






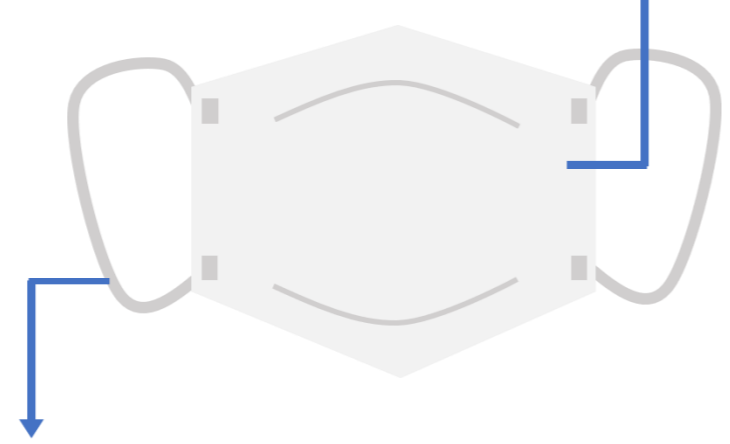
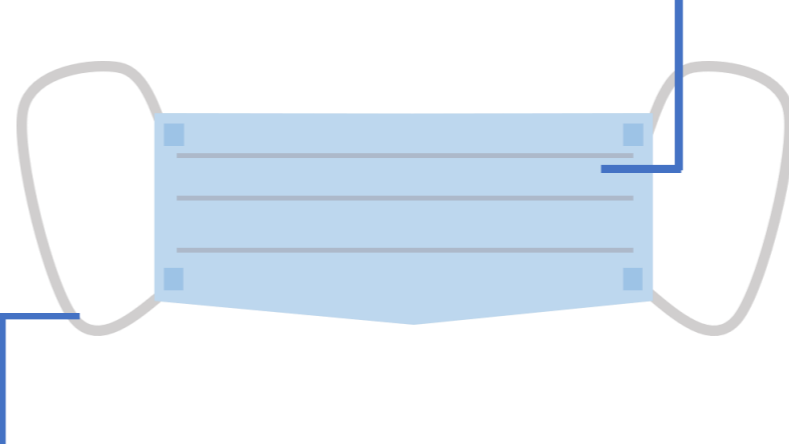

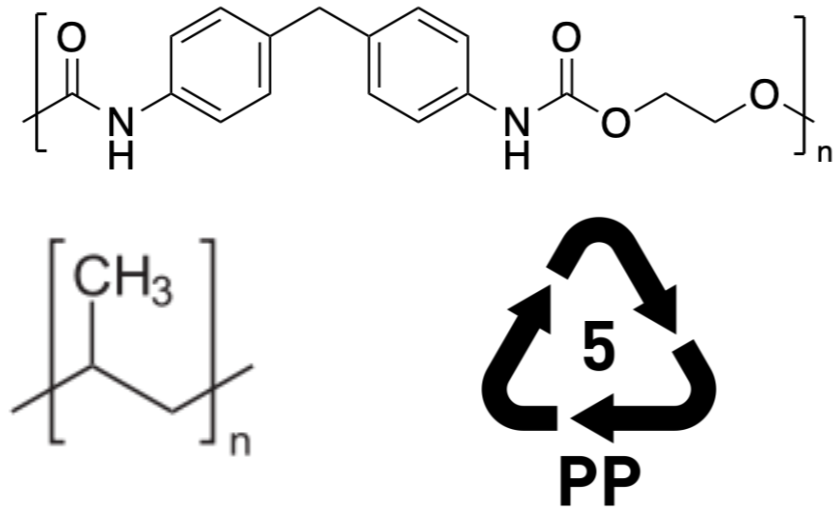
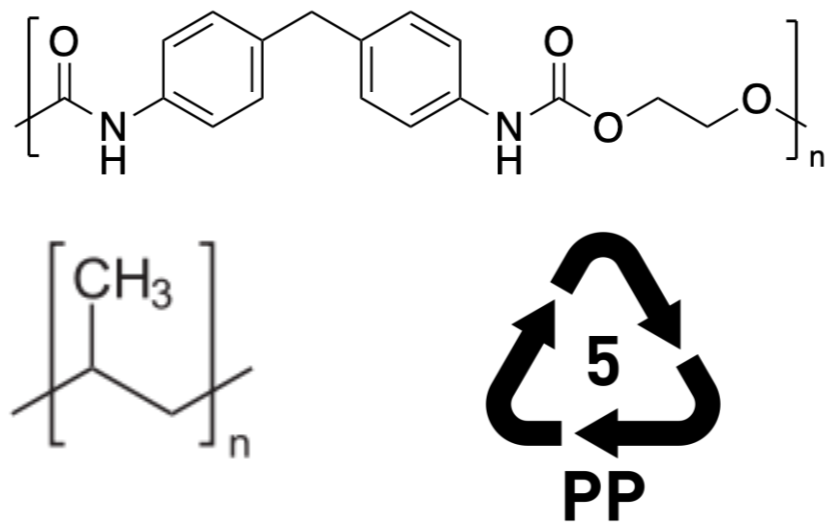
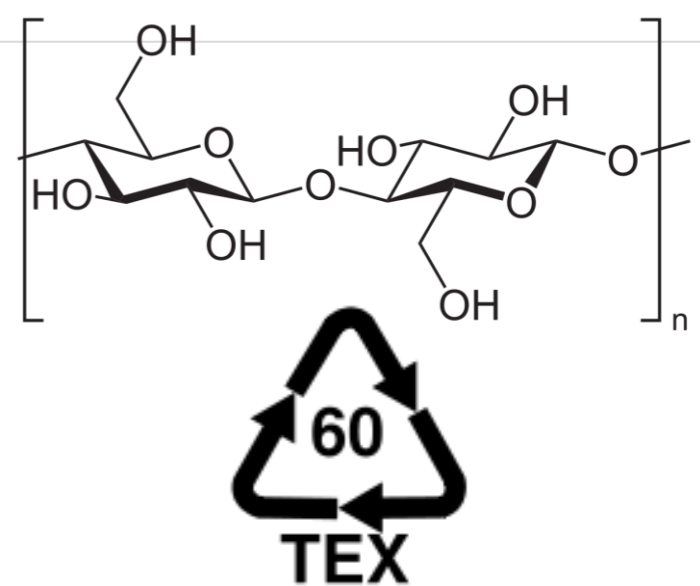
I U P A C

INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

Protective Face Masks – What are they made of and how do they work?

Unfortunately, face masks have become a part of our daily life and wardrobe. But do you know how they are produced and what the main differences are between the three most common type of face masks?

Have a look at the table below to discover some facts on face masks:

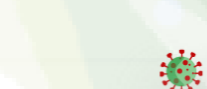
NAME/TYPE OF MASK	 FFP2 or N95	 Surgical	 Cotton
Number of layers	5	3	1-5 (max)
Protection	Droplets + particles (0.1-1 μm)	Droplets (3 μm)	Droplets (3 μm)
Filtration efficiency	> 94% (0.1-1 μm)	> 97-98% (type II), (3 μm)	> 90% (3 μm)
Production process chemical/physical	Meltblown	Spunbond + Meltblown	Woven fabric
Polymers used (in composition)	<p>POLYPROPYLENE <i>poly(1-methylethylene)</i></p>  <p>ELASTANE / SPANDEX / LYCRA</p>	<p>POLYPROPYLENE <i>poly(1-methylethylene)</i></p>  <p>ELASTANE / SPANDEX / LYCRA</p>	<p>CELLULOSE</p>  <p>ELASTANE / SPANDEX / LYCRA</p>
Formula, structure & recycling symbol			

You can get an idea of how small & how different in size certain particles are!



There are **1 000 000 μm** in **ONE** meter!

CORONAVIRUS



0.1-0.5 μm

BACTERIA



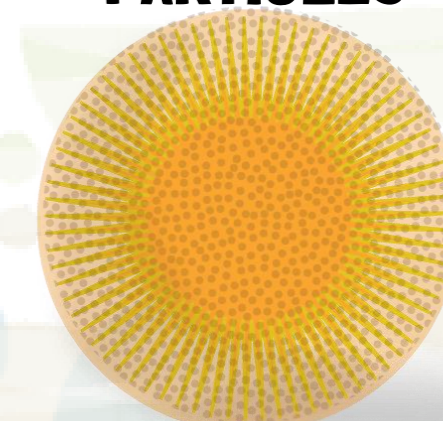
1-3 μm

DROPLETS



5-10 μm

PARTICLES



10 μm



If you want to know more, have a look at the INTERACTIVE version of the poster via the QR code!

