



## Glass Cleaners & Electronics—A Touchy Subject

Robert Kabel | June 7, 2022



As we are all aware, the COVID-19 pandemic has led to new cleaning protocols. Frequently touched surfaces that may transfer viruses are cleaned more regularly. From smartphones and tablets, to retail checkout, security keypads and more, many of the most touched surfaces are electronic touchscreen displays.

The size of the global multi-touch market is projected to reach \$22.33B by 2025. That's up from \$8.47B a mere three years ago (a staggering compound annual growth rate of ~15.04%). Given the scale of the investment companies are making in touchscreens, the glass cleaner that companies choose to use can either protect these investments, or result in early product failure, costing them substantially in premature replacement costs.

For years, the major tech companies have advised against the use of ammonia, quat, and bleach-based cleaners for touchscreen surfaces, as they can damage the screen's oleophobic coating – the protective coating that leaves the screen feeling slick and silky to the touch – and in some cases even damage the touchscreen's surface capacitance (the electronic characteristic of touchscreens that senses touch for user input). This is particularly true of ammonia-based cleaners that account for the majority of common glass cleaners on the market.

The new cleaning protocols introduced since the outbreak of COVID19 have understandably prioritized sanitation over device integrity, accelerating deterioration of touchscreens.

KLARIFY™ is a new commercial glass cleaner introduced by PURTEQ®, with a Graphene-enhanced formula possessing novel characteristics to address these unique technological realities.

Graphene is a nanomaterial made of carbon atoms arranged in a hexagonal lattice only one atom thick. It was first successfully synthesized at Manchester University in 2004. While many miraculous properties have been ascribed to this wonder material, here we're interested in those that make it an excellent additive to glass cleaner... and particularly a glass cleaner uniquely suited for touchscreen surfaces.

Due to its single-atom-thick honeycomb lattice, Graphene has a remarkably high surface-to-volume ratio resulting in adhesion and friction forces that repel both water and oil. In other applications, this repellent property has made Graphene an excellent dry lubricant, as well as a wet lubricant additive. As a glass cleaner these same properties mean that a recently cleaned surface stays clean longer. For all applications, including windows, it promotes hydrophobic sheeting – fluids dispel and cannot cling to the surface – and in the case of touchscreens it makes them particularly resistant to fingerprints.

What have we learned? Touchscreens are here to stay. Virtually all industry-leading glass cleaners are based on formulas potentially damaging to touchscreen surfaces. KLARIFY offers a new ammonia-free, quat-free, and bleach-free solution, featuring a modern chemistry breakthrough, patent protected, Graphene-enhanced formula.

KLARIFY is not exclusively for touchscreens, it is an all-purpose glass cleaner that has demonstrated effective use across a multiplicity of applications. In a recent case-study a catering hall used KLARIFY to clean the crystal on 10 ft. chandeliers that had been neglected for years, given the labor involved in past cleanings. When applied with a fine-mist sprayer, KLARIFY was able to restore them to glistening splendor in a fraction of the time and labor.

However, for technologically mediated environments, KLARIFY by PURTEQ offers a powerful new tool to companies heavily invested in touchscreen technology, and to the cleaning providers who service them.