

Hajar ELAZRI

Ludivine FROMENTOUX

HORIBA FRANCE SAS, 14 Boulevard Thomas Gobert - Passage Jobin Yvon, CS45002 - 91120 Palaiseau, France

Hajar.elazri@horiba.com

Analysis of microplastics in hand sanitizers using Raman spectroscopy

In the aftermath of the global pandemic, the ubiquitous use of hand sanitizers has become integral to daily life, yet hidden within these seemingly harmless gels lie potential hazards—microplastics. Known for slow degradation and toxin absorption, microplastics pose serious environmental and potential health risks; therefore, it is imperative to thoroughly examine the composition of these formulations.

Raman microscopy emerges as a non-destructive technique, providing morphological, quantitative, and chemical analysis of hand sanitizer composition. In this study¹, we present a concise yet comprehensive solution that employs high-performance Raman microscopy, a purpose-built filtration kit, and the sophisticated ParticleFinder software to analyze hand sanitizer samples, providing a complete understanding of the microparticles content.

References

- [1] <https://www.horiba.com/pol/scientific/applications/biopharma/analysis-of-microplastics-in-hand-sanitizers-using-particlefindertm/>

Figures

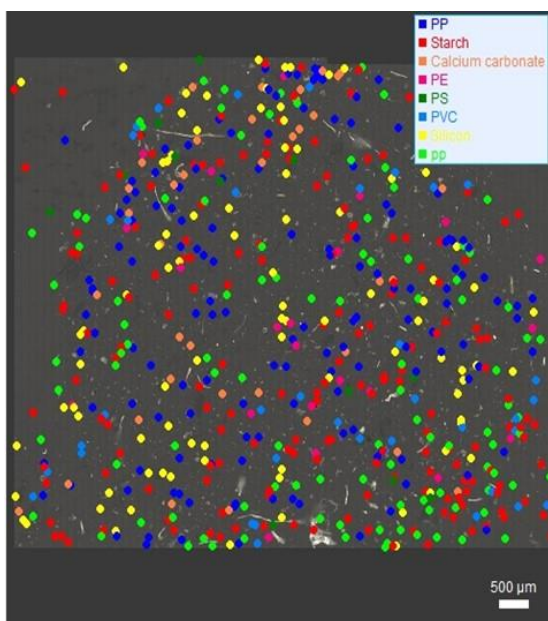


Figure 1: microparticles spatial distribution (represented by colors) on an optical image of a silicon filter post filtration of a hand sanitizer sample.

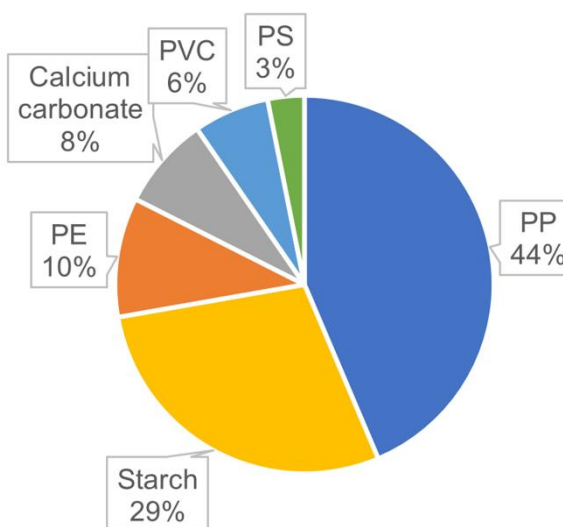


Figure 2: apportionment of microparticles chemical identification given by Raman spectroscopy.