aquaSAVE™:
Antistatic Agent for Electron Beam Lithography

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aquaSAVE™ which consists of self-doped and water soluble conductive polyaniline derivatives is water-based antistatic agent (Figure 1). Use of this agent enables the production of thin films with excellent antistatic performance on the insulating materials. aquaSAVE™ is completely soluble in water, and has excellent filterability. In addition, the liquid character of aquaSAVE™ hardly changes after passing through the filter.

Incidentally, E-beam lithography is widely used for miniaturization of a semiconductor device. E-beam lithography enables electron irradiation to any place. However electrons accumulate on the resist surface during drawing process, E-beam is bent due to accumulation of electrons, resulting in poor place accuracy. In order to solve this problem, accumulation of electrons is needed to reduce by forming Charge Dissipation Layer (CDL). aquaSAVE™ can make uniform CDL on any resists and provide improved place accuracy. CDL can be removed with water or water / isopropyl alcohol after drawing. It is expected that electrons accumulate on the resist surface will increase for further miniaturization. Therefore, we are just developing novel aquaSAVE™ with improved conductivity.

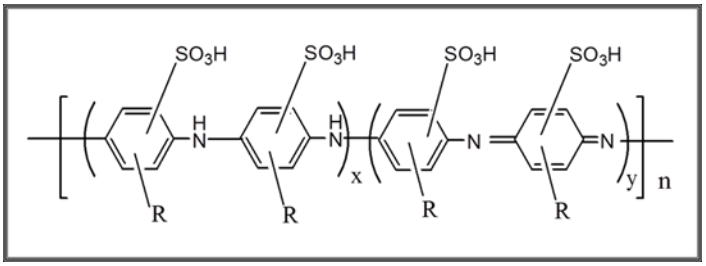

Figure 1: Structure of conductive polymer.