

## AQUANOX® A4727

### Frequently Asked Questions

#### GENERAL QUESTIONS:

**Q: Why was AQUANOX A4727 developed?**

**A:** Aquanox A4727 was developed to address the advances of electronic assembly technology and the demand for high reliability as well as environmental concerns. PCBs continue to become smaller, denser and more complex, so our chemists went to work. A4727 is the result of over 2 ½ years of research, development and extensive field-testing.

**Q: Will this product replace current Aquanox products in the field?**

**A:** No. While Aquanox A4727 has unique benefits, tried and true KYZEN chemistries like Aquanox A4625 continue to deliver high performance levels in the field, with numerous approvals. No need to change a solid process.

**Q: Is AQUANOX A4727 a “drop-in” replacement for competitive aqueous products?**

**A:** Yes, when put up against competitive products in extended trials, A4727 has outperformed neutral pH products and other traditional water-based spray-in-air products.

**Note:** Due to components of competitive products, a thorough clean out of the machine with KYZEN **Rinse 600** is necessary before installing and testing any Aquanox product. This process removes all chemical residues that may be present in the wash and rinse sections of the machine including spray nozzles, spray bars, hoses, pipes, exhaust and filters.

#### PROCESS ENHANCEMENTS:

**Q: What are the best process parameters for AQUANOX A4727?**

**A:** Aquanox A4727 effectively cleans lead-free and no-clean fluxes at 10-18%. Lower concentrations may be used for OA / Water-Soluble fluxes. Maintaining a wash temperature range of 55-68°C / 130-155°F will produce the best cleaning results and ensure the defoaming properties of A4727 are fully activated.

**Q: Can Aquanox A4727 provide Process Stability under the same process parameters as during qualification?**

**A:** AQUANOX A4727 is specifically designed to manage soils and deliver consistent cleaning and compatibility results starting day one, at day thirty and well beyond.

#### BATH PERFORMANCE:

**Q: What is the expected bath life of AQUANOX A4727?**

**A:** Aquanox A4727 has proven to provide consistent cleaning results over an extended time period. With normal soil loading, some are experiencing several months for bath life.

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**Q: What does pH have to do with the success or failure of the bath life?**

**A:** AQUANOX A4727 is specifically designed to manage soils and deliver consistent cleaning results from day one to day thirty and beyond. With other chemistries, once the first batch of boards, go through the wash cycle, the organic acids from the soils being removed affect the pH level and reduce the efficiency of cleaning. Additional chemistry must then be added, increasing the in-use concentration to achieve and maintain acceptable cleaning.

**Q: Is AQUANOX A4727 environmentally friendly?**

**A:** Yes, A4727 is a non-corrosive, low VOC, BOD/COD cleaning agent. The pH is well within the acceptable range for local municipality limits on wastewater disposal. In addition, it holds a 1-1-0 HMIS/NFPA rating. In addition to its eco-friendly physical properties, this material allows users to maintain a stable cleaning process while minimalizing material and energy waste, by allowing success at low concentrations and lower temperatures than other cleaning agents on the market today.

**Q: What is the best method to measure AQUANOX A4727 in my wash bath?**

**A:** KYZEN's ChemControl Type II Kit is recommended for monitoring the wash bath concentration manually. The KYZEN ANALYST or KYZEN PCS Type III can be installed on the machine to *automatically* measure and/or control the bath concentration in real time.

### COMPATIBILITY:

**Q: What about production cleaning machine compatibility?**

**A:** Extensive short term and long term testing of the Aquanox A4727 has been completed with materials commonly used in cleaning machines. Further validation of this testing was completed with field trials with no known issues. It should be noted that like most aqueous cleaning agents, CPVC should not be used on the plumbing that is in direct contact with the cleaning agent, including drain lines.

**Q: Are copper, aluminum and gold compatible with Aquanox A4727?**

**A:** Sensitive metals such as copper, aluminum and gold are safe throughout the life of the bath and even with extended exposure times and multiple wash passes.

**Q: What is Aquanox A4727's compatibility on other common assembly materials?**

**A:** Many assemblies include a variety of materials of construction, both the substrate and components that can be affected by the wash process. Extended wash cycles and multiple wash passes increase the potential of a negative affect by cleaning chemistries. While it is impossible to test all of the construction materials used, a large number of materials have been tested internally as well as with customer assemblies using the IPC-9505 compatibility test method. Plus, it has also undergone additional KYZEN internal short and long term testing. A4727 provides excellent compatibility on an extensive list of common assembly materials.