hesive on a backing to form a first adhesive layer; applying a layer of abrasive grains on the said first adhesive layer; curing the first adhesive by heating; applying a second adhesive to form a second adhesive layer; curing the said second adhesive layer by heating at a temperature of from 120 to 160°C for 1.5 to 3 min to form a coated abrasive article; winding the coated abrasive article; and post-curing at a temperature of 60 to 130°C; wherein the second adhesive layer is formed from a composition comprising a water-soluble resol phenolic resin.

Phosphate Seal Rinse

U.S. Patent 5,397,390. Mar. 14, 1995
G.J. Gorecki, assignor to Ardrox Inc., La Mirada, Calif.

A rinse solution for the treatment of conversion-coated metal substrates for improving the adhesion and corrosion resistance of siccative coatings, comprising an aqueous solution of zirconium ion and an organosilane in a concentration of 0.1–6.0 by weight and selected from the group consisting of 3-glycidoxypropyltrimethoxysilane, methyltrimethoxysilane, -methacryloxytrimethoxysilane, phenyltrimethoxysilane, and mixtures thereof, with the zirconium ion concentration selected to provide a pH for the entire solution about 2.0–9.0.

Fixation and Stabilization of Chromium

U.S. Patent 5,397,478. Mar. 14, 1995
D. Pal and K.W. Yost, assignors to Sevenson Environmental Services Inc., Niagara Falls, N.Y.

A process for the fixation and stabilization of hexavalent chromium contained in a waste material consisting essentially of contacting in an alkaline aqueous media with a water-soluble reducing agent to convert a substantial amount of the hexavalent chromium to divalent and trivalent chromium compounds, wherein an alkalizing agent is added to the aqueous media to maintain a pH of at least 7; contacting with a water-soluble phosphate source capable of reacting with the chromium compounds to fix them in a nonleachable and stable phosphate mineral species; and curing until the leachable chromium levels are below 5 mg/L as determined by the Toxicity Characteristic Leaching Procedure (TCLP).

Cleaning Process

U.S. Patent 5,397,397. Mar. 14, 1995
S.B. Awad, assignor to Crestek Inc., Trenton, N.J.

A cleaning process comprising contacting a contaminated surface with a solvent selected from the group consisting of orange terpene hydrocarbon, hydrotreated light petroleum distillate, mixed aliphatic hydrocarbons and aliphatic esters, C_{10} branched chain synthetic ester and aliphatic petroleum hydrocarbon; heating and ultrasonically agitating the surface with the solvent; displacing the solvent from the surface and rendering the surface hydrophilic by applying an aqueous solution containing a surfactant and pH modifier; rinsing, heating, and agitating the surface with water; and drying.

Treatment of Cyanide

U.S. Patent 5,397,482. Mar. 14, 1995
H.M. Castrantas et al., assignors to FMC Corp., Philadelphia

A process for treating an effluent containing cyanide and having a pH of at least 9 to reduce its cyanide levels comprising adding Caro's acid to the tailings effluent

and commencing the reaction at a temperature of 0–80°C; adding sufficient amounts of Caro's acid within the mole ratio of Caro's acid to cyanide of 0.3:1 to 3:1 to reduce the pH of the effluent to below 9, continuing to react the cyanide values in the effluent having a pH below 9 with the Caro's acid; and recovering an environmentally compatible effluent having lower amounts of cyanide.

Paint Detackifier

U.S. Patent 5,397,496. Mar. 14, 1995
E.C. Zuerner et al., assignors to Nortru Inc., Detroit

A composition for treating oversprayed paints consisting essentially of between 5 and 50% by volume of carbonyl compound selected from the group consisting of alcohol esters, condensation products of alcohol ester and carboxylic acid, and mixtures thereof, said carbonyl compound being capable of dissolving paint while remaining essentially insoluble and nonreactive with an aqueous media; from 0.1 to 5.0 by volume of a surfactant selected from the group consisting of ethoxylated alkyl phenols having an average ratio of moles of ethylene oxide to moles of alkyl phenol between 4:1 and 12:1; and water.

Compositions for Treating Wastewater

U.S. Patent 5,397,500. Mar. 14, 1995
J-C. Lee, Seoul City, Korea

A composition for treating wastewater, which contains heavy metals comprising 30–40 by weight natrolite, 20–30% montmorillonite, 20–30% calcium hydroxide, 1.5–3.5% aluminum sulfate, and 10.0–15.0% magnesium oxide catalyst agent.

Masking Process

U.S. Patent 5,397,598. Mar. 14, 1995
N. DiPaolo et al., assignors to IBM Corp., Armonk, N.Y.

A method for selectively coating a member having a shank by masking a portion of the shank with a washer.

Electroless Nickel Coating Process

U.S. Patent 5,397,599. Mar. 14, 1995
H. Shin-I Chao et al., assignors to General Electric Co., Schenectady, N.Y.

A method for producing a nickel coating on a resinous article comprising aromatic polycarbonate, which comprises initially depositing a first electroless nickel coating that is phosphorus-free or has a phosphorus content up to 5% by weight to a total thickness of at least 0.5 micron, and subsequently depositing a second electroless nickel coating containing phosphorus in an amount greater than that of the first coating and at least 5% by weight.

Clearcoat Composition

U.S. Patent 5,397,603. Mar. 14, 1995
Y. Okude et al., assignors to Nippon Paint Co. Ltd., Osaka, Japan

In a process of forming a coating on a substrate, comprising applying a colored base of a waterborne or solvent-borne coating on a primered or intercoated substrate, and then applying a clear topcoat without curing the base layer, and then baking both the base and clearcoating layers to cure; the improvement comprising applying as the clear topcoat a thermosetting resin composition comprising 0.5 to 40% by weight of a fluorinated polymer having a hydroxyl group and/or an acid group; 10 to 60% by weight of a polymer having a carboxyl group and a carboxylic ester; and 30 to 60% by weight of a polymer having a hydroxyl group and an epoxy group.