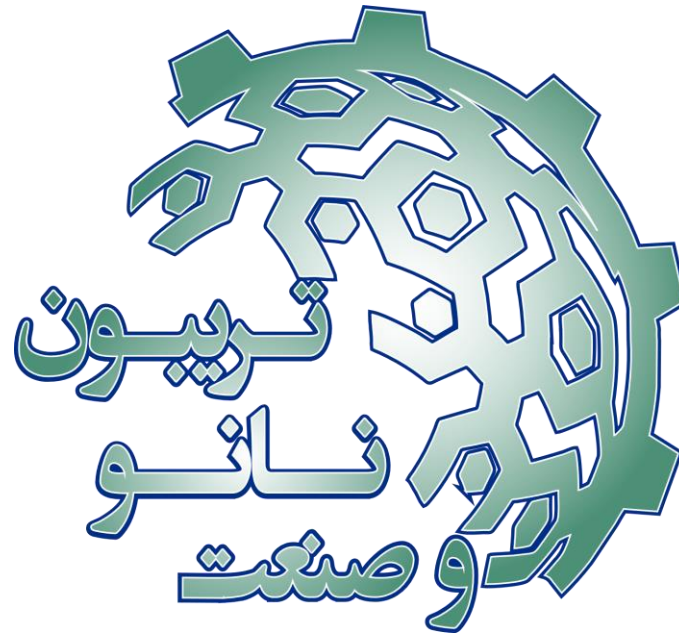




ماسک تنفسی سه بعدی پنج لایه اسپان باند

دکتر شبهم فرخنده

مدیر گروه تحقیق و توسعه
شرکت آژینه ابزار پارس (بوفالو)



اسفندماه ۱۴۰۰

سرفصل

- ❖ معرفی شرکت
- ❖ معرفی فنی محصول یا محصولات
- ❖ بیان ارتباط محصول با فناوری نانو، ویژگیها و تمایزهای محصول با محصولات مشابه معمولی
- ❖ معرفی افتخارات و توانمندی های شرکت
- ❖ بیان توانمندی ها و فرصت های صادراتی
- ❖ بیان فرصت های همکاری تحقیقاتی، بازاریابی و فروش، اعطای نمایندگی، همکاری با صنایع و مخاطبان و اعلام نیاز و رفع نیازها
- ❖ اعلام اخبار مهم شرکت در خصوص افزایش تولید، محصولات جدید، توانمندی های برجسته در حل مشکلات شرکت ها و صنایع و جامعه
- ❖ اطلاعات تماس و راه های ارتباطی شرکت



BUFFALO introduction



➤ Azhineh Abzar Pars Co.

Our journey began in 2005 (1384) with the aim of raising the level of safety in the profession of people working in various fields. The Buffalo Company has decided to produce the products that meet the latest standards and technologies in the world for the past years, we are working on the development of advanced Nanotechnology on all Personal Protective Products to add specific features to these products, our goal is to provide Superior Nanotechnology and offer to all the Personal Protective Products' manufacturers in the global markets, so that the future of a variety of Safety Products in general, will change greatly by Nano.





BUFFALO Personal Protective Equipment (PPE)

2



BUFFALO Honors and Abilities



بوفالو تنها شرکت کننده ایرانی در بزرگترین رویداد ایمنی جهان دوسلدورف-آلمان



Introduction of product

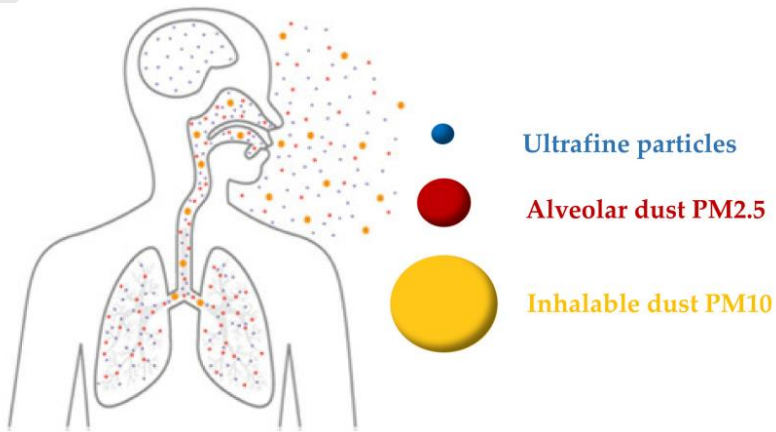
4

BUFFALO 3D 5LAYER NANO RESPIRATOR FACE MASK





Air Pollutants and Adverse Health Effects



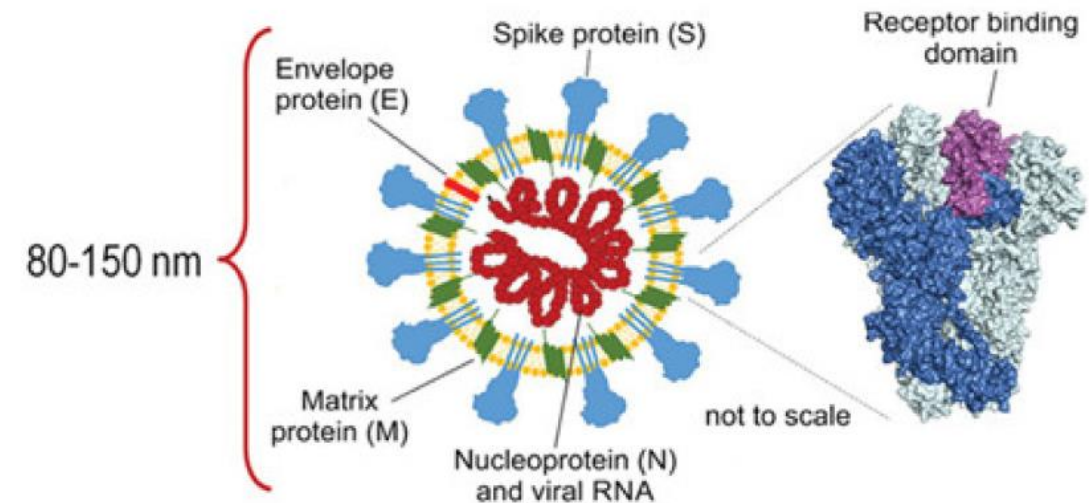
Different sizes of particulate matter

Air pollutants of ambient (outdoor): PM and pollutants such as ozone (O₃), volatile organic compounds (VOCs), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfadiazine, and sulfur dioxide (SO₂)

Household (indoor) air pollutants: Environmental tobacco smoke (ETS), along with what is generated by the combustion of biomass fuel (dung, wood, etc.)

- ❖ Household air pollution (indoor): 4 million people each year
- ❖ Ambient air pollution (outdoor): 7.6% of all deaths in 2016

Coronavirus disease (COVID-19)

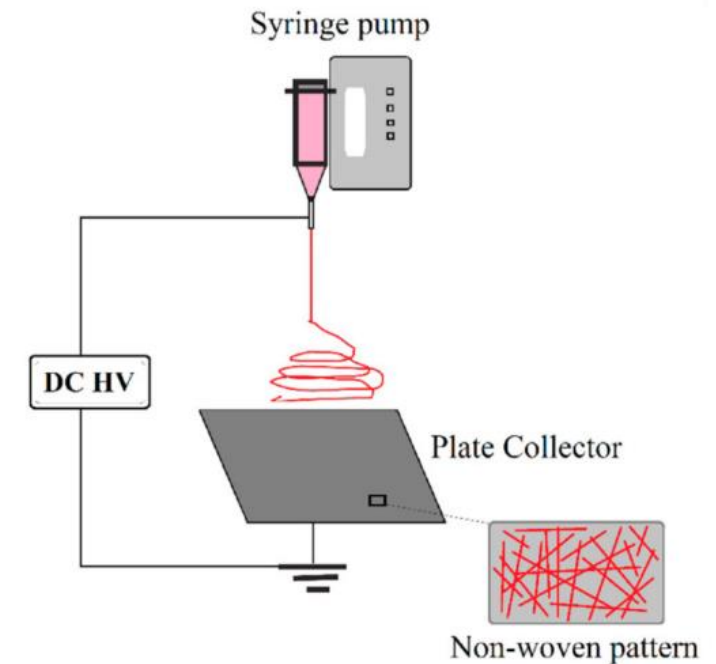


An ideal face mask possesses efficiency:

In the filtration of bio aerosols and a good level of comfort.

External factors affecting mask quality are:

- Humidity
- Temperature
- Frequency of respiration and the latter is influenced by comfort.
- Velocity and pattern of airflow
- The charge and size of the incoming particle
- The loading time



Electrospinning process

❖ A standard mask is usually comprised of following layers:

Soft nonwoven absorbent (layer being inner)

Nanofiber layer (the layer at middle)

Melt-blown (the layer at middle)

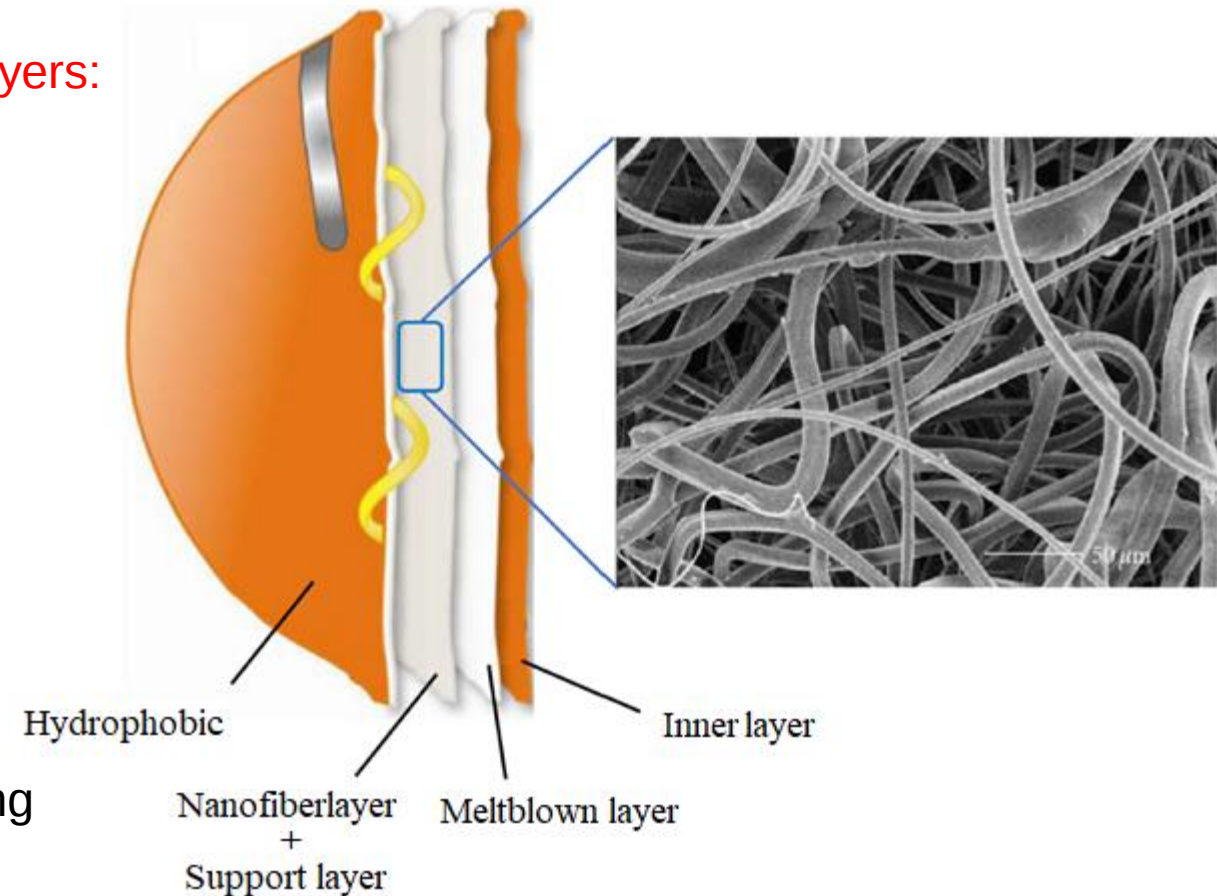
Nonwoven hydrophobic (layer being outer)

❖ Specific function of each layer:

Inner layer: Absorb moisture, sweat, and the spit

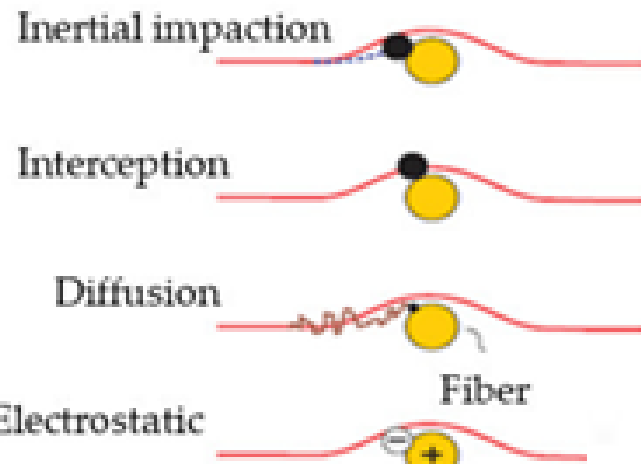
Middle layer: Electret filter to prevent germs from coming in or exiting from the mask

Outer layer: Repulse water

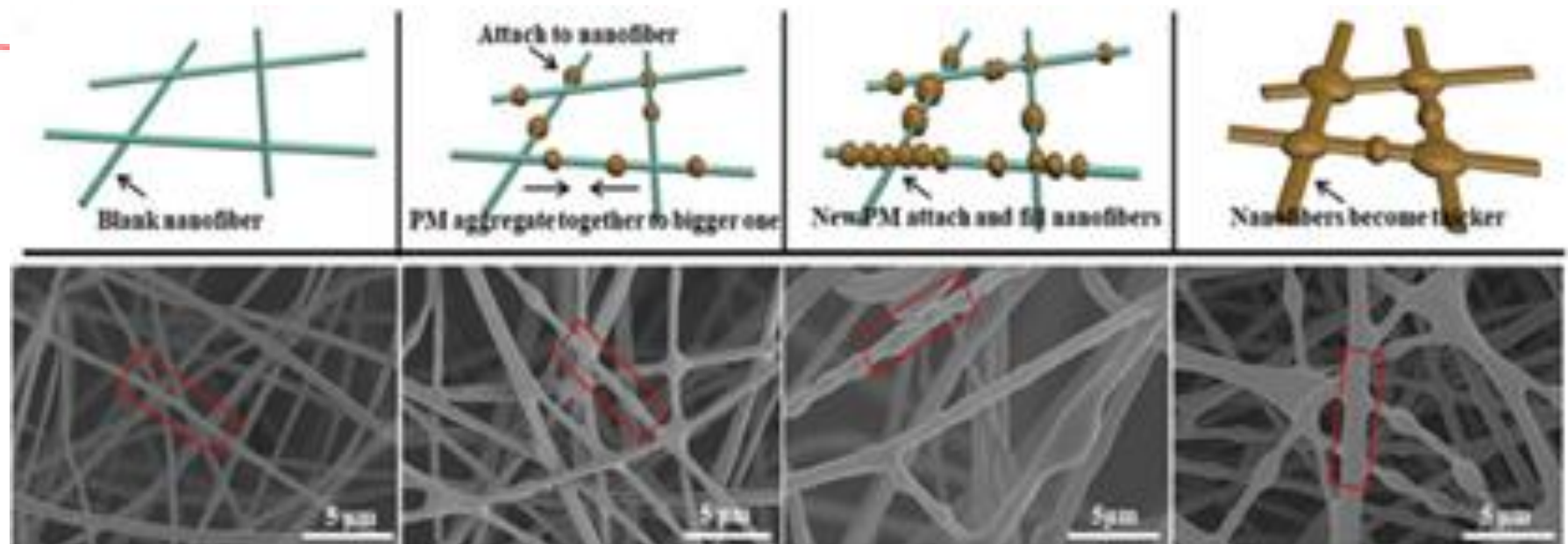


Mechanisms of particle filtration

Five collections of mechanism



Interaction of PM with nanofibers



American Society for Testing and Materials and European Norm standards for face masks and respirators

FFP Type	Standards	Filtration Efficiencies		
Surgical Mask	USA: ASTM F2100-11 standard	Level 1 95%	Level 2 98%	Level 3 98%
	EN: EN 14683 standard	Type I 95%	Type II 98%	Type IIR 98%
Respirator	USA: NIOSH 42 CFR Part 84	N95/R95/P95 95%	N99/R99/P99 99%	N100/R100/P100 99.97%
	EN: EN 149:2001	FFP1 80%	FFP2 94%	FFP3 99%

ASTM = American Society for Testing Materials.

FFP = Filtering Face pieces.

NIOSH = Respirators are tested and cleared via the National Institute for Occupational Safety and Health.

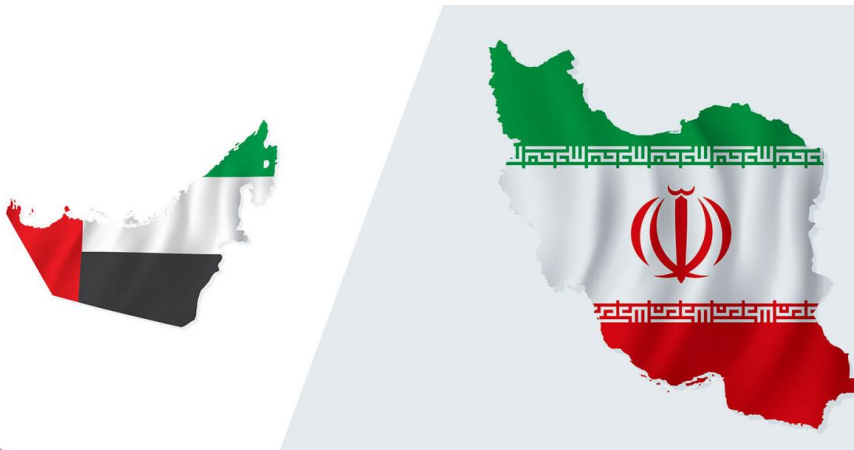
CFR = Code of Federal Regulations

N (not oil resistant), R (resistant to oil), and P (oil proof)

Export of **Respirators** and **Safety Gloves**

Construction of an export terminal in the UAE

WWW.buffalogroup.ae



- Introducing a new model of respirator face mask
- Launching the largest production phase in the 20-year history of the company

Phase 1: Summer 2022 > Gloves R&D, Safety Harness, Safety Glasses, Helmet, Ear Muffs & Ear Plugs
(Nanotechnology based)

Phase 2: Winter 2023 > Safety Boots and Shoes for Military, Work and Exercises purpose
(Nanotechnology based)

Phase 3: Summer 2023 > Fireproof clothing, Bulletproof and Anti-radiation and Chemical Garments
(Nanotechnology based)

BUFFALO

contact information & communication channels

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Think about the future

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Thanks for your attention