March 1, 2021

Dear President Biden and Team:

On behalf of INDA, Association of the Nonwoven Fabrics Industry, I would like to submit information on U.S. capacity of key inputs to the supply of U.S. manufactured N95 respirators and disposable pleated facemasks as the team advising President Biden considers actions to reduce COVID-19 spread in the workplace.

By way of background, INDA is the internationally recognized trade association of the North American nonwoven fabrics industry, a $15.7 billion-dollar business in the United States and another $45 billion overseas. Nonwovens are utilized in scores of applications where they serve as the functional element alone (e.g., wipes, filter media) or in a composite structure (e.g., diapers, facemasks, respirators) in products that protect and improve people's lives.

INDA represents the entire value-chain of this dynamic industry. Its members include manufacturers of nonwoven roll goods (classified under HTS 5603), suppliers of raw materials and additives, machinery and equipment manufacturers, those who convert nonwovens into finished products, as well as academic institutions, consultants and other industry groups. Many INDA member companies are global entities including numerous larger companies like BASF, Berkshire Hathaway Subsidiaries (Johns Manville and Shaw Industries), Clorox, Dow, Eastman Chemical, Georgia-Pacific, Johnson & Johnson, ExxonMobil, Kimberly-Clark, Owens Corning, Procter & Gamble, Target, as well as a number of smaller and medium-sized U.S. manufacturers. In the U.S. there are nearly 200 nonwoven producing companies with 770 nonwoven lines. You may learn more about INDA, its members and the industry by visiting: www.inda.org.

The COVID-19 pandemic exposed the reliance by the United States on Asian supply chains for much needed PPE and medical supplies essential to deal with the situation. Of primary importance is the supply of medical/surgical respirators and facemasks for healthcare workers. Prior to 2020 (i.e., pre-COVID-19), over 80 percent of the United States demand for medical and surgical face masks (N95 Respirators, N95 Masks, ASTM Level 1,2,3 Masks) was supplied by China and Taiwan. When the COVID-19 crisis took hold, both entities blocked exports of these items to meet their own national demands. The United States was left scrambling for these materials for healthcare workers just as healthcare workers were getting inundated with infected patients.

As was reported by the media and discussed throughout all levels of federal, state and even local governments, meltblown nonwoven material, specifically the fine-fiber electrostatically charged grade of meltblown, was of particular interest during the crisis. Meltblown is a nonwoven web forming process that extrudes and draws molten polymer resins with heated, high velocity air to form fine filaments that are deposited onto a moving screen to form a fine fibered self-bonded material. Meltblown material comes in a variety of grades that are used in a range of industries and applications including insulation (acoustic and thermal); sorbents; as well as in filtration (air

and liquid). Critically, it is fine fiber electrostatically charged meltblown fabric that is the vital input in high-performance medical and surgical masks and surgical respirators (N95) as the meltblown delivers the necessary filtration efficiency.

Prior to the pandemic, the U.S. capacity for fine-fiber electrostatically charged meltblown was very low at about 800 tonnes/year with over 95% of the global capacity being elsewhere as that was where most of the surgical masks and respirators were being manufactured. Based on INDA's activities working with U.S. government entities and its membership, it is INDA's opinion that the raw material shortage for the production of U.S. face masks and respirators has been addressed for the time being (see attached slide 2.)

Regarding the facemask and respirator converter capacity, the Pre-Pandemic baseline, shown in slide 2 attached, shows the share of U.S. manufactured N95 Respirators at 30% and the share of U.S. manufactured Pleated Nonwoven Facemasks at 5%. Slide 3 attached shows INDA's estimates of U.S. production today, and a projection for the end of 2021, as well as "Peak" U.S. Demand for N95 respirators for the Healthcare Community (not Industrial needs). We have gone from 5 producers to 29 producers, and from 42 million/month to 319 million/month, exceeding the "Peak" Demand in the Healthcare Community, in hospitals, with more capacity coming on later in 2021 to essentially meet "Peak" Demand in and out of hospitals (doctor offices, dental offices, paramedics, and other health practitioners) by year end.

Slide 4 presents our analysis of U.S. Production and Demand for pleated nonwoven facemasks for the U.S. Workforce beyond Healthcare. Here we have gone from 3 producers to 53 producers in 2021 with a current production of 921 million masks/month, to be 1.05 billion masks/month by yearend, enough to supply 50 million workers using 1 mask/day, 21.62 days/month. There is an additional robust assessment of mask converter capacity from the newly formed American Mask Manufacturers Association (AMMA) dated March 1 titled "The United States has the Manufacturing Capacity to Provide High-Filtration Masks to Every American" that provides an additional, and supportive, point of view on mask supply.

Therefore, INDA is comfortable supporting the recommendations contained in the February 15 letter sent by America's Physicians and Scientists to the Administration titled "Re: Immediate Action is Needed to Address SARS-CoV-2 Inhalation Exposure."

Dave Rousse
President
INDA