

Table S1 Average FE (%) of filtering facepiece respirators[†]

| Experimental setup | Mask type | FE [‡] | | Test particle | Particle size (µm) | Flow rate (L/min) | Face velocity (cm/s) | Source | Additional notes |
|---|---|-----------------|----------------|--|--------------------|---------------------|-----------------------|--|---|
| | | Max average FE | Min average FE | | | | | | |
| Manikin | N95, KN95 | 91.8 | 84 | NaCl & CaCO ₃ mixture | 0.3–10 | 10 | NR | Patra <i>et al.</i> 2022 | – |
| | FFP2, FFP3 | 97.875 | – | Unspecified nanoparticle (i.e., “standard aerosol powder”) | 0.012–0.57 | 1 | NR | Pogačnik Krajnc <i>et al.</i> 2021 | – |
| | KN95, R95 | 96 | 46.3 | Atomized olive oil | 1 | 24 | 10–12 | Shah <i>et al.</i> 2021 | – |
| Testing rig | N95 | 99.9 | – | Bacteriophage MS2 | 6 | 28.3 | NR | Whiley <i>et al.</i> 2020 | – |
| | N95 | 99.98 | – | Avian influenza viral aerosols | 3.9 | NR | NR | Ma <i>et al.</i> 2020 | – |
| | N95 | 99.2 | – | Monodisperse polystyrene latex (PSL) particles | 0.1 | 28.3 | 11.3 | LaRue <i>et al.</i> 2021 | – |
| | N95 (dry, damp), melt blown polypropylene material | 100 | 45.68 | NaCl | 0.02–2.8 | 1–28.3 [§] | 4.9–1650 [§] | O’Kelly <i>et al.</i> 2020; Rogak <i>et al.</i> 2020; LaRue <i>et al.</i> 2021 | Flow rate NR for 3 of 5 FE measurements |
| | FFP1, FFP2, FFP3 | 97 | 83 | KCl | >0.01 | 10 | 42 | Sharma <i>et al.</i> 2022 | – |
| Filter tester (TSI 8130 and/or TSI 8130A) | N95, polypropylene media, anti-yellow sand masks, quarantine masks [¶] | 99.96 | 62.969 | NaCl | 0.04–0.3 | 10–95 [§] | 5.5–16.5 [§] | Rengasamy <i>et al.</i> 2010; Jung <i>et al.</i> 2014; Jones <i>et al.</i> 2020; Long <i>et al.</i> 2020; Zhao <i>et al.</i> 2020; Lindsley <i>et al.</i> 2021 | Face velocity NR for 16 of 18 FE measurements |
| | Quarantine masks [¶] | 97.943 | – | Paraffin oil | 0.2249 | 95 | NR | Jung <i>et al.</i> 2014 | – |
| Test subjects | N95, dust mask | 99.2 | 60.3 | NaCl | < 0.3 | 0.1 | NR | Mueller <i>et al.</i> 2020 | – |
| | N95 | 98.4 | – | Ambient particles | 0.02–3 | NR | NR | Clapp <i>et al.</i> 2021 | – |

[†], To show slight differences in FE, the supplementary results are presented with all calculated digits while the in-text results are presented with significant digits. [‡], Range of reported averages or averaged individual data points. [§], Data reporting limitations described in ‘Additional notes’ column. [¶], Anti-yellow sand masks for children and adults; quarantine masks are KF94, KF80, or N95 approved classes.

Table S2 Average FE (%) of surgical/procedure masks[†]

| Experimental setup | Mask type | FE [‡] | | Test particle | Particle size (µm) | Flow rate (L/min) | Face velocity (cm/s) | Source | Additional notes |
|---|---|-----------------|----------------|---|--------------------|-------------------|------------------------|--|---|
| | | Max average FE | Min average FE | | | | | | |
| Manikin | SM | 77.8 | – | NaCl & CaCO ₃ mixture | 0.3–10 | 10 | NR | Patra <i>et al.</i> 2022 | – |
| | SM | 86.125 | – | Unspecified nanoparticle (i.e., “standard aerosol powder”) | 0.012–0.57 | 1 | NR | Pogačnik Krajnc <i>et al.</i> 2021 | – |
| | SM | 47 | 12.4 | Atomized olive oil | 1 | 24 | 10–12 | Shah <i>et al.</i> 2021 | – |
| Testing rig | Dry and damp SM, SM + tissue paper, melt blown material | 100 | 30.6 | NaCl | 0.01–6.0 | 1–90 [§] | 1.95–1650 [§] | Konda <i>et al.</i> 2020; O’Kelley <i>et al.</i> 2020; Li <i>et al.</i> 2020; Hao <i>et al.</i> 2021; Pan <i>et al.</i> 2021; Zangmeister <i>et al.</i> 2020; Rogak <i>et al.</i> 2020; Reutman <i>et al.</i> 2021 | Flow rate NR for 19 of 33 FE measurements; face velocity NR for 1 of 33 FE measurements |
| | SM | 81 | 41 | KCl | >0.01 | 10 | 42 | Sharma <i>et al.</i> 2022 | – |
| | SM | 94.9 | 94.2 | Monodisperse polystyrene latex (PSL) particles | 0.1 | 28.3 | 11.3 | LaRue <i>et al.</i> 2021 | – |
| | SM | 97.85 | – | Fluorescent beads in water | 0.1 | NR | 270–1710 | Aydin <i>et al.</i> 2020 | – |
| | Pediatric facemask (i.e., relatively dry and wet) | 99.21 | 98.57 | Water droplets | 0.5–20 | NR | 481 | Guha <i>et al.</i> 2021 | – |
| | SM | 100 | 97.3 | Unspecified aqueous aerosol | >0.28–>5.0 | 6 | NR | Amendola <i>et al.</i> 2020 | – |
| | SM | 100 | 59 | Free-flowing airborne particles | 0.3–5.0 | 28.32 | NR | Teesing <i>et al.</i> 2020 | – |
| | SM | 99.9 | 89.52 | Bacteriophage MS2 | 0.023–6.0 | 28.3–30 | NR | Davies <i>et al.</i> 2013; Whiley <i>et al.</i> 2020 | – |
| | SM | 99.4 | 95.2 | Bacterial suspension fluid (Staphylococcus aureus & Trypticase Soy Broth (TSB) aerosol) | NR | 28.3 | NR | Furuhashi <i>et al.</i> 1978 | – |
| | SM | 95.7 | – | Bacterial suspension fluid (Staphylococcus aureus & physiologic saline) | NR | 28.3 | NR | Furuhashi <i>et al.</i> 1978 | – |
| | SM | 96.4 | – | Bacterial suspension fluid (Serratia marcescens & Trypticase Soy Broth (TSB) aerosol) | NR | 28.3 | NR | Furuhashi <i>et al.</i> 1978 | – |
| | SM | 96.35 | – | Bacillus atropheus | 0.95–1.25 | 30 | NR | Davies <i>et al.</i> 2013 | – |
| | SM | 97.14 | – | Avian influenza viral aerosols | 3.9 | NR | NR | Ma <i>et al.</i> 2020 | – |
| Filter tester (TSI 8130 and/or TSI 8130A) | SM | 92.7 | 18.81 | NaCl | 0.04–0.079 | 25–95 | NR | Zhao <i>et al.</i> 2020; Long <i>et al.</i> 2020; Jung <i>et al.</i> 2014; Lindsley <i>et al.</i> 2021 | – |
| Test subjects | SM | 74.6 | 43 | NaCl | <0.3 [§] | 0.1 [§] | NR | Sickbert-Bennett <i>et al.</i> , 2021; Mueller <i>et al.</i> 2020 | Particle size NR for 8 of 12 FE measurements; flow rate NR for 8 of 12 FE measurements |
| | SM with charcoal layer | 73.4 | – | NaCl | <0.30 | 0.1 | NR | Mueller <i>et al.</i> 2020 | – |
| | SM | 64.8 | 28.6 | Ambient particles | 0.02–3 | NR | NR | Clapp <i>et al.</i> 2021 | – |

[†], To show slight differences in FE, the supplementary results are presented with all calculated digits while the in-text results are presented with significant digits. [‡], Range of reported averages or averaged individual data points; [§], Data reporting limitations described in ‘Additional notes’ column. SM, surgical mask; TSB, Trypticase Soy Broth.

