

Electroplating

With Ionic Liquids



Electroplating Using Ionic Liquids

Ionic liquids are useful alternative electrolytes for metal deposition because they have the following attributes;

- ◆ High metal solubility
- ◆ Wide potential windows
- ◆ Avoidance of water and metal/water chemistry
- ◆ High conductivity compared to non-aqueous solvents
- ◆ Simple to handle

The electrodeposition of most technologically important metals has been shown to be possible from a wide range of room temperature ionic liquids.

Processes have been developed for the deposition of Cr, Mn, Co, Ni, Cu, Zn, Sn, Pb, Pd and Ag. Alloys such as Cu/Zn, Cr/Mn, Zn/Co and Zn/Sn have also been deposited on a wide range of substrates without special pre-treatment.

Scionix aims to develop drop-in replacements for common aqueous electrolyte solutions. The ionic liquids are air and moisture stable and should operate at approximately the same conditions as conventional plating.

Ionic Liquids are simple to handle and recyclable. Soluble anodes can be used for almost all metals.



Scionix has developed a Cr(III) process for depositing crack free chrome black which has high current efficiency (> 90 %). Scionix can also deal with your waste issues by recycling the liquid when it comes to the end of its use.



What Can Scionix Offer?

Whatever your electroplating requirements Scionix can help

- ◆ We can supply a range of ionic liquids for you to test and provide the necessary technical back-up to help with your process development.
- ◆ We will help you to develop task specific brighteners for your applications and can supply technical information on reinforced materials.
- ◆ We are currently working on a range of new electroless deposition processes including copper and silver.
- ◆ We have considerable expertise with plating zinc/tin and zinc/nickel alloys.



Scionix aims to embrace Sustainable Development to provide economic, environmental and social benefits from its new technology. All the opportunities we are currently involved in add all the benefits associated with eco-efficiency and social business ethics. We produce ionic liquids for a large number of ongoing collaborations, among which are consumer product manufacturers, automotive and aerospace materials finishers, mining conglomerates and pharmaceutical companies. We are, already one of the worlds largest, per volume, manufacturer and distributor of these types of liquids.

Scionix

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