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ROLE OF HETERONUCLEAR COMPLEXES IN SOLUTIONS FOR METALLIZATION OF PLASTICS.

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Abstract

Metallization of plastics by chemical deposition of metals is an important technological process in production of circuit boards. The usual reducing agents are formaldehyde, borohydrides, hydrazine and its derivatives, and hypophosphites in alkaline media. Since most metal ions undergo hydrolysis in such media, they are converted into complex compounds. Salts of tartaric (H//4Tart) or citric (H//4Citr) acids, whose anions act as multidentate ligands, are used in solutions for chemical coppering and coating with nickel-cobalt and nickel-copper alloys. Heteronuclear complexes (HNC) may be formed in solutions containing two or more transition-metal salts. The authors studied the systems Cu(II)-Ni(II)-H//4Citr, Cu(II)-Co(II)-H//4Citr under the concentration conditions of copper baths. Using the NMR method, whereby formation of heteronuclear species can be recorded directly, the authors detected formation of a heteronuclear complex.
