

### Can Facial Masks be Disinfected for Re-use? (Measurement results by 4C Air Inc.)

| Samples                                   | Meltblown fiber filtration media |                    | Static-charged cotton     |                    | E. Coli. Disinfection Efficiency |
|---|----------------------------------|--------------------|---------------------------|--------------------|----------------------------------|
|   | Filtration efficiency (%)        | Pressure drop (Pa) | Filtration efficiency (%) | Pressure drop (Pa) |                                  |
| 70°C hot air in oven, 30min               | 96.60                            | 8.00               | 70.16                     | 4.67               | >99%                             |
| UV light, 30min                           | 95.50                            | 7.00               | 77.72                     | 6.00               | >99%                             |
| 75% alcohol, soaking and drying           | 56.33                            | 7.67               | 29.24                     | 5.33               | >99%                             |
| Chlorine-based disinfection, 5min         | 73.11                            | 9.00               | 57.33                     | 7.00               | >99%                             |
| Hot water vapor from boiling water, 10min | 94.74                            | 8.00               | 77.65                     | 7.00               | >99%                             |
| Initial samples before treatment          | 96.76                            | 8.33               | 78.01                     | 5.33               |                                  |

**Conclusions: DO NOT use alcohol and chlorine-based disinfection methods.** These will remove the static charge in the microfibers in N95 facial masks, reducing filtration efficiency. In addition, chlorine also retains gas after de-contamination and these fumes may be harmful.

Table 2: Data supplied courtesy of [Professor Yi Cui](#) | Materials Science and Engineering, Stanford University and [Professor Steven Chu](#) | Physics and Molecular & Cellular Physiology, Stanford University on behalf of 4C Air Incorporated.