

One Year Later: Trade and Production Developments for N95 Respirators

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The COVID-19 pandemic has emphasized the criticality of certain PPE, and much attention has been given to the level of imports of these items as well as the state of the domestic industry for such goods. In July 2020, a statistical reporting number specific to N95 respirators was added to the Harmonized Tariff Schedule of the United States (HTS), which allows for better tracking of import data. This Executive Briefing on Trade analyzes declining U.S. imports of N95 respirators in the second half of 2020 through March 2021 and identifies a few challenges faced by producers in selling their product in both the U.S. market and abroad.

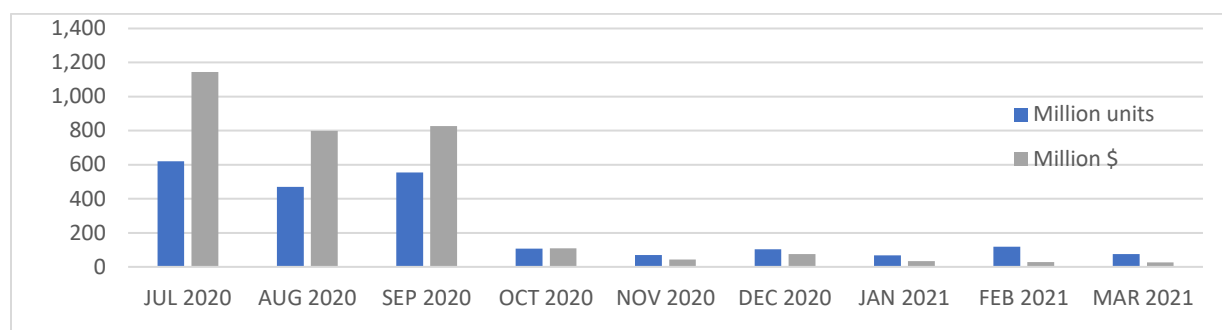
N95 respirators are the industry standard in the United States

N95 respirators, so named because they are designed to block 95 percent of airborne particles, are the U.S. standard for disposable respirators. They must be tested and approved by the National Institute for Occupational Safety and Health (NIOSH), a division of the CDC, to ensure they meet certain standards before being sold commercially. Historically, N95 demand in healthcare was limited. This changed with the COVID-19 pandemic when U.S. demand for N95 respirators skyrocketed. Even as supplies of many other COVID-19 related goods began to stabilize in fall 2020, reports of hospital workers re-using or extending use of respirators continued. Demand for N95 respirators remained high during winter 2020–21 as COVID-19 cases rose and new virulent strains of the virus spread.

Increased U.S. production and lower demand leads to decreased imports

Prior to the pandemic, the market for N95 respirators was largely industrial (often used in mining, construction, or painting) and was generally supplied by U.S. producers. As demand for respirators in the U.S. healthcare industry increased quickly, imports became necessary to supplement supply. Beginning in October 2020, however, imports dropped significantly. U.S. imports of N95 respirators decreased from \$1.15 billion (620 million units) in July 2020 to \$26.99 million (76 million units) in March 2021, a decline of 97.6 percent (figure 1). High prices also eased, with the price per unit of imported N95 respirators decreasing from \$1.85 in July 2020 to just \$0.36 in March 2021. The share of N95 respirators sourced from China also fell, from 96 percent of U.S. imports in July 2020 to 80 percent by March 2021.

Figure 1: U.S. Imports of N95 Respirators, by quantity and value (in million units and \$), July 2020 – March 2021



Source: USITC DataWeb/USDOC, HTS 6307.90.9845 (accessed May 13, 2021).

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The drop in imports in fall 2020 coincided with growth in U.S. production from large firms such as Honeywell and 3M, as well as several new producers. By the end of 2020, the U.S. industry produced 150 million N95 respirators per month, compared to 20 million respirators a month in 2019. 3M, the top U.S. supplier of respirators, reported producing 95 million respirators per month in December 2020, up from 50 million units in June 2020. In addition, other U.S. producers came online in fall 2020, with up to 20 new companies receiving approval from NIOSH for production.

When U.S. production of N95 respirators increased in the last half of 2020, U.S. demand for imports and new domestic producers began to taper off. A couple factors contributed to this decrease in demand. First, the U.S. healthcare industry is reluctant to use N95 respirators from overseas suppliers or utilize respirators without familiar brand names, and it has been difficult for new entrants to find customers. Many cite this hesitancy as attributable to fraud issues over the course of the pandemic, which have resulted in mistrust by the U.S. healthcare industry of imported N95 respirators as well as new U.S. producers. Second, industry sources indicated that the FDA's Emergency Use Authorization (EUA) allowing decontaminated and extended use of respirators led to the purchase of fewer N95 respirators as this practice was normalized.

As demand for N95 declines, customer preferences and policies contributed to excess supply

The tapering of U.S. demand, certain customer preferences, government policies and company advertising bans have made it difficult for new entrants to sell N95 supplies. In terms of preferences, the U.S. healthcare industry often relies on long-term contracts with certain manufacturers, which can prevent them from quickly shifting to new suppliers. Although there were many new U.S.-based NIOSH-approved entrants in 2020, the healthcare industry does not consider them to be long-term partners. Meanwhile, the U.S. government restricted U.S. exports of N95 respirators until June 30, 2021, despite many countries facing severe shortages of PPE as cases around the world rise and vaccines remain limited. In addition, newer domestic producers have indicated that they face difficulties selling their N95 respirators outside the U.S. medical supply chain. These producers were unable to advertise online to consumers, as ads featuring N95s were banned on Facebook, Instagram, and Google in March 2020 to cut down on opportunistic brokers and to prevent diversion of respirators from the U.S. healthcare industry. They also have been unable to sell their products to industrial markets as demand has not increased in those industries.

Policy actions, industry suggestions, and situational changes that may reduce excess supply

There are reportedly some actions that could ease the supply and demand mismatch. Industry representatives indicated that the June 30, 2021 lifting of the EUAs and allowing of exports will be useful for U.S. manufacturers to sell their inventories. Additionally, in conjunction with the United States sending vaccines overseas, industry sources suggest sending N95 respirators and other PPE abroad as a part of the global health initiative. New variants may also alter the current level of demand for products.

Sources: Industry representatives, interviews with USITC staff, February – June 2021; 3M, [COVID-19 \(Novel Coronavirus\)](#), accessed February 18, 2021; Jason Dearen, et al, [Hospitals Still Ration Medical N95](#), February 16, 2021; Nonwovens Industry, [Honeywell Delivered 225 Million](#), January 19, 2021; Roll Call, [Masks stack up in US](#), March 1, 2021; Health Industry Distributors Association, [N95 Fit Testing: Essential](#), March 25, 2021; National Public Radio, [< 15 Million N95s](#), March 30, 2021; FEMA, [Information Update about the Export Allocation Rule on Medical Supplies](#), July 1, 2021; FDA, [FDA In Brief: FDA Revokes Emergency Use Authorizations for Certain Respirators](#), June 30, 2021.

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