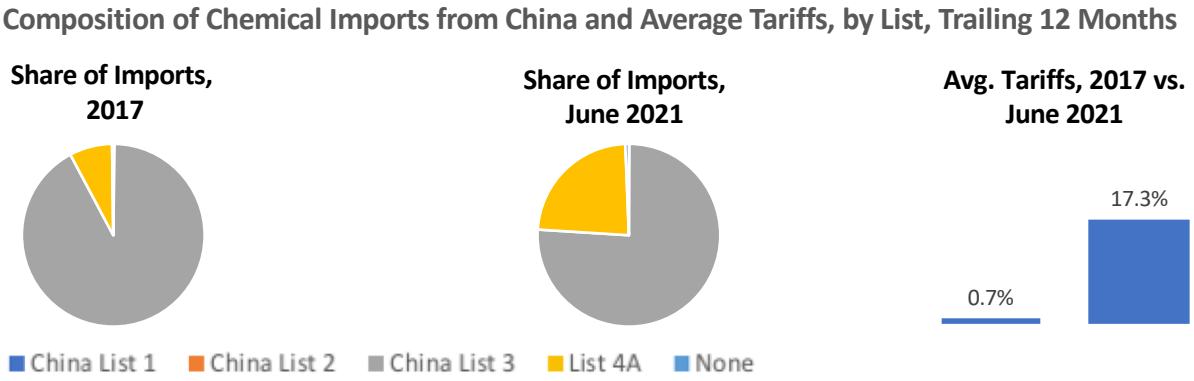


Import trends – Imports of paints, coatings, and adhesives from China were falling before Section 301 tariffs. Initially, imports rose after List 3 tariffs were imposed, possibly due to companies trying to import products before List 3 tariffs' scheduled increase. Yet imports started to fall once tariffs increased to 25% tariffs and remain about 25% below their pre-tariff levels.

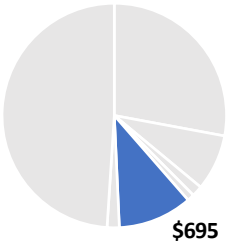


Tariff exclusions – Paints, coatings, and adhesives is the only chemical subsector that did not receive any exemptions from Section 301 tariffs.

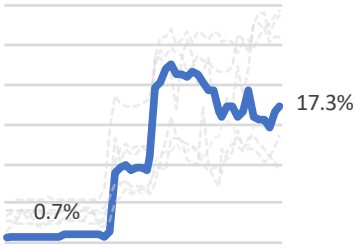
U.S. import trends from China – soaps, cleaning agents, and toiletries



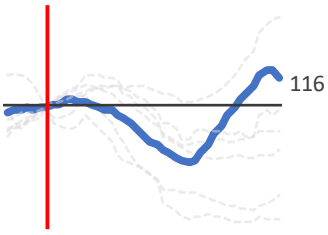
Soaps, cleaning agents, and toiletries include soaps, detergents, polishes, surface active agents, textile and leather finishing agents, and other sanitation goods (e.g., bleach, air fresheners) as well as personal toiletries and cosmetics. Nearly all products were included on either List 3 or List 4A. The expansion of products on List 4A's share of imports from China was driven largely by a huge increase in imports of cleaning wipes (e.g., cleaning wipes imports in October 2020 alone exceeded full-year 2017 imports).



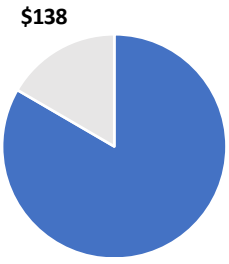
Estimated Section 301 tariffs paid – Soaps, cleaning agents, and toiletries imports from China faced an estimated $695 million in extra Section 301 tariffs from China, accounting for about 11% of extra tariffs paid on chemicals. Eye make-up (HTS 3304.20.00) has faced about $105 million in tariffs despite a 40% decline in imports from 2017 while miscellaneous make-up preparations (HTS 3304.99.50) has faced about $102 million in tariffs despite a 37% decline in imports. Both products were duty free until Section 301 tariffs were imposed.



Average tariffs faced – Before Section 301 tariffs took effect, soaps, cleaning agents, and toiletries imports from China faced the lowest average tariffs at just 0.7%. In June 2021, they averaged about 17%. The List 3 tariff increases are clear, but an increasing share of imports on List 4A instead of List 3, plus the fact that many of cleaning products have received Covid-19-related exemptions that continue to this day, has kept average tariff rates well below their late-2019 high.

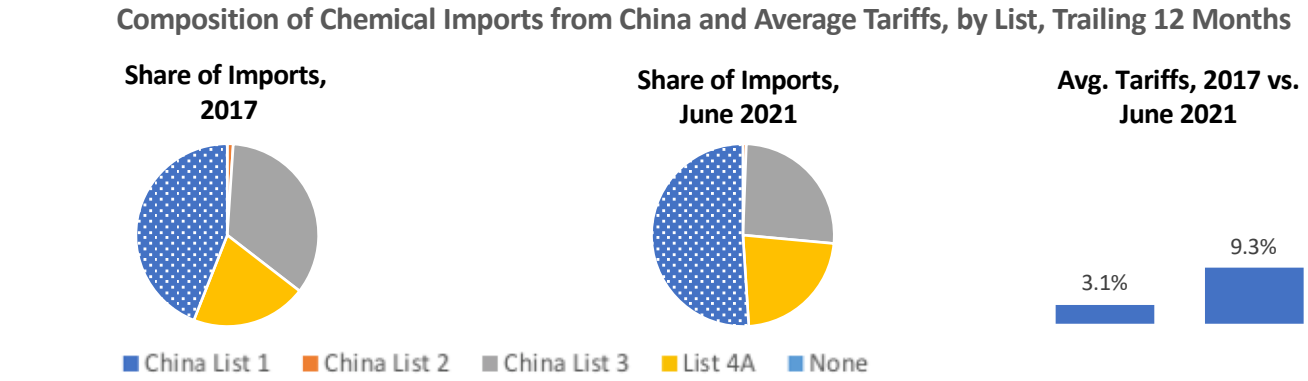


Import trends – Imports of soaps, cleaning agents, and toiletries from China were mostly flat before Section 301 tariffs took effect but experienced two sharp reversals. First, imports started falling as tariffs increased, declining about 30% through mid-2020. Then, Covid-19-related demand led imports to surge – up nearly 20% from pre-tariff and nearly 70% from post-tariff lows – for the year ending in June 2020. As noted, product such as cleaning wipes (HTS 3401.19.00) drove much of the growth.

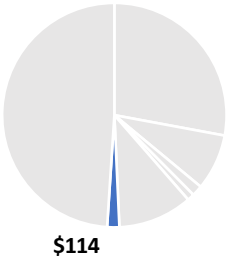


Tariff exclusions – Product-specific exclusions waived an estimated $138 million in additional tariffs on soaps, cleaning agents, and toiletries imports from China. Overall, exclusions waived about 17% of all expected new tariffs. Key product exclusions appear to include primary body wash/shower gels (HTS 3401.30.50), cleaning wipes (HTS 3401.19.00), and disinfectant wipes (HTS 3808.94.50). Unlike many exclusions, those for wipes and other Covid-related products remain in place.

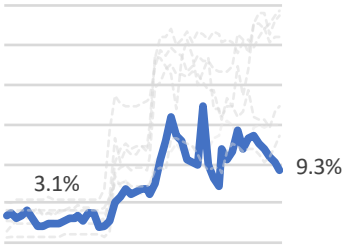
U.S. import trends from China – miscellaneous chemical preparations



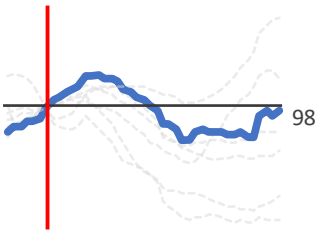
Miscellaneous chemical preparations include custom compounds, explosives, and chemicals that do not fit neatly into other categories such as activated carbon, antifreeze, lighter fluids, and swimming pool chemicals. While the U.S. Census officially classifies printer cartridges in this category, this analysis groups cartridges with "miscellaneous manufactures" (NAICS 339). Miscellaneous chemicals had the highest share of products kept off all Section 301 lists, and therefore saw some of the smallest tariff increases.



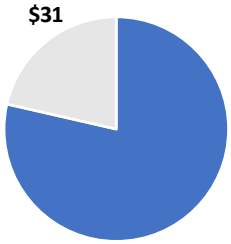
Estimated Section 301 tariffs paid – Miscellaneous chemical preparations imports from China faced an estimated $114 million in extra Section 301 tariffs from China, accounting for about 1.8% of extra tariffs paid on chemicals. Imports of mixtures of multiple inorganic compounds (HTS 3824.99.39), which are normally duty free, have faced as estimated $37 million in Section 301 tariffs. Tariffs on certain aromatic stabilizers (HTS 3812.39.90) increased were nearly 5 times higher in the 12 months ending in June 2021 despite a 20% decline in imports from 2017.



Average tariffs faced – Before Section 301 tariffs took effect, tariffs on miscellaneous chemical preparations imports from China averaged about 3.1%. In June 2021, they averaged about 9% - making it the only chemical subsector with average tariffs below 10%. Average tariff rates are more violative over time because such a large share of imports are subject to no or low (List 4A) Section 301 tariffs, making the composition of imports in a given month much more important than if nearly all products were on Lists 1-3.

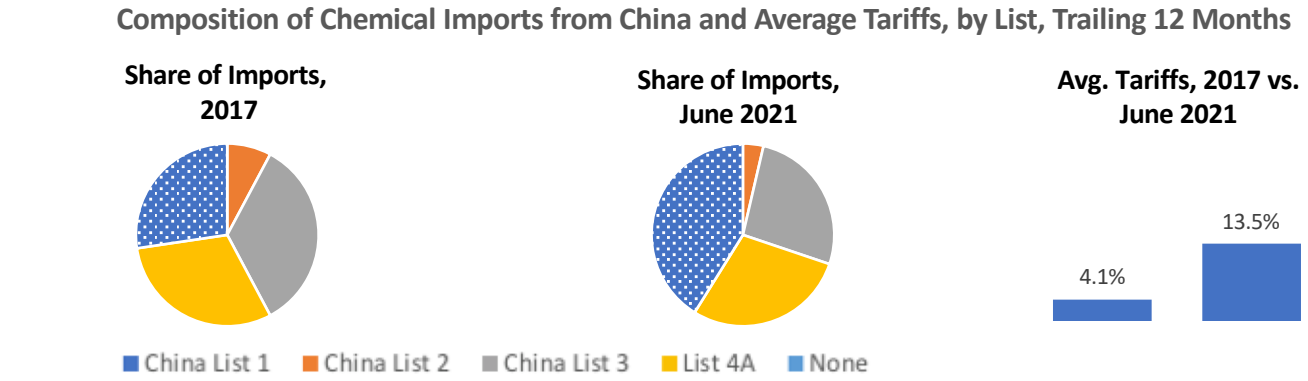


Import trends – Imports of miscellaneous chemical preparations from China were rising before Section 301 tariffs took effect and continued to do so until early 2019, when List 3 tariffs increased. They fell steadily until leveling off in early 2020 around 15% below pre-tariff levels. Following growth in 2021, imports for the year ending in June 2020 are about the same as before any tariffs took effect.

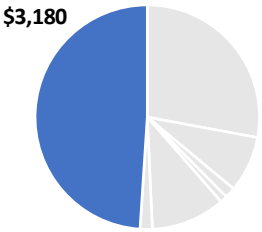


Tariff exclusions – Product-specific exclusions waived an estimated $31 million in additional tariffs on miscellaneous chemical preparations imports from China. Overall, exclusions waived about 21% of all expected new tariffs. Mixtures of two or more inorganic compounds (HTS 3824.99.39) also accounted for the bulk of tariff exclusions, though certain photographic films (HTS 3702.44.01) are appear largely exempted from Section 301 tariffs.

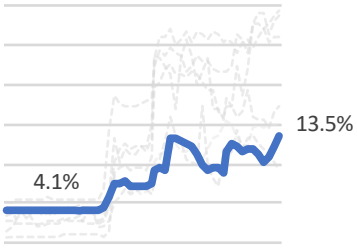
U.S. import trends from China – plastics products



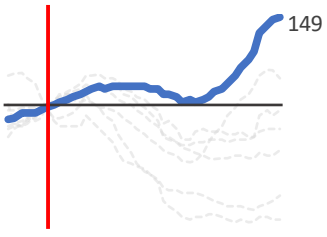
Plastics products include a wide variety of goods manufactured from new or recycled plastics, including packaging materials (e.g., plastic bags and films), pipes and fittings, sheets and dividers, foam products, bottles, kitchenware, gloves, floor coverings, and many other common items. As the most diverse subsector, it also had the most varied Section 301 treatment. Products never subject to Section 301 tariffs increased from 27% of imports from China in 2017 to 41% of imports in June 2021, helping keep average tariffs fairly low compared to other chemical subsectors.



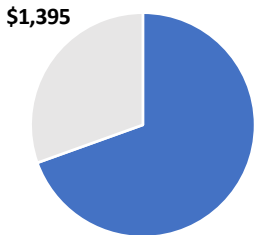
Estimated Section 301 tariffs paid – Plastics products imports from China faced an estimated $3.2 billion in extra Section 301 tariffs from China, accounting for 49% of extra tariffs paid on chemicals. Tariffs paid on imports of plastic floor coverings (HTS 3918.10.10) grew from $89 million in 2017 to $834 million in the 12 months ending in June 2021 due to List 3 tariffs and imports nearly doubling. Similarly, tariffs on miscellaneous plastic household articles (HTS 3924.90.56) grew from $40 million in 2017 to $170 million in the year ending in June 2021 as tariffs and imports rose.



Average tariffs faced – Before Section 301 tariffs took effect, tariffs on plastics products imports from China averaged about 4%. In June 2021, they were about three times higher at 13.5%. There are clear ups when Lists 3 and 4A tariffs were imposed or increased, and a clear decline when 4A tariffs were reduced in February 2020, but rapidly increasing import values for products like rubber gloves (HTS 3926.20.10) never subject to Section 301s obscure the impacts of Section 301 tariffs on average rates over the course of 2020.



Import trends – Imports of plastics products from China have surged despite tariffs, largely due to Covid-19-related demand. In fact, at no point have they ever fallen below the level of plastics products imports in the 12 months before tariffs were imposed. Home goods including floor coverings (HTS 3918.10.00), gloves (HTS 3926.20.10), storage containers (HTS 3924.10.40, HTS 3924.90.50), and others saw very large increases. Imports today are about 50% higher than their pre-tariff levels.

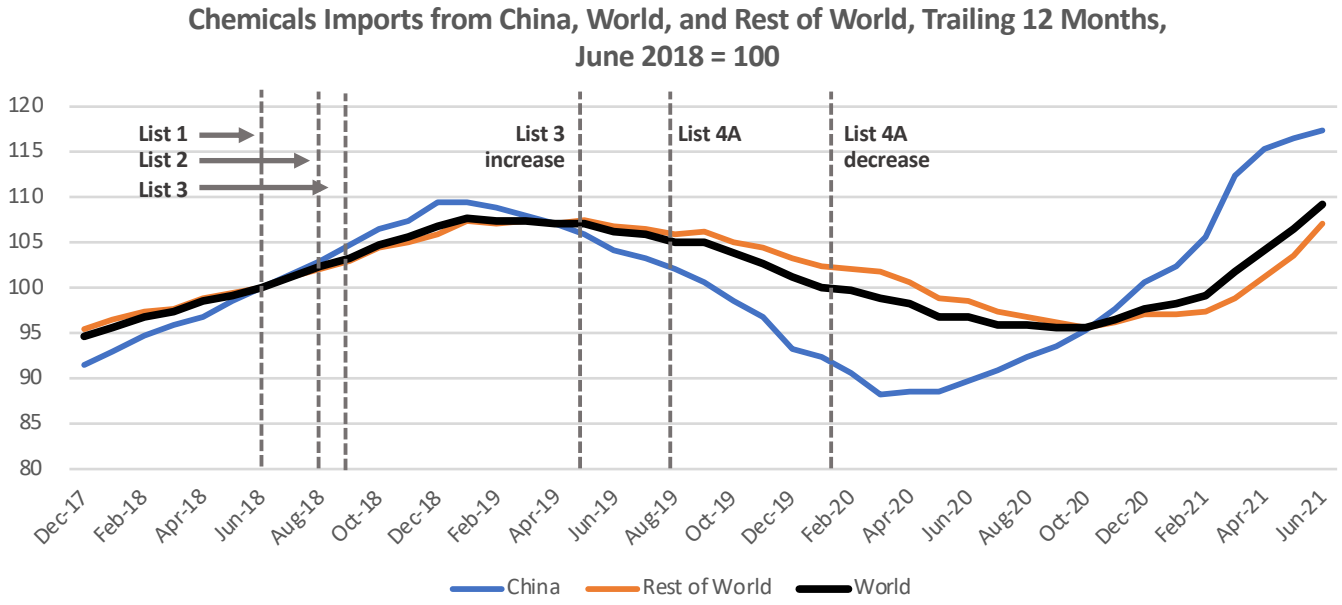


Tariff exclusions – Product-specific exclusions waived an estimated $1.4 billion in additional tariffs on of plastics products imports from China. Overall, exclusions waived about 30% of all expected new tariffs, a higher share than any other chemical subsector. Key product exclusions appear to include plastic floor coverings (HTS 3918.10.10), plastic bags (HTS 3923.21.00), and plastic laboratory ware (HTS 3926.90.99).

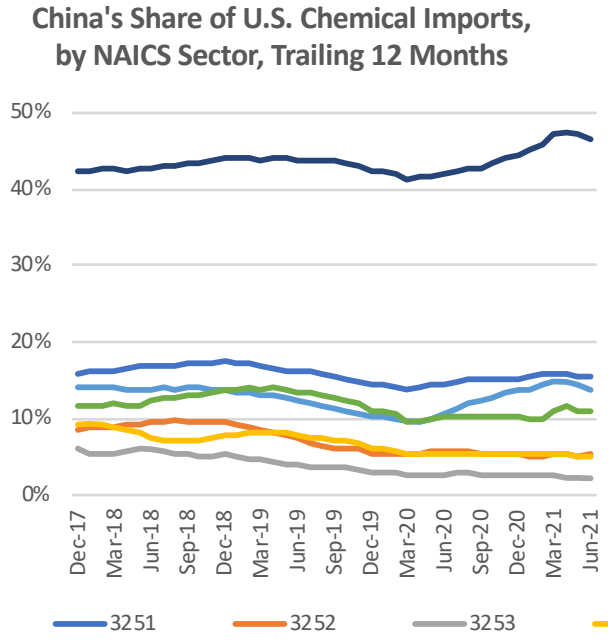
Section 3: Sourcing shifts – or lack thereof – of U.S. chemical imports

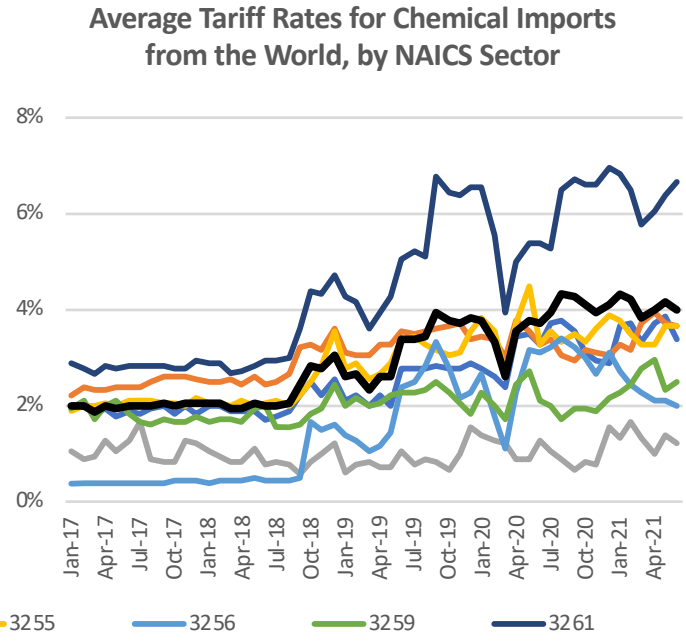
U.S. chemical import shifts (or lack thereof)

It was expected that tariffs on imports from China would cause supply chains to shift to other countries as American companies found alternative sources. In many sectors, that is exactly what happened. But not for chemicals. Overall import trends for the world, China, and rest of world all followed similar patterns: they were rising in 2018, plateaued and then started to fall in 2019, and started rising again in early 2020.



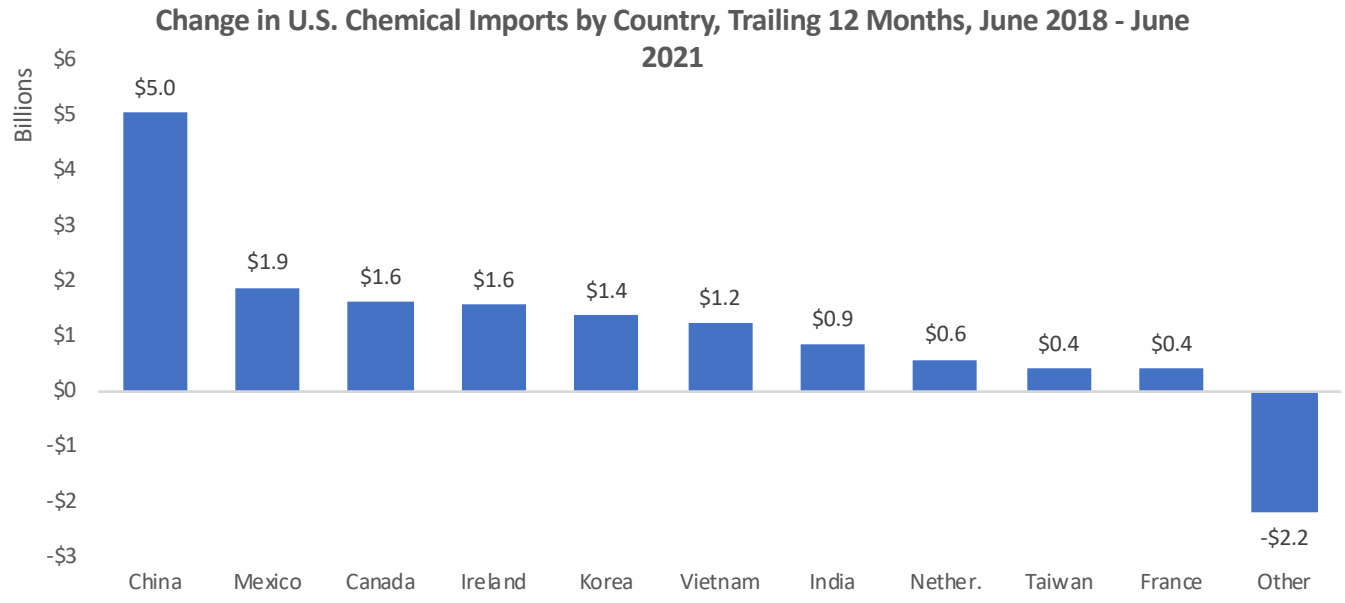
While China's fall was sharper, so was its recovery, and chemical imports from China outperformed those from the rest of the world between June 2018 and today. As such, China's share of U.S. chemicals imports has *increased* since Section 301 tariffs took effect, particularly for sectors such as plastics products. As a result of higher tariffs on China plus China's growing share of chemical imports, the average tariff paid on *all* chemicals from *all* countries doubled from 2% to 4% over the past there years. These higher tariffs harm many U.S. manufacturers that rely on imported chemical to remain competitive in the U.S. and export markets.





U.S. chemical import shifts (or lack thereof)

Looking at U.S. chemical import trends from individual countries, China once again stands out. Imports from China increased by $5 billion in the year ending in June 2021 compared to June 2018. That was nearly identical to the increase from the next three largest countries *combined* – Mexico (+$1.9 billion), Canada (+$1.6 billion), and Ireland (+$1.6 billion). China's top position cannot be explained by small gains spread across many countries, as combined chemical imports from all countries outside of the top 10 winners declined by $2.2 billion.



U.S. chemical import shifts (or lack thereof)

China's growing prominence for U.S. chemical imports despite the Section 301 tariffs are an outlier among U.S. sectors. For chemicals, China's share increased from 20.2% to 22.4%. The 2.2 percentage point increase ranks third among all U.S. sectors, behind only textile mill products and forestry and logging products. China increased its share of U.S. imports in just two other sectors, – pharmaceuticals and miscellaneous manufacturing.

There appears to be a strong Covid-19 impact on these figures. As noted, textile mill products including N95 and other face masks, and also had the highest share (36%) of expected tariffs waived due to exclusions. Due to including medical equipment such as respirators and rubber gloves, "miscellaneous manufacturing" had among the highest share (63%) of products not included on any list (e.g., respirators) and among the highest share (20%) of expected tariffs waived due to exclusions (e.g., rubber gloves).

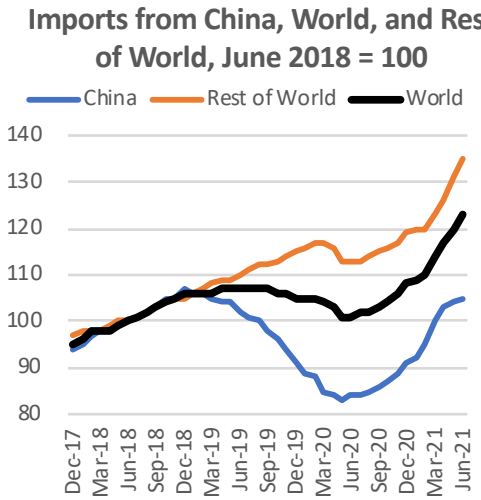
Overall, China's share of U.S. goods imports declined from 21.6% in 2017 to 18.6% in the 12 months ending in June 2021. With U.S. goods imports exceeding $2 trillion annually, even 1-2% is a significant amount of trade, but the decline is still less than may be expected after $90 billion in punitive tariffs. China's share of U.S. import declined much more in sectors such as furniture, leather products (e.g., shoes), and wood products, and computers and electronics.

Table 3: Sector Comparison of China's Share of U.S. Imports, Trailing 12 Months

Sector	China's Share of U.S. Imports, 2017	China's Share of U.S. Imports, June 2021	Change (Percentage Points)
Textile Mill Products	54.0%	58.7%	4.7%
Forestry Products, Nesoi	8.5%	11.2%	2.6%
Chemicals	20.2%	22.4%	2.2%
Pharmaceuticals & Medicines	2.4%	2.7%	0.4%
Miscellaneous Manufactures	33.7%	33.9%	0.2%
Oil & Gas	0.0%	0.0%	0.0%
Beverages & Tobacco Products	0.3%	0.1%	-0.2%
Transportation Equipment	4.9%	4.7%	-0.2%
Petroleum & Coal Products	0.6%	0.2%	-0.4%
Agricultural Products	1.6%	1.1%	-0.5%
Livestock & Livestock Products	0.6%	0.1%	-0.6%
Minerals & Ores	3.1%	2.2%	-0.8%
Scrap Products	2.2%	0.5%	-1.7%
Food & Kindred Products	6.2%	3.9%	-2.3%
Paper Products	16.5%	13.9%	-2.6%
Fabricated Metal Products	32.7%	30.1%	-2.6%
Machinery	20.9%	18.2%	-2.6%
Primary Metals	4.7%	1.9%	-2.9%
Printed Matter And Related Products	50.7%	47.7%	-3.0%
Electrical Equipment	39.5%	34.3%	-5.2%
Textiles & Fabrics	27.7%	22.4%	-5.3%
Rubber Products	17.2%	11.6%	-5.7%
Fish & Other Marine Products	13.3%	7.2%	-6.1%
Apparel & Accessories	34.7%	26.0%	-8.7%
Nonmetallic Mineral Products	34.1%	25.2%	-9.0%
Computer & Electronic Products	46.1%	36.4%	-9.7%
Wood Products	19.7%	8.7%	-10.9%
Leather & Allied Products	53.3%	34.8%	-18.5%
Furniture & Fixtures	56.3%	36.5%	-19.8%
Total	21.6%	18.6%	-3.0%

U.S. import shifts for other key sectors

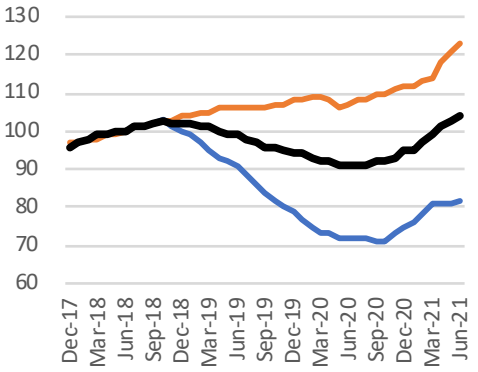
Chemicals imports from China outperforming those from the rest of the world in spite of $6.5 billion in new Section 301 tariffs is even more surprising considering trends in the other sectors facing the most estimated 301 tariffs.



Electrical Equipment

Estimated 301 tariffs faced: $14.3 billion
Average tariffs, June 2021: 17.1% for China, 1.8% for Rest of World

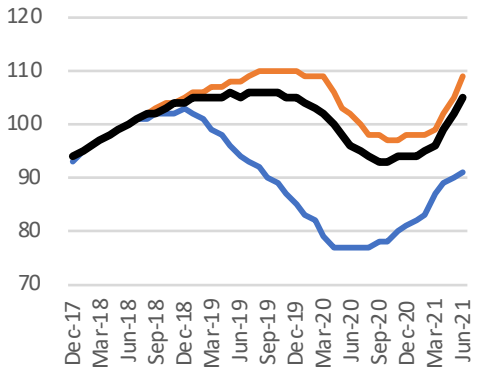
Electrical equipment and parts have faced the most estimated Section 301 tariffs. While imports from China and the rest of the world were growing at similar rates, they diverged sharply in early 2019. For the year ending in June 2021, imports from the world are up 23% from three years earlier. Growth has been driven by a 35% increase in non-China imports, compared to just a 5% increase from China.



Computers and Electronics

Estimated 301 tariffs faced: $13.2 billion
Average tariffs, June 2021: 3.7% for China, 0.1% for Rest of World

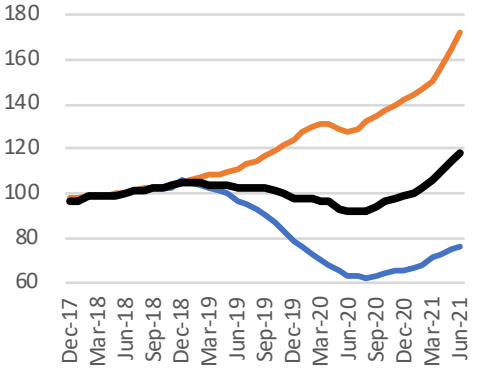
Computers and electronics have faced the second-most estimated Section 301 tariffs. Again, imports from China and the rest of the world were growing at similar rates before diverging sharply in late 2018. For the year ending in June 2021, imports from the world are up 4% from three years earlier. Growth has been driven by a 21% increase in non-China imports, compared to an 18% decrease from China.



Machinery

Estimated 301 tariffs faced: $12.0 billion
Average tariffs, June 2021: 18.2% for China, 0.6% for Rest of World

Machinery have faced the third-most estimated Section 301 tariffs. Yet again, imports from China and the rest of the world were growing at similar rates before diverging sharply in late 2018. For the year ending in June 2021, imports from the world are up 5% from three years earlier. Growth has been driven by a 9% increase in non-China imports, compared to a 9% decrease from China.



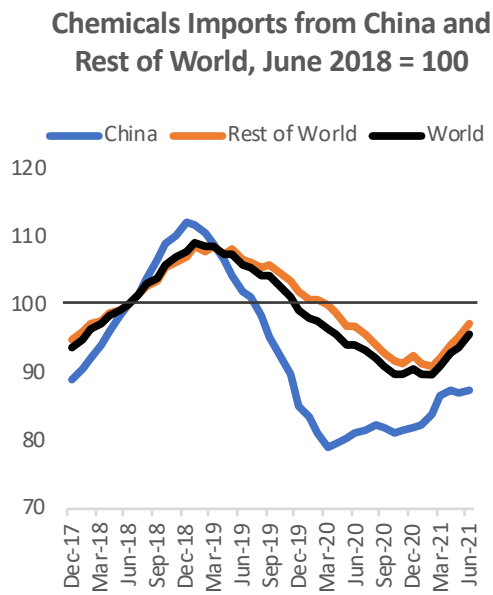
Furniture

Estimated 301 tariffs faced: $8.2 billion
Average tariffs, June 2021: 21.7% for China, 0.2% for Rest of World

Furniture and fixtures have faced the fourth-most estimated Section 301 tariffs, but have shown the sharpest divergence since early 2019. For the year ending in June 2021, imports from the world are up 18% from three years earlier. Growth has been driven by a 72% increase in non-China imports, more than offsetting the 24% decrease from China.

U.S. import trends from China versus rest of world for chemical subsectors

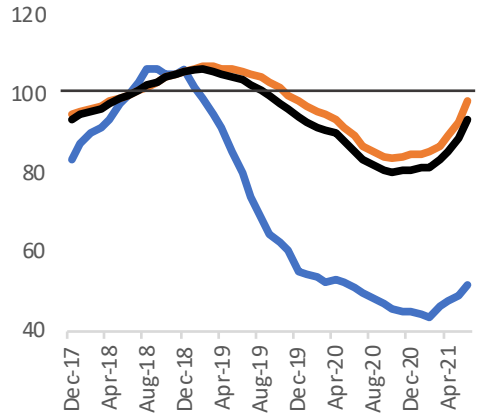
Once again, there are significant differences in sourcing trends between the chemical subsectors. China's overall increase in total chemical imports and share of U.S. chemical imports are driven largely by plastics products and soaps, cleaning agents, and toiletries. Similarly, chemicals imports from a given market perform much differently (e.g., growing paints, coatings, and adhesives imports from Germany were offset by declining miscellaneous chemical preparations imports). The section below highlights trends for China and the rest of the world, including specific markets with large U.S. import changes, for each chemical subsector.



Basic Chemicals

Estimated 301 tariffs faced: $1.8 billion
Average tariffs, June 2021: 14.8% for China, 1.5% for Rest of World

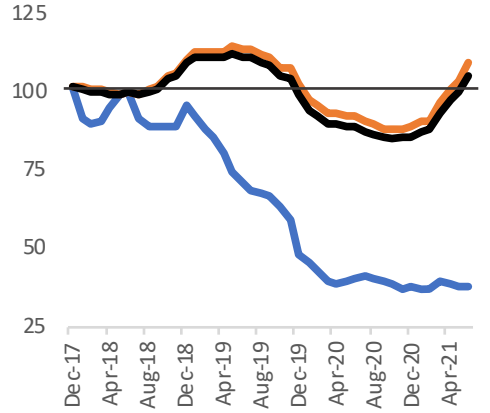
Imports of basic chemicals from China and the world followed similar patterns. Imports from China fell faster – and more – but started recovering earlier. Both remain below their June 2018 levels. Imports increased most from Ireland (+$1.5 billion, +40%), Mexico (+$624 million, +37%), and India (+$619 million, +28%). Yet total imports declined by $2.3 billion, including large declines from Switzerland (-$1.2 billion, -31%), China (-$1.2 billion, -13%), and Venezuela (-$899 million, -99.7%).



Resins & Synthetic Fibers

Estimated 301 tariffs faced: $526 million
Average tariffs, June 2021: 29.3% for China, 2.1% for Rest of World

Imports of resins and synthetic fibers from China fell drastically after Section 301 tariffs were imposed, but imports from the rest of the world started falling in early 2019 too. Despite recent gains, both remain below their June 2018 levels. Imports increased most from Korea (+$227 million, +14%), Vietnam (+$163 million, +362%), and Canada (+$139 million, +3%). Total imports declined by $1.2 billion, including large declines from China (-$902 million, -48%), Japan (-$263 million, -18%), and Germany (-$206 million, -11%).

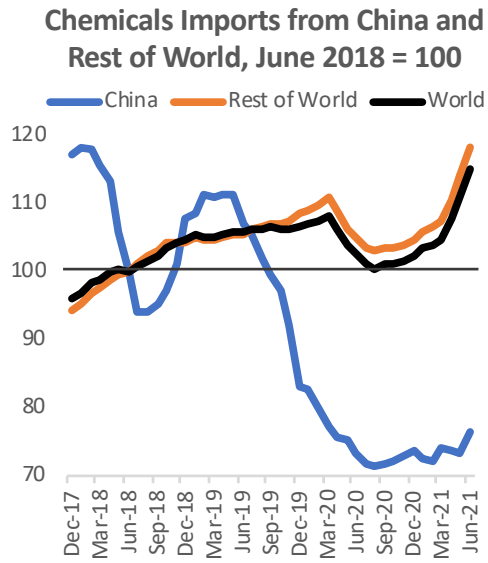


Pesticides & Fertilizers

Estimated 301 tariffs faced: $101 million
Average tariffs, June 2021: 28.6% for China, 0.8% for Rest of World

Imports of pesticides and fertilizers from China fell incredibly sharply and have not recovered. Conversely, imports from the rest of the world are up about 10% compared to pre-tariff levels. Total imports increased by $445 million, including large increases from Saudi Arabia (+$254 million, +146%), Russia (+$191 million, +28%), and Canada (+$183 million, +6%). The largest declines came from Morocco (-$572 million, -88%), China (-$323 million, -62%), and Germany (-$178 million, -37%).

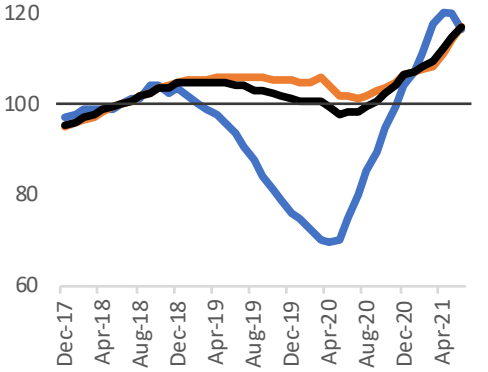
U.S. import trends from China versus rest of world for chemical subsectors



Paints, Coatings & Adhesives

Estimated 301 tariffs faced: $66 million
Average tariffs, June 2021: 26.1% for China, 2.3% for Rest of World

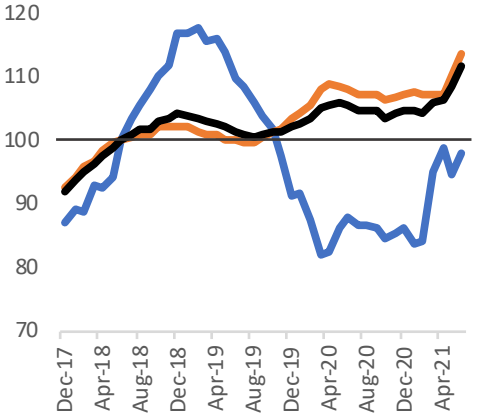
Imports of paints, coatings, and adhesives from China weathered initial tariffs but fell once List 3 tariffs increased to 25%. Conversely, imports from the rest of the world are up about 18% compared to pre-tariff levels. Total imports increased by $301 million, including large increases from Germany (+$89 million, +28%), Mexico (+$56 million, +39%), and Canada (+$34 million, +6%). The largest declines came from China (-$36 million, -24%), Thailand (-$4 million, -58%), and New Zealand (-$4 million, -63%).



Soaps, Cleaning Agents & Toiletries

Estimated 301 tariffs faced: $695 million
Average tariffs, June 2021: 17.3% for China, 0.5% for Rest of World

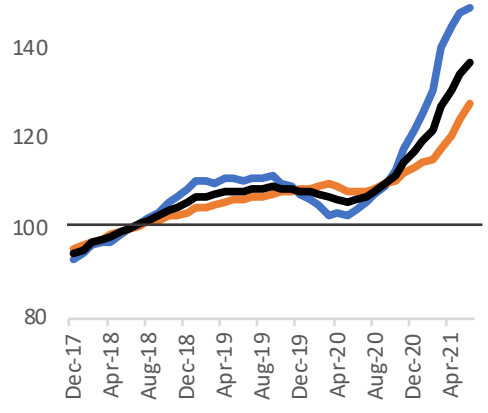
After sharp post-301 tariff declines, imports of soaps, cleaning agents, and toiletries from China are up 16% compared to June 2018, the same as the rest of the world. Total imports increased by $2.3 billion, including large increases from Mexico (+$481 million, +35%), Korea (+$323 million, +56%), and China (+$304 million, +16%). The largest declines came from the United Kingdom (-$77 million, -11%), Belgium (-$52 million, -33%), and Japan (-$44 million, -11%).



Misc. Chemical Preparations

Estimated 301 tariffs faced: $114 million
Average tariffs, June 2021: 9.3% for China, 1.2% for Rest of World

Section 301 impacts on imports of miscellaneous chemical preparations since only about 1/3 of Chinese imports were included on Lists 1-3. Imports from China have recovered to about pre-tariff levels. Total imports increased by $705 million, led by Japan (+$927 million, +113%), India (+$60 million, +18%), and Sri Lanka (+$20 million, +47%). The largest declines came from Argentina (-$103 million, -68%), France (-$81 million, -21%), and Germany (-$76 million, -14%).



Plastics Products

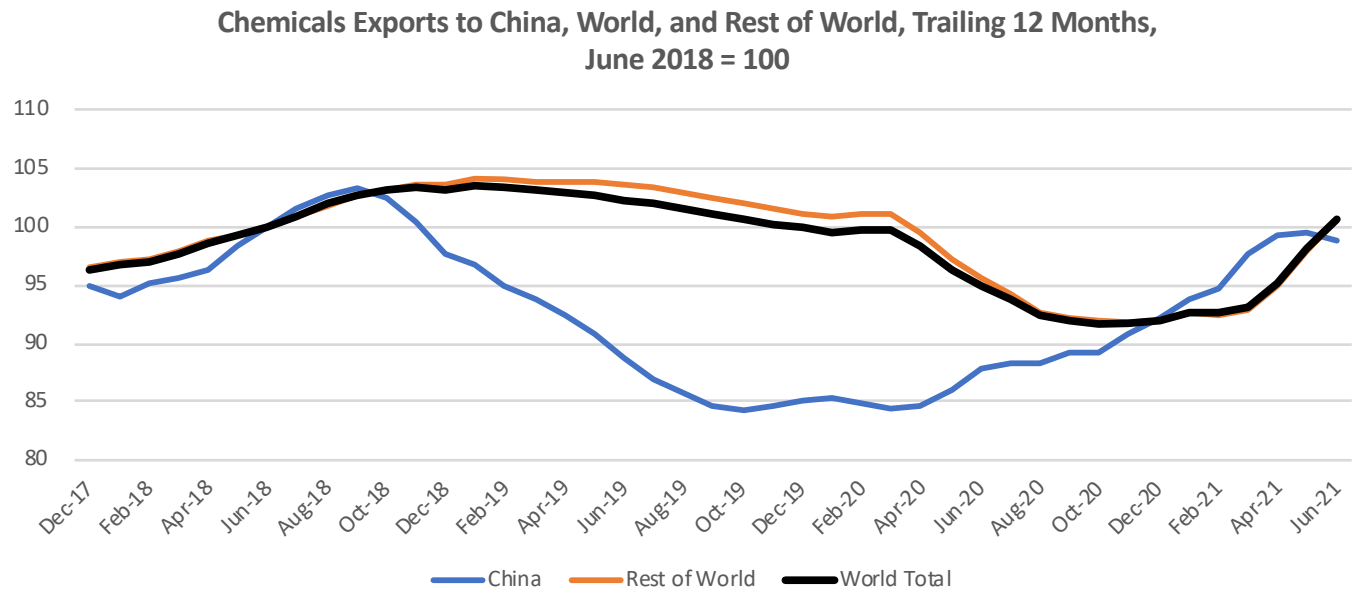
Estimated 301 tariffs faced: $3.2 billion
Average tariffs, June 2021: 13.5% for China, 2.0% for Rest of World

At no point have plastics products imports from China fallen below pre-Section 301 levels, and imports from China have outperformed those from the rest of the world significantly since Covid-19 hit. Total imports increased by $12.6 billion, led by China (+$7.2 billion, +49%). In fact, China accounted for 57% of world growth. Other top performers include Canada (+$989 million, +18%), Vietnam (+987 million, +321%), and Mexico (+$633 million, +18%). The largest declines came from Hong Kong (-$111 million, -68%) and Japan (-$56 million, -7%).

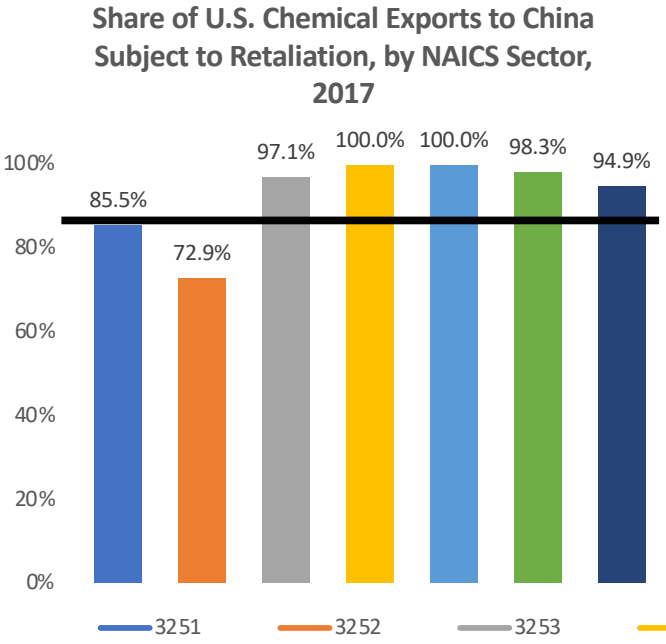
Section 4: U.S. chemical exports trends to China and other countries

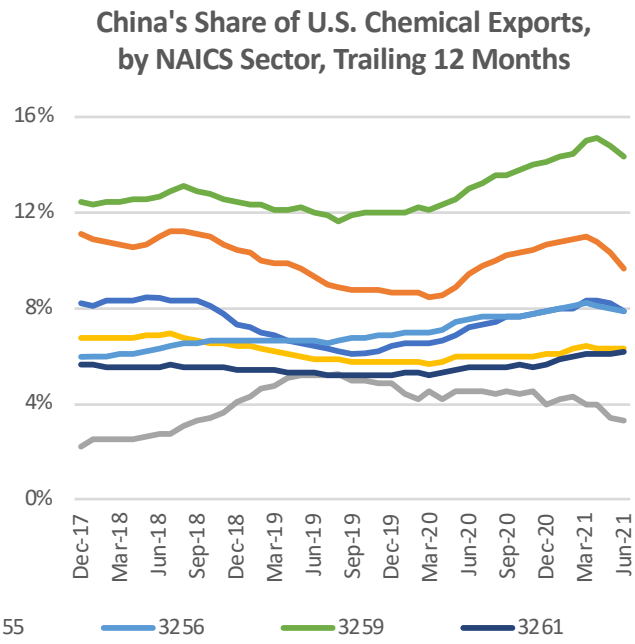
U.S. chemical export shifts (or lack thereof)

There was a fear that retaliatory tariffs would cause significant U.S. chemical export declines to China – and initially they did. Furthermore, chemical exports to the rest of the world also peaked in late 2018/early 2019, so there were not big markets "picking up the slack." Yet chemical exports declines to China stopped falling in late 2019 and began rebounding in early 2020.



Like with chemical imports, both China's fall and recovery were sharper than the rest of the world. Chemical exports to China have only slightly underperformed those to the rest of the world between June 2018 and today. As such, China's share of U.S. chemicals exports today is about the same as three years ago despite China's retaliation to U.S. Section 301 tariffs covering up to 86% of U.S. chemical exports in 2017. For some sectors, such as miscellaneous chemical products, China's share of exports increased significantly even though nearly all U.S. exports were subject to retaliation. Perhaps surprisingly, U.S. resin exports were least likely to face retaliatory tariffs, yet China's share of U.S. exports declined.





U.S. chemical export shifts (or lack thereof)

While China's increased share of imports made chemicals an outlier, China increased its share of U.S. exports for most sectors between 2017 and the 12 months ending in June 2021. China's identical share of chemical exports – 8.1% in each period – was below the national 0.8 percentage point increase.

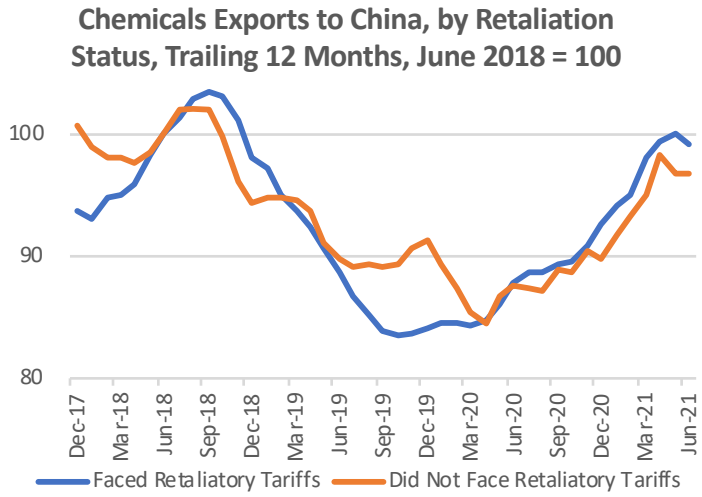
The U.S.-China "Phase 1" deal and the start of Covid-19 in early 2020 appear to drive much of the changes. Agriculture and food products (e.g., meats) were clear priorities in the Phase 1 deal, and two of the top four sectors in terms of China export share increases. Pharmaceuticals and "miscellaneous" manufactures, which includes medical equipment, were ranked fourth and sixth in terms of China export share increases, respectfully, suggesting Covid-19 impacts were also affecting trends. Semiconductors drive the changes within computer and electronics, but there are many ongoing issues with semiconductor supply chains that make it difficult to assign any one "reason" for trends.

Table 4: Sector Comparison of China's Share of U.S. Exports, Trailing 12 Months

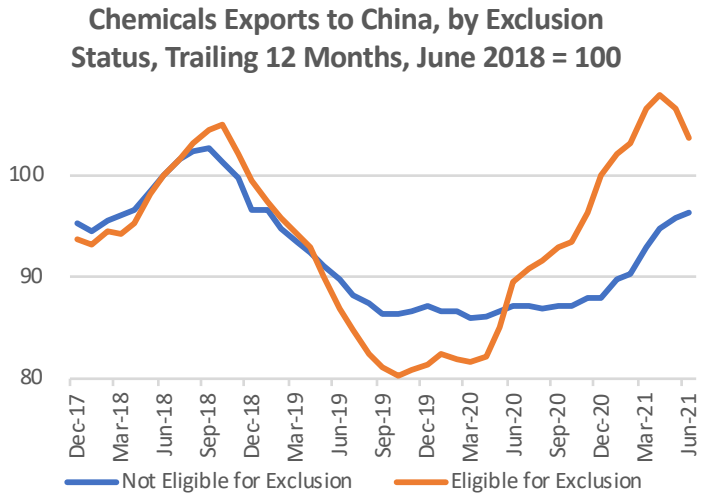
Sector	China's Share of U.S. Exports, 2017	China's Share of U.S. Exports, June 2021	Change (Percentage Points)
Agricultural Products	23.0%	31.9%	8.9%
Minerals & Ores	9.8%	13.3%	3.6%
Pharmaceuticals & Medicines	6.1%	9.6%	3.6%
Food & Kindred Products	5.2%	8.5%	3.3%
Computer & Electronic Products	8.3%	11.3%	3.0%
Miscellaneous Manufactured Commodities	4.0%	6.3%	2.3%
Machinery, Except Electrical	7.0%	9.3%	2.2%
Primary Metals	4.0%	6.0%	2.0%
Leather & Allied Products	9.4%	10.8%	1.4%
Paper	10.9%	11.9%	1.0%
Electrical Equipment, Appliances & Components	5.5%	6.4%	0.9%
Nonmetallic Mineral Products	7.6%	8.4%	0.8%
Apparel & Accessories	1.8%	2.2%	0.4%
Textile Mill Products	2.2%	2.5%	0.3%
Livestock & Livestock Products	5.5%	5.8%	0.3%
Chemicals	**8.1%**	**8.1%**	**0.0%**
Beverages & Tobacco Products	2.0%	1.9%	-0.1%
Printed Matter And Related Products	3.3%	3.2%	-0.2%
Fabricated Metal Products, Nesoi	5.2%	5.0%	-0.2%
Rubber Products	3.5%	3.1%	-0.3%
Petroleum & Coal Products	1.5%	0.9%	-0.5%
Textiles & Fabrics	4.6%	3.9%	-0.6%
Furniture & Fixtures	3.2%	1.7%	-1.4%
Oil & Gas	14.8%	11.8%	-3.0%
Transportation Equipment	10.5%	6.8%	-3.7%
Marine Products	22.8%	17.3%	-5.5%
Forestry Products	48.1%	40.6%	-7.5%
Wood Products	24.2%	12.4%	-11.8%
Waste And Scrap	30.8%	5.7%	-25.1%
Total	**8.4%**	**9.2%**	**0.8%**

U.S. chemical export shifts (or lack thereof)

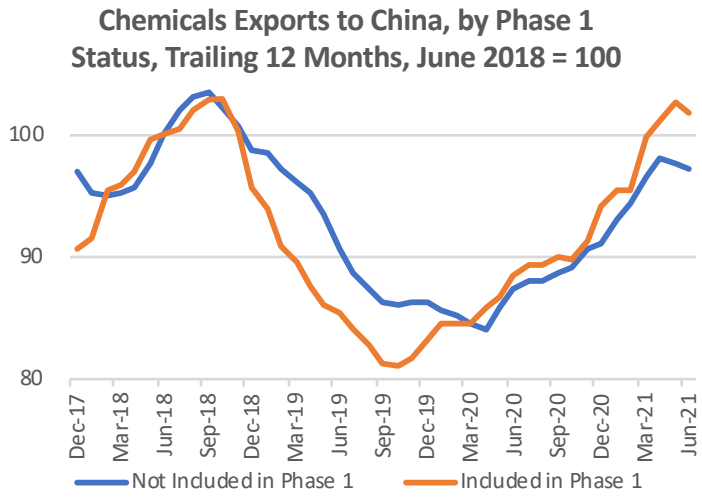
Once again, there are numerous factors that complicate analysis of chemical export trends to China: were they subject to retaliation or not? If so, were they among the products granted exclusions? Were they included in the Phase 1 deal's purchasing commitments? Surprisingly, only one of those factors appears to have a noticeable impact on U.S. export trends, as shown in the graphs below.



Chemical exports that faced retaliatory Chinese tariffs *outperformed* those that did not. Impacted chemical exports were growing pre-tariffs, whereas the non-tariffed products as a group were mostly flat. Tariffs appeared to have an initial impact, with those exports falling faster until stabilizing in late 2019/early 2020. Both product groups started rising in early 2020. Sample size may impact these results, as only 14% of chemical exports did not face any retaliatory tariffs.



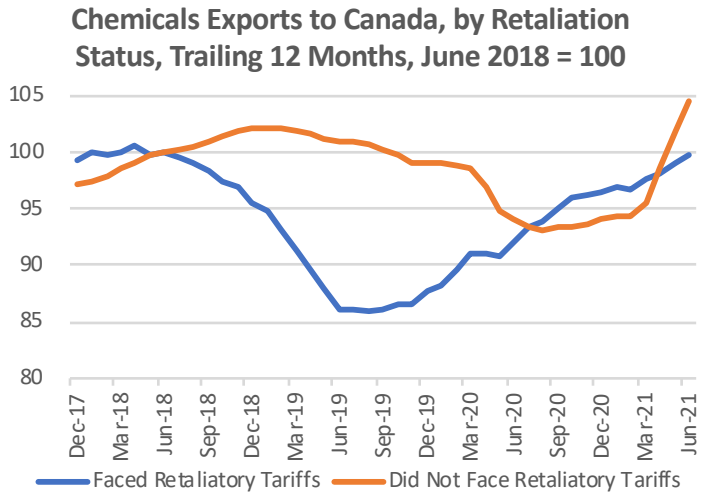
Exclusion status for products that faced retaliatory tariffs had the most notable impact. About 40% of chemical exports were covered by possible exclusions. The groups rose (pre-tariffs) and fell (post-tariffs) at nearly identical rates, but then diverged sharply in early 2020. There is a potential chicken-and-egg scenario with these products. Did they increase because of exemptions, or did were they granted exemptions because the Chinese government determined imports were necessary?



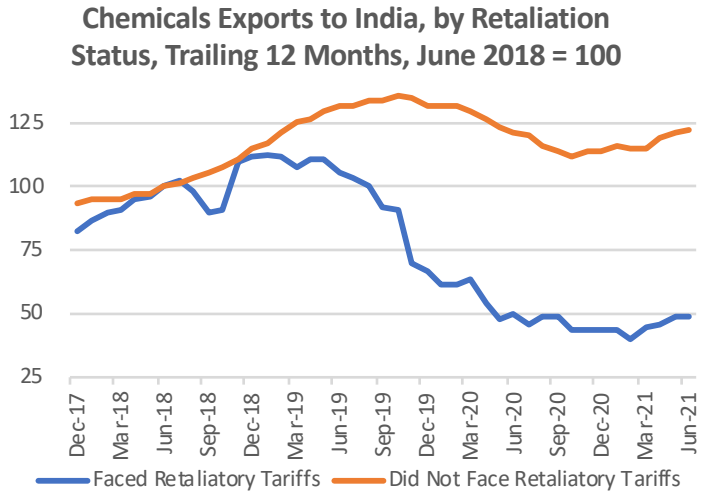
Whether or not chemical products were included in the U.S.-China Phase 1 deal purchase targets appears to have little impact on chemical export performance. About 35% of chemical exports were covered by the deal, yet they barely outperformed products not included. Exports of Phase 1-covered chemicals also started growing again months before the deal was announced – and exports of non-covered products grew fastest after it was announced – further suggesting that the deal itself did not alter export trends radically.

U.S. chemical export shifts (or lack thereof) – Country Comparisons

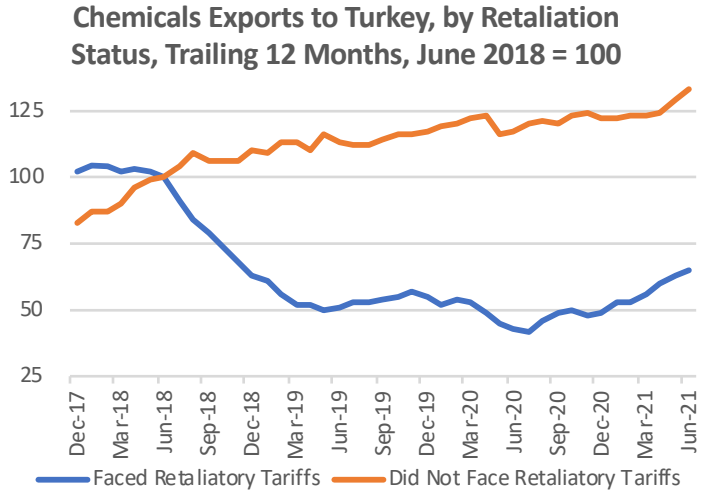
Since countries including Canada, India, Turkey, and the EU imposed Section 232 retaliatory tariffs against U.S. chemical exports, it is possible to compare the performance of U.S. exports to China's with those others. The China experience, where export trends moved together regardless of whether they faced new tariffs or not, was not the norm, as shown below. (Note: the EU is not shown since retaliation covered only a few tariff lines accounting for less than 2% of U.S. chemical exports).



Chemical exports that faced retaliatory Canadian tariffs fell sharply after the new tariffs were imposed. Removal of the tariffs in mid-2019 stopped the free fall but exports did not start growing again in earnest until late 2019 and just returned to 2018 levels in June 2021. Chemicals that never faced new tariffs also declines, particularly at the onset of Covid-19, but have since recovered.



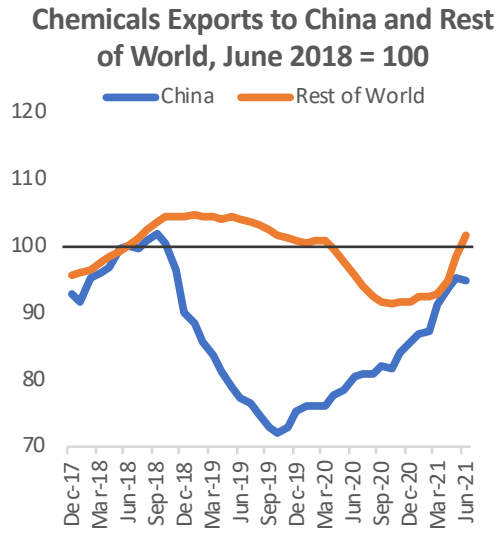
India's retaliatory tariffs have had a a clear and persistent negative impact on U.S. chemical exports. Products not facing new tariffs have increased 23%, whereas those hit by new tariffs declined by 51%, a 74 percentage point difference. The only silver lining is that a small share (6%) of U.S. chemical exports to India were covered. Still, had exports of the affected products grown at the same rate as unaffected ones, U.S. chemical exports to India would have been about $170 million higher in the year ending in June 2021.



Turkey's retaliatory tariffs also have had a a clear and persistent negative impact on U.S. chemical exports. Products not facing new tariffs have increased 33%, whereas those hit by new tariffs declined by 35%, a 68 percentage point difference. About 30% of U.S. chemical exports to Turkey were covered. Turkey is a much smaller market, but if those exports had grown at the same rate as unaffected ones, U.S. chemical exports to Turkey would have been about $130 million higher in the year ending in June 2021.

U.S. export trends to China versus rest of world for chemical subsectors

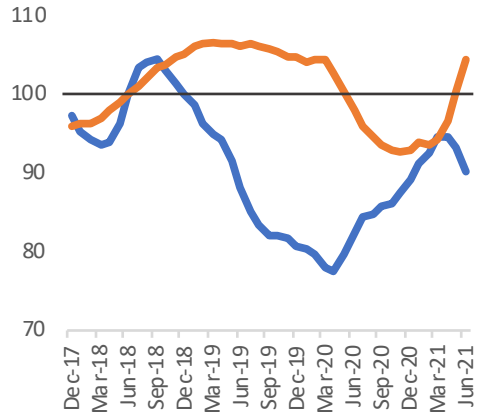
Trends in chemicals subsector exports to China and the world differ greatly from each other. Paints, coatings, and adhesives and resins and synthetic fibers are the only sectors where exports to China clearly underperformed the rest of the world, despite the fact that resins had the lowest share of exports (73%) subject to Chinese retaliatory tariffs. The section below highlights trends for China and the rest of the world, including subsector estimates both for the share of U.S. exports to China affected by China retaliatory tariffs and for the share that could benefit from mitigating actions (e.g., covered by Phase 1 agreement and/or exemptions).



Basic Chemicals

Exports to China, 2017: $4.9 billion
Subject to retaliatory tariffs: 86% (37% covered by Phase 1 and exclusions; 36% covered by Phase 1 or exclusions; 13% subject to all)

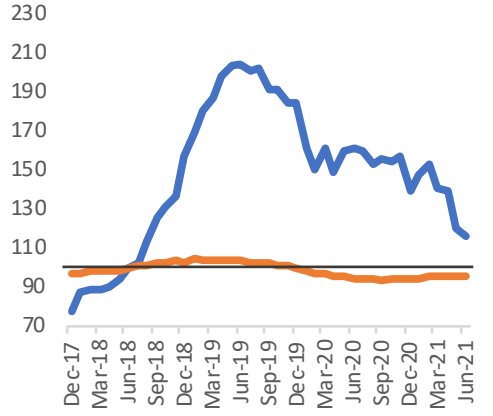
Exports of basic chemicals to both China and the rest of world were growing in 2018. China tariffs led to a sharp decline in exports to China, but exports to the rest of the world peaked and started a slow decline around the same time. Exports to China rebounded quicker such that there was now little difference between exports to China and rest of world in early 2021 despite of retaliatory tariffs, though exports to China have slowed again.



Resins & Synthetic Fibers

Exports to China, 2017: $4.2 billion
Subject to retaliatory tariffs: 73% (0% covered by Phase 1 and exclusions; 24% covered by Phase 1 or exclusions; 49% subject to all)

Exports of resins and synthetic fibers to both China and the rest of world were growing in 2018. China tariffs led to a sharp decline in exports to China, but exports to the rest of the world peaked and started a slow decline around the same time. Exports to China rebounded in April 2020, the same time that exports to other countries fell sharply, even though half of all exports could not benefit from tariff exclusions or Phase 1 purchase commitments. Like basic chemicals, exports to rest of world have outperformed China in the last several months.

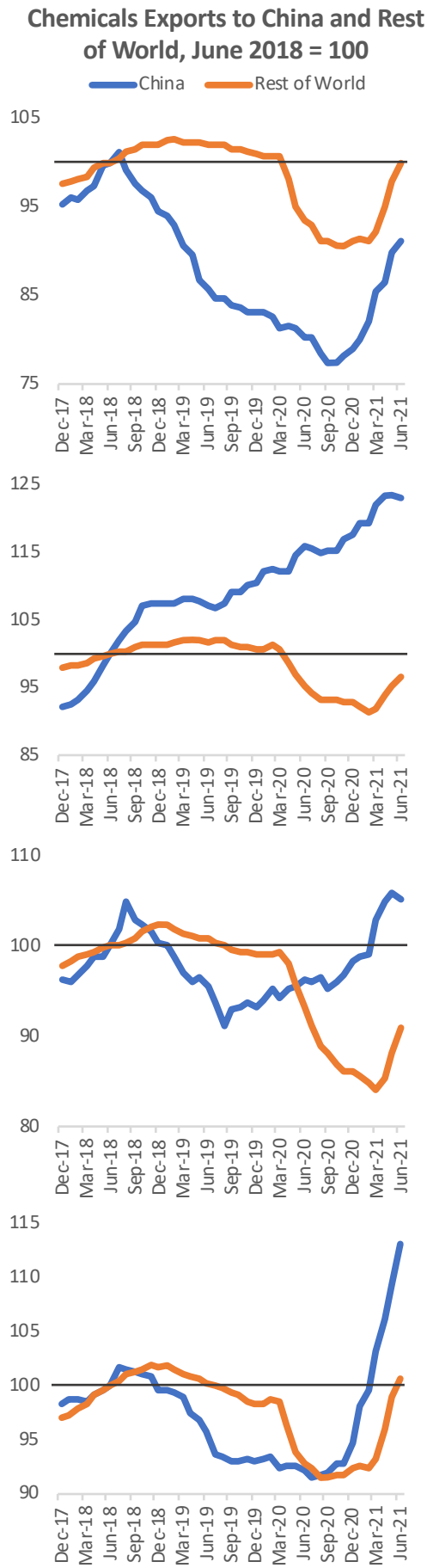


Pesticides & Fertilizers

Exports to China, 2017: $176 million
Subject to retaliatory tariffs: 97% (0% covered by Phase 1 and exclusions; 4% covered by Phase 1 or exclusions; 93% subject to all)

Exports of pesticides and fertilizers to China were growing in 2018, while exports the rest of the world were flat. Exports to China performed well despite retaliation, but from a very low base. Exports of pesticides and fertilizers pre-tariffs were about half the value of the next smallest category (paints, coatings, and adhesives). Similarly, China accounted for just 2.2% of U.S. pesticide and fertilizer exports but not less than 5.6% of any other subsector (plastics products).

U.S. export trends to China versus rest of world for chemical subsectors



Paints, Coatings & Adhesives

Exports to China, 2017: $353 million
Subject to retaliatory tariffs: 100% (0% covered by Phase 1 and exclusions; 39% covered by Phase 1 or exclusions; 61% subject to all)

Exports of paints, coatings, and adhesives to both China and the rest of world were growing in 2018. Section 301 tariffs led to a sharp decline in exports to China, but exports to the rest of the world fell sharply with the onset of Covid-19. Despite over 60% of exports not being covered by the Phase 1 deal or eligible for exclusions, exports to China have closed much of the gap since late 2020.

Soaps, Cleaning Agents & Toiletries

Exports to China, 2017: $1.1 billion
Subject to retaliatory tariffs: 100% (72% covered by Phase 1 and exclusions; 28% covered by Phase 1 or exclusions; 0% subject to all)

Section 301 tariffs slowed – but did not reverse – growing U.S. exports of soaps, cleaning agents, and toiletries to China. Despite 100% coverage of Section 301 tariffs, all U.S. exports were either covered by the Phase 1 deal, eligible for exclusions, or typically both. Exports to China starting rising again sharply after Covid-19. It is more surprising that exports to the rest of the world fell in early 2020 and remain below mid-2018 levels.

Misc. Chemical Preparations

Exports to China, 2017: $1.5 billion
Subject to retaliatory tariffs: 98% (0% covered by Phase 1 and exclusions; 46% covered by Phase 1 or exclusions; 52% subject to all)

Exports of misc. chemical preparations to both China and the rest of world were growing in 2018. Section 301 tariffs led to a sharp decline in exports to China, but exports to the rest of the world declined too and then fell sharply at the start of Covid-19. Exports to China starting increasing in mid-2019 and are about 5% above pre-tariff levels. Conversely, exports to the rest of the world are about 10% below mid-2018 levels.

Plastics Products

Exports to China, 2017: $1.2 billion
Subject to retaliatory tariffs: 95% (37% covered by Phase 1 and exclusions; 17% covered by Phase 1 or exclusions; 77% subject to all)

Exports of plastics products to both China and the rest of world were growing in 2018. Section 301 tariffs led to a moderate decline in exports to China. Exports to the rest of the world declined slightly until Covid, and exports to both China and the rest of the world were about 8% below mid-2018 levels in the year endings in September 2020. Since then, exports to China rebounded both sooner and faster despite limited tariff relief.

About the data

About the Data

The evolving nature of China Section 301 tariffs – in terms of products covered, implementation dates, and levels – complicates analyses of sourcing shifts. Below is an explanation of the ways the paper attempts to overcome the those challenges, including the specific data points used in each situation.

The "chemicals" sector: This analysis defines the chemical sector primarily as the subsectors included in the standard North American Industry Classification System (NAICS) Sector 325. However, it *excludes* Pharmaceuticals (NAICS 3254) and Printer Cartridges (part of NAICS 325910) and includes Plastics Products (NAICS 3261). For products, trade data at the HTS10 level were matched to NAICS sectors using concordance files from the U.S. Census Bureau. In cross industry comparisons, Pharmaceuticals are reportedly on their own and Printer Cartridges are included in the Miscellaneous Manufactures (NAICS 339).

Trade trends, trailing 12 months: Annual data is not sufficient for assessing tariff impacts since most tariff actions took place throughout the year. However, monthly product-level data are subject to seasonal variation so a change in trade from one month to the next (e.g., from October to November) may reflect normal trade patterns instead of tariff effects. The paper generally uses trailing 12 month data (e.g., the sum of the 12 months) to show whether trade in a given month increased or decreased from the same month in *the previous year*. Reporting data on a rolling basis better shows inflection points – when the trend lines reverse – a key point when assessing impacts of new tariffs.

"Date XX" = 100: Trends can be obscured in graphs when sectors (or countries) with very different trade levels are compared. For example, a decline from $500 million to $250 million is significant but not noticeable on a graph showing imports up to $25 billion. By setting a given period to 100 for each variable, trends are visible regardless of initial import values. Data points over 100 show growth and those under 100 show declines, with the difference showing the percent change (e.g., if June 2018 = 100 and June 2021 = 110, then trade grew 10% between the 12 months ending in June 2018 and June 2021; an indexed value of 80 would mean trade declined by 20%). The paper generally uses June 2018 as the last month before any China Section import or retaliatory tariffs took effect, though reference points may differ for specific lists (e.g., June 2018 = 100 for List 1-specific data, but August 2019 = 100 for List 4A-specific data).

Composition of imports affected by Section 301 tariffs: Trends for products hit with 25% tariffs in July 2018 are likely to be very different than trends for products hit with a 15% tariff more than a year later in September 2019. To assess which sectors or subsectors were most (or least) affected by Section 301 tariffs, the paper examines the share of 2017 imports – before any tariffs were announced – that were impacted by a given action (e.g., List 1, List 2).

Average tariffs rates, current month: Unlike trade flows, tariffs rates are not impacted by seasonal differences and therefore do not require use of the trailing 12 month data. In fact, using current month average tariff data better shows the tariff shocks companies faced, when those are increases (e.g., List 1 imposed or List 3 increased from 10% to 25%) or decreases (e.g., exemptions granted or List 4A reduced from 15% to 7.5%).

Estimated Section 301 costs: Trade Partnership Worldwide developed a "Tariff Tracker" database for Tariffs Hurt the Heartland that is updated with monthly "Imports for Consumption" and "Calculated Duties" data from the U.S. Census Bureau. Data are collected for Harmonized Tariff Schedule (HTS) 10-digit products – the most detailed available – for approximately 30 major suppliers as well as "rest of world." Estimated Section 301 costs are derived by analyzing the difference between the expected tariffs based on average 2017 (i.e., pre-trade war) rates and those reported by Census.

Estimated Section 301 exclusion values: Average tariff rates have increased due to Section 301 measures, but generally not by the full "published" rate (e.g., 25% for List 1). Furthermore, average rates have varied over time as exclusions were granted and allowed to lapse. Estimated Section 301 exclusion values are derived by analyzing the difference between the expected tariffs based on 2017 rates *plus* expected full Section 301 tariffs and those reported by Census.

However, such estimates are imperfect for several reasons:

1) tariff rate changes can take effect at any time whereas Census data are only available for full months;
2) non-Section 301 tariffs changes, such as duty-free treatment under the Miscellaneous Tariff Bill (MTB) or additional tariffs imposed under Section 232 or Section 201, cannot be separated in the Census data, and
3) there are known cases of Census reporting no calculated duties (e.g., because of mis- or double-classified products) that were in fact subject to Section 301 tariffs.

Furthermore, since most exclusions are for partial tariff lines instead of all products imported under a given code, it generally is not possible to use Census import data to isolate which of the above issues may be affecting a specific product, even at the 10-digit HTS level. These issues apply to all products, not just chemicals, so even imperfect estimates can provide useful comparisons across sectors. That said, several steps were taken to avoid overstating the value of exclusions.

The first step to avoid overstating the value of tariff exclusions was use to the lowest possible rate for months with significant tariff rate changes. For example, List 3 tariffs of 10% took effect on September 24, 2018 and increased to 25% on May 10, 2019. However, when estimating the value of Section 301 tariffs that would have been collected with no exclusions, we applied a rate of 10% to the import values for October 2018 through May 2019 and a rate of 25% to the import values for June 2019 through June 2021. As such, estimated tariffs for the last 6 days of September 2018 are wholly excluded, while estimated tariffs for the last 3 weeks of May 2019 are understated. The potential impacts are most notable in Pharmaceuticals & Medicines, where the share of tariffs waived was slightly negative (-0.2%), which would make sense if there were significant exports in late September 2018 or late May 2019 that faced hired tariffs than the rates used in our calculations for those months.

The second step to avoid overstating the value of tariff exclusions was to analyze the difference in rates only for products known to have received exclusions. For example, automobiles imported under HTS 8703.23.0140 were included on List 1, and reported tariffs from July 2018 through June 2021 were about $400 million less than would be expected based on import values, MFN rates, and Section 301 rates. Our methodology would attribute these differences to the potential value of Section 301 exclusions. Yet HTS 8703.23.0140 did not receive any Section 301 exclusions and was not eligible for other tariff-reducing measures such as MTBs. Census officials were able to confirm that calculated duties had been misreported and corrected as of July 1, 2021, but not historically. Examining only products with known exclusions prevents similar cases from impacting the exclusion value and share analysis. Exclusion data came from Christine McDaniel and Joe Brunk with the Trade and Immigration Project of the Mercatus Center and is available at https://www.quantgov.org/tariffs#tariff-data.