

INFLUX OF INFERIOR NITRILE GLOVES IN THE MARKET WHAT YOU NEED TO KNOW

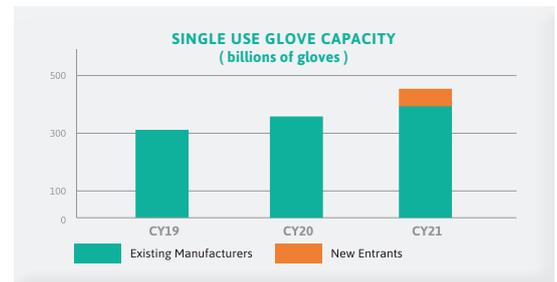
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EXECUTIVE SUMMARY

Inferior nitrile gloves have entered the market at an alarming rate. Inflated demand, elevated market prices and shortages of raw materials have set the stage for unscrupulous suppliers and new entrants to take shortcuts in an attempt to maximize profits, while putting users at risk.

MARKET CONDITIONS

Demand for disposable gloves more than doubled as a result of Covid-19. As vaccination rollout continues, demand is softening, but it is expected to reset at higher than pre-Covid levels due to sustained health, safety and sanitation protocols. **Glove manufacturers are increasing capacity, but much of the new supply coming online is of inferior quality**, driven by 2 primary factors: inexperienced new entrants and low-grade raw material.

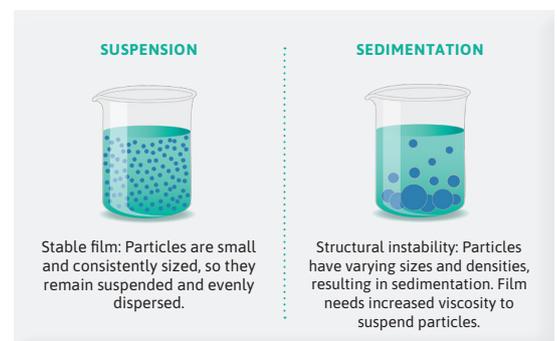


1. INEXPERIENCED NEW ENTRANTS

Many new disposable glove manufacturers have entered the market in recent months, but most are short-term-oriented with no prior experience. They will be challenged to effectively and efficiently produce quality products while automating processes and demonstrating a commitment to corporate social responsibility as supply catches up to demand and average selling prices decline. The disposable glove industry saw a similar surge of new entrants in the 1990s. More than 200 manufacturers began to build production facilities, but most of them lacked the experience necessary to succeed, and only 40 survived.¹ It is uncertain if the new entrants of the 2020s will become viable long-term players in the market. In the meantime, much of the incremental glove volume they're producing is of inferior quality because **many lack product registrations and the quality control systems required to comply with existing standards.**

2. LOW-GRADE RAW MATERIAL

Disposable nitrile gloves are made with nitrile latex, which is produced by stably dispersing and suspending tiny particles of nitrile butadiene rubber (NBR) in water. Good quality nitrile latex consists of small, consistently sized particles with a density similar to the density of water so that the particles remain evenly dispersed. This is defined as suspension, which results in a stable film with low viscosity. **High-grade, low-viscosity nitrile latex is less likely to trap bubbles** during the glove manufacturing process, which is important because **the presence of bubbles can result in tiny pinholes, jeopardizing protection and increasing the risk of rips and tears.**



Over the past year, demand for nitrile raw material surged, but there are only a handful of experienced nitrile raw material manufacturers in the world, and building chemical reactors and other specialized equipment to make NBR can take up to a year. Manufacturers of other raw materials, including manufacturers of styrene butadiene rubber (SBR), a stiff, abrasion-resistant material, capitalized on unmet demand and attractive market prices by converting their production equipment to make NBR instead of SBR. Although the same equipment and chemical mechanisms can be used to make both NBR and SBR, it takes years of experience to finetune the techniques to produce a stable, homogenous, low-viscosity film that is ideal for nitrile gloves. **The NBR produced by these new entrants is dramatically inferior to the high-grade NBR produced by established, long-term suppliers.**

¹ <https://www.thestar.com.my/business/business-news/2021/05/01/the-rubber-glove-bandwagon>

The NBR from opportunistic, inexperienced players is inadequate for nitrile glove production, but in an effort to boost raw material supply and cut costs, many glove manufacturers began adding low-quality NBR to high-grade raw material, creating a diluted mix with inferior properties. This is similar to a restaurant adding water to a bottle of top-shelf vodka and hoping customers won't notice. A mix of 10% low-grade NBR and 90% high-grade NBR can be used to create nitrile gloves, but the strength and protective properties of those gloves will be diminished. The final physical properties of a glove are dominated by its poor-quality material in the same way that a chain is only as strong as its weakest link.

Other manufacturers have experimented with mixing additives and fillers, such as silicates and calcium carbonates, into their nitrile raw material. By adding fillers, manufacturers can increase their volume of nitrile raw material at very low cost, enabling them to make incremental glove supply at maximum profit, but this diminishes the gloves' quality, resulting in stiffer gloves, which can tear more easily.

These tactics and shortcuts put users at risk. **Gloves made with adulterated nitrile latex provide significantly lower levels of protection.** Poor film structure can lead to weaker gloves with reduced durability and diminished resistance to punctures and tears. Pinhole defects are more common in gloves made with low-grade nitrile due to dispersion and density issues, which lead to less efficacy and decreased barrier protection from biological and chemical hazards.



IMPACT ON USERS & REGIONS

The United States has particularly stringent quality control standards, especially for medical exam grade gloves, so dubious-quality product is being unloaded in other regions. Despite regulatory standards, industrial segments around the world, including the US, are seeing an influx of inferior-quality product as well, often sold below market price.

Some players are selling rejected medical gloves to traders, who repackage them in generic packaging and sell them as "B-grade" products in industrial channels. Even worse, unscrupulous traders have put low-grade gloves in branded packaging and sold them fraudulently through intermediary parties. **All of this activity has caused supply and demand imbalances to vary across countries and industries, leading to a bifurcation of pricing by region and market.**

The risks that inferior products pose to users are significant. Inexperienced manufacturers lacking quality control standards, coupled with the use of adulterated latex by established players, drives lower levels of protection and increased likelihood of pinholes, rips and tears. The greatest danger is potentially what the United States Food & Drug Administration (FDA) refers to as a "false sense of security", whereby users perform tasks with the belief that they are fully protected, when in fact, they are at risk.



ANSELL'S COMMITMENT TO QUALITY RAW MATERIALS

"While most other manufacturers have been experimenting with adulterated NBR, Ansell refrains from using low-grade materials, additives or fillers."

Damon Richardson,
VP of Manufacturing Operations

TRUST IN ANSELL

Ansell upholds an unwavering commitment to safety. We don't compromise the quality of our raw materials, experiment with fillers, or take risky shortcuts. As a global company with 125 years of experience, our quality control systems are designed to protect the 10 million workers around the world, across 25 medical and industrial industries, who wear our gloves each day. We continue to comply with the highest level of quality standards in the world. When you trust in Ansell, you can be assured that we proudly stand behind the high quality of our products and put our dedication to worker safety above all else.

For more information, please reach out to your local Ansell Sales Representative or Customer Service Representative.

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