This Class 205 is considered to be an integral part of Class 204 (see the Class 204 schedule for the position of this Class in schedule hierarchy). This Class retains all pertinent definitions and class lines of Class 204.

**ELECTROLYTIC PROCESS INVOLVING ACTINIDE SERIES ELEMENTS OR COMPOUND (AT. NO. 89+) (PRODUCT, PROCESS, COMPOSITION, AND METHOD OF PREPARING COMPOSITION)

43 .Plutonium
44 .Thorium
45 .Uranium
46 ..Utilizing fused bath
47 ..Involving electrolytic coating, etching, or polishing
48 ..Uranium containing compound produced

**PRODUCT PRODUCED BY ELECTROLYSIS INVOLVING ELECTROLYTIC MARKING, BATTERY ELECTRODE ACTIVE MATERIAL FORMING, ELECTROFORMING, OR ELECTROLYTIC COATING

50 .Organic active material other than organic metal salt
51 .Group IA metal-containing active material (e.g., Li, Na, K, etc.)
52 .Nickel-containing active material
53 ..Cadmium-containing
54 ..Cadmium-containing active material
55 ..Lead-containing active material
56 ..Zinc-containing active material
57 ..Silver-containing active material
58 ..Iron- or tin-containing active material

**ELECTROFORMING OR COMPOSITION THEREFOR

59 .Recording device
60 .Printing plate or electotype
61 .Mold, mask, or masterform
62 .Mirror or reflector
63 .Ornamental article
64 .Roll, ring, or hollow body
65 .Powder, flakes, or colloidal particles
66 .Perforated or foraminous article
67 .Sheet, web, wire, or filament
68 ..Of indeterminate length
69 .Electrical product
70 .Optical element

**ELECTROLYTIC COATING (PROCESS, COMPOSITION AND METHOD OF PREPARING COMPOSITION)

71 .Involving measuring, analyzing, or testing
72 ..Controlling coating process in response to measured or detected parameter
73 ...Parameter is current, current density, or voltage
74 ...Parameter is thickness, weight, or composition of coating
75 .Displacement or replacement coating
76 .Employing internal battery action during coating
77 .Simultaneous deplating and plating
78 .Utilizing subatmospheric or superatmospheric pressure during coating
79 .Utilizing magnet or magnetic field during coating
CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

90. Ferromagnetic material deposited

91. Utilizing electromagnetic wave energy during coating (e.g., visible light, etc.)

92. Energy produced by laser

93. Contacting coating as it forms with solid member or material other than electrode

94. Utilizing mist prevention

95. Coating has specified thickness variation

96. Controlling current distribution within bath

97. Shaped counterelectrode

98. Treating process fluid by means other than agitation or heating or cooling

99. Purifying electrolyte

100. Treating rinse solution (e.g., rinse water, etc.)

101. Regenerating or maintaining electrolyte (e.g., self-regulating bath, etc.)

102. Depositing predominantly single metal or alloy coating on single metal or alloy using specified waveform other than pure DC

103. Reversing current or voltage

104. Nonreversing pulsed current or voltage

105. Depositing predominantly single metal or alloy coating on nonmetal using specified waveform other than pure DC or 60 Hz sine wave AC (e.g., single metal or alloy coating within or above pores of anodic oxide layer, etc.)

106. Forming nonmetal coating using specified waveform other than pure DC or 60 Hz sine wave AC (e.g., anodic oxide coating, etc.)

107. Reversing current or voltage

108. Nonreversing pulsed current or voltage

109. Coating contains embedded solid material (e.g., particles, etc.)

110. Abrasive article produced

111. Coating is dendritic or nodular

112. Coating is discontinuous single metal or alloy layer (e.g., islands, porous layer, etc.)

113. Coating is microcracked

114. Uniting two separate solid materials

115. Repairing

116. Mirror or reflector produced

117. Utilizing brush or absorbent applicator

118. Coating selected area

119. Depositing ferromagnetic coating or coating ferromagnetic substrate

120. Design or ornamental article produced

121. Predominantly nonmetal electrolytic coating (e.g., anodic oxide, etc.)

122. Specified product produced

123. Product is semiconductor or includes semiconductor

124. Predominantly nonmetal electrolytic coating (e.g., anodic oxide, etc.)

125. Product is circuit board or printed circuit

126. Electroless coating from bath containing metal ions and reducing agent prior to electrolytic coating

127. Product is printing member

128. Simultaneous or sequential coating of a plurality of separate articles

129. Selectively coating moving substrate of indeterminate length (e.g., strip, wire, fiber, etc.)

130. Completely coating one side of strip

131. Internal coating (e.g., coating inside of cylinder, etc.)

132. Moving counterelectrode

133. Directing electrolyte to selected area (e.g., jet plating, etc.)

134. Partially submerging substrate in bath

135. Utilizing specified mask material

136. Utilizing means other than mask

137. Coating moving substrate
Indeterminate length (e.g., strip, wire, fiber, etc.)

Predominantly aluminum substrate

Tin-containing coating

Zinc-containing coating

Chromium-containing coating

Rotary (e.g., barrel plating, etc.)

Utilizing fluidized bed (e.g., coating particles, flakes, granules, etc.)

Simultaneous or sequential coating of a plurality of separate articles

Reciprocating substrate

Applying current to substrate without mechanical contact (e.g., liquid contact, bipolar electrode, etc.)

Agitating or moving electrolyte during coating

Coating predominantly single metal or alloy substrate of specified shape

Perforated, foraminous, or permeable substrate

Cylinder, roll, or hollow article

Sheet, plate, or foil

Predominantly aluminum substrate

Tin-containing coating

Zinc-containing coating

Chromium-containing coating

Coating predominantly semiconductor substrate (e.g., silicon, compound semiconductor, etc.)

Coating a substrate predominantly comprised of nonconductive material to which conductive material or material which can be converted into conductive material has been added (e.g., nonconductive polymer substrate containing carbon or copper oxide particles, etc.)

Coating predominantly nonmetal substrate

Fabric substrate

Perforated, foraminous, or permeable substrate

Ceramic or glass substrate
CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

187 ...Nonelectrolytic coating by plating from bath containing metal ions and reducing agent (e.g., electroless plating, etc.)

188 .Forming nonelectrolytic coating before forming nonmetal electrolytic coating

189 ..Predominantly titanium, vanadium, zirconium, niobium, hafnium, or tantalum nonelectrolytic coating

190 ..Predominantly aluminum nonelectrolytic coating

191 .Forming nonelectrolytic coating after depositing predominantly single metal or alloy electrolytic coating

192 ..Nonelectrolytic coating by vacuum or vapor deposition of a predominantly single metal or alloy coating

193 ..Nonelectrolytic coating by immersion in bath of molten metal to form predominantly single metal or alloy coating (e.g., hot dipping, etc.)

194 ..Nonelectrolytic coating is predominantly nonmetal

195 ...Nonelectrolytic coating is ceramic, glass, or vitreous enamel

196 ...Nonelectrolytic coating is predominantly organic material (e.g., paint, etc.)

197 ...Nonelectrolytic coating is phosphorus- or chromium-containing (e.g., phosphate, chromate, etc.)

198 .Forming nonelectrolytic coating after forming nonmetal electrolytic coating

199 ..Electrolytic coating is oxygen-containing (e.g., chromate, silicate, oxide formed by anodizing, etc.)

200 ...Predominantly titanium, vanadium zirconium, niobium, hafnium, or tantalum substrate

201 ...Predominantly aluminum substrate

202 ...Nonelectrolytic coloring (including nonelectrolytic coloring and sealing)

203 ....Sealing

204 ....Sealing agent includes organic constituent

205 .Treating substrate prior to coating

206 ..Contacting substrate with solid member or material (e.g., polishing, rolling, etc.)

207 ..Heating substrate

208 ....Blasting substrate with particulate material

209 ..Heating substrate other than by contact with liquid

210 ..Treating substrate with liquid other than tap water (e.g., for removing foreign material, etching, activating, etc.)

211 ...Liquid is nonaqueous (e.g., hydrocarbon solvent, fused bath, etc.)

212 ...Predominantly titanium, vanadium, zirconium, niobium, hafnium, tantalum, molybdenum, or tungsten substrate

213 ...Predominantly aluminum substrate

214 ...Graining or roughening chemically or electrolytically

215 ...Predominantly copper, zinc, or tin substrate

216 ...Predominantly cobalt or nickel substrate

217 ...Predominantly iron or steel substrate

218 ....Steel containing chromium or nickel (e.g., stainless steel, etc.)

219 ...Electrolytic treatment

220 .Treating electrolytic or nonelectrolytic coating after it is formed

221 ..Selected area

222 ..Contacting with solid member or material (e.g., buffing, burnishing, polishing, etc.)

223 ...Etching of coating

224 ...Heating

225 ...Tin-containing coating

226 ....Coating is fused (e.g., reflowing, flow brightening, etc.)

227 ...Single metal or alloy coating on single metal or alloy substrate

228 ....Coating is at least partially diffused or forms alloy
..Predominantly nonmetal electrolytic coating
..Utilizing fused bath
..Reactive coating (e.g., by diffusion, etc.)
..Depositing predominantly alloy coating
..Depositing aluminum coating
..Utilizing nonaqueous bath
..Coating is predominantly organic material
..Depositing predominantly alloy coating
..Deposit aluminum coating
..Deposition predominantly alloy coating
..Copper-containing alloy
...Including zinc (e.g., brass, etc.)
...Including tin (e.g., bronze, etc.)
...Including noble metal (e.g., gold-copper-cadmium alloy, etc.)
..Chromium is predominant constituent
..Zinc is predominant constituent
...Including iron group metal (i.e., Fe, Co, or Ni)
....Nickel
..Gold is predominant constituent
...Utilizing sulfite-containing bath
...Utilizing phosphonic or phosphinic acid or derivative-containing bath
...Including iron group metal
...Including arsenic, indium, or thallium
..Tin, lead, or germanium is predominant constituent
...Utilizing organic compound-containing bath
....Organic sulfoxyl-containing bath
...Utilizing specified anode
...Utilizing sulfamate-containing bath
...Inorganic cyanide-containing bath
...Utilizing organic sulfoxyl compound-containing bath
...And acetylenic compound-containing
...And polyether-containing
...And nitrogen-heterocyclic compound-containing
...Utilizing oxygen-heterocyclic compound-containing bath
...Utilizing nitrogen-heterocyclic compound-containing bath
...Utilizing organic carbonyl compound-containing bath
...Cadmium
...Utilizing inorganic cyanide-containing bath
...Chromium
...Utilizing specified anode
...Colored chromium coating
...Utilizing inorganic fluorine-containing bath
....Thiocyanate-containing
....Organic carboxyl compound-containing
...Utilizing trivalent chromium-containing bath
....Thiocyanate-containing
....Organic carboxyl compound-containing
...Utilizing organic compound-containing bath
....Organic sulfoxyl-containing
...Group VIII metal is predominant constituent (i.e., Fe, Co, Ni, Pt, Pd, Rh, Ru, Ir, or Os)
...Utilizing specified anode
...Platinum group metal-containing alloy (i.e., contains Pt, Pd, Rh, Ru, Ir, or Os)
...Phosphorus-containing alloy
...Utilizing organic compound-containing bath
...Silver
...Platinum group metal
...Palladium
...Gold
...Utilizing organic compound-containing bath
....Inorganic cyanide-containing bath
...Cobalt
...Iron
...Nickel
...Utilizing specified anode
...Utilizing sulfamate-containing bath
...Inorganic cyanide-containing bath
...Organic sulfoxyl-containing bath
...Platinum group metal
...Palladium
...Gold
...Utilizing specified anode
...Utilizing inorganic cyanide-containing bath
...Colored chromium coating
...Utilizing trivalent chromium-containing bath
....Selenium or tellurium-containing
...Utilizing alkaline bath
296 ...Utilizing organic compound-containing bath
297 ...Nitrogen-heterocyclic compound-containing
298 ...And organic sulfur compound-containing
299 ..Lead
300 ..Tin
301 ...Utilizing alkaline bath
302 ...Utilizing organic compound-containing bath
303 ...Organic carbonyl compound-containing
304 ...Aldehyde-containing
305 ..Zinc
306 ...Utilizing inorganic cyanide-containing bath
307 ...Nitrogen-heterocyclic compound-containing
308 ...Organic carbonyl compound-containing
309 ...Utilizing alkaline bath
310 ...Nitrogen-heterocyclic compound-containing
311 ...Utilizing organic compound-containing bath
312 ...Nitrogen-heterocyclic compound-containing
313 ...Organic sulfur compound-containing
314 ...Organic carbonyl compound-containing
315 ..Antimony
316 ..Forming nonmetal coating
317 ..Coating is predominantly organic material
318 ..Phosphorus-containing coating (e.g., phosphate, etc.)
319 ..Chromium-containing coating (e.g., chromate, etc.)
320 ..Predominantly iron or steel substrate
321 ..Predominantly magnesium substrate
322 ..Predominantly titanium, vanadium, zirconium, niobium, hafnium, or tantalum substrate
323 ..Predominantly aluminum substrate
324 ...Anodizing
325 ...Specific alloy substrate
326 ...Utilizing alkaline bath
327 ...Utilizing chromium-containing bath

328 ...Utilizing sulfuric acid-containing bath
329 ...Organic compound-containing
330 ...Organic carboxyl compound-containing
331 ...Organic sulfoxide compound-containing
332 ...Utilizing organic compound-containing bath
333 ...Oxide-containing coating (e.g., lead dioxide, etc.)

ELECTROLYTIC SYNTHESIS (PROCESS, COMPOSITION, AND METHOD OF PREPARING COMPOSITION)

335 ...Involving measuring, analyzing, or testing during synthesis
336 ...Utilizing fused bath (e.g., eliminating anode effect in a fused bath, etc.)
337 ...Current, current density, or voltage
338 ...Utilizing subatmospheric or superatmospheric pressure during synthesis
339 ...Utilizing magnet or magnetic field during synthesis
340 ...Utilizing electromagnetic wave energy during synthesis (e.g., visible light, etc.)
341 ...Utilizing AC or specified wave form other than pure DC
342 ...Reversing nonpulsed current or voltage
343 ...Involving fuel cell
344 ...Utilizing bipolar membrane
345 ...Utilizing plural distinct electrolytic cells where the cells are separate containers
346 ...Including decomposing or purifying cell
347 ...Identical plural distinct cells
348 ...Utilizing fluidized bed or particulate electrode
349 ...Recycling electrolytic product produced during synthesis back to production cell
350 ...Treating electrode, diaphragm, or membrane during synthesis (e.g., corrosion prevention, etc.)
CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND
METHODS OF PREPARING THE COMPOSITIONS

351. Treating electrolyte or bath without removal from cell other than agitating, moving, regenerating, replenishing, or replacing consumed material during synthesis

352. Utilizing emulsion, dispersion, or suspension electrolyte system

353. Utilizing electrolyte system having two or more separate immiscible layers

354. Utilizing fused bath

355. Organic compound produced

356. Halogen containing

357. Inorganic compound produced

358. Silicon, boron, or phosphorus containing

359. Halogen containing

360. Nitrogen containing

361. Sulfur containing

362. Oxygen containing

363. Alloy produced

364. Silicon or aluminum containing

365. Iron, cobalt, or nickel containing

366. Lead, zinc, titanium, zirconium, or hafnium containing

367. Single metal produced

368. Rare earth metal (At. No. 21, 39 or 57-71)

369. Lead, zinc, or cadmium

370. Iron, cobalt, nickel, or manganese

371. Vanadium, niobium, tantalum, chromium, molybdenum, or tungsten (V, Nb, Ta, Cr, Mo, or W)

372. Aluminum

373. And elemental alkali or alkaline earth metal, magnesium, beryllium, or nonmetal element other than halogen produced

374. Utilizing specified current distributing means or method other than wire connecting means

375. Utilizing specified distance between cathode and anode

376. Agitating or moving electrolyte or bath during synthesis

377. Utilizing membrane or diaphragm between electrodes

378. Utilizing spacer between electrodes

379. Utilizing nonmetal cell lining other than inorganic carbon or graphite

380. Utilizing specified electrode other than consumable electrode (e.g., cylindrical, tapered, etc.)

381. Inclined electrode (not horizontal or vertical)

382. Liquid electrode

383. Bipolar electrode

384. Coated electrode

385. Specified electrode composition other than consumable inorganic carbon or graphite

386. Nonconsumable electrode having inorganic carbon or graphite and a nonmetal containing material (e.g., cermet, etc.)

387. Nonmetal containing (e.g., metal oxide, carbide, etc.)

388. Utilizing coated or treating electrode connecting or positioning means (e.g., coating, cooling, etc.)

389. Specific replenishing, replacing, or feeding of consumable electrode material

390. Involving specific process startup other than mere turn on

391. Collecting or controlling fumes or gases produced during synthesis

392. Utilizing specific method or means to feed or replenish electrolyte or bath material

393. Purifying or treating electrolyte or bath prior to or after synthesis

394. Bath contains fluorine or bromine containing compound other than cryolite (Na3ALF6)

395. Fluorine or bromine containing compound contains alkaline earth metal, beryllium, or magnesium (Ca, Sr, Ba, Ra, Be, or Mg)
Utilizing specified process step to maintain bath temperature.

Titanium, zirconium, or hafnium (Ti, Zr, or Hf).

Titanium.

Utilizing specified electrode structure or anode alloy composition.

Utilizing diaphragm or barrier between anode and cathode.

Bath contains metal oxide or fluorine containing compound.

Alkaline earth metal, beryllium, or magnesium.

Beryllium.

Magnesium.

Bath contains alkali metal or fluorine containing compound.

Alkali metal (Li, Na, K, Rb, Cs, or Fr).

Lithium, sodium, or potassium.

Sodium.

Bath contains halide other than sodium chloride.

Silicon, boron, or phosphorus produced.

Halogen produced.

Heating or cooling electrolyte or bath in production cell during synthesis except in fused bath.

Preparing organic compound.

By polymerization.

By dimerization.

Nitrogen containing dimer produced.

Adiponitrile.

Carbonyl or hydroxy containing dimer produced.

From ring containing reactant.

Silicon, boron, or phosphorus containing compound produced.

Carbohydrate or derivative containing compound produced (e.g., streptomycin, etc.).

Heterocyclic compound produced.

Nitrogen containing hetero ring.

Polycyclo ring system having the hetero ring as one of the cyclos.
Fluorine containing...Utilizing mercury or amalgam electrode
Acyclic
Hydrocarbon produced
Carbocyclic ring containing
Preparing inorganic compound
Peroxy compound produced
Hydrogen peroxide
...Utilizing mercury or amalgam electrode
Inorganic compound containing electrode
Boron containing
Phosphorus containing
Sulfur containing
...Utilizing specified electrode
...Perhalogen acid or salt thereof produced
...Perchlorate or perchloric acid
Permanganate produced
Potassium containing Metal containing compound produced
Carbon containing
Cyanide
Carbonate or bicarbonate
Lead containing
...Alkali metal containing
Chromium containing
...Chromate
...Alkali metal containing
Chromic acid
...Utilizing specified electrode
Phosphorus containing
Phosphate
Alkali or alkaline earth metal, beryllium, or magnesium containing
Nitrogen containing
...Nitrite
...Nitrate
Sulfur containing (e.g., sulfide, etc.)
Sulfite, bisulfite, or dithionite
Sulfate or bisulfate
Group VIII metal, lead, or copper containing (Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Pb, or Cu)
Halogen containing
Oxygen containing
Hypochlorite or chlorite
...Utilizing tubular or coated electrode
Chlorate
...Alkali metal containing
...Utilizing graphite or inorganic carbon containing electrode
...Germanium, tin, or lead containing (Ge, Sn, or Pb)
...Hydroxide
...Group VIII metal containing
...Alkali metal containing
...Utilizing bipolar electrode
...Potassium hydroxide produced
...Utilizing filter press cell configuration
...Utilizing cell having three or more compartments or units
...Including gas compartment
...And elemental halogen produced
...Utilizing structurally defined diaphragm or membrane or diaphragm or membrane other than nonstructurally defined single layer cation exchange membrane having single-type cation exchange groups (e.g., anion exchange membrane, etc.)
...And polymer containing
...Membrane having two or more different ion exchange groups in a single layer
...Multilayered membrane
...Roughened membrane
...Diaphragm or membrane having a specified porosity
...Diaphragm or membrane having nonelectrode layer bonded thereto or embedded therein
...Electrode bonded diaphragm or membrane
...Utilizing specified electrode (e.g., rod, cylinder, etc.)
...Mercury or amalgam cathode
...Specified anode composition
...Purifying the cathode
CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

530 .......Concentrically arranged electrodes
531 .......Foraminous or perforated (e.g., mesh, screen, etc.)
532 .......Laminated or coated
533 .......Polymer or graphite or inorganic carbon containing coating
534 .......Raney metal containing coating (e.g., Ni-Al alloy, etc.)
535 .......Valve metal containing electrode substrate (i.e., Ta, Nb, Hf, Zr, Ti, V, W, Be, or Al)
536 ......Treating electrolyte or bath material prior to synthesis other than heating, cooling, or replacing consumed material during synthesis
537 ......Controlling electrolyte flow other than by flow through a diaphragm or membrane
538 ...Oxide
539 ....Manganese containing
540 ......And elemental zinc or elemental manganese produced
541 ......Utilizing specified electrode
542 ......Titanium, zirconium, hafnium, vanadium, niobium, or tantalum containing (Ti, Zr, Hf, V, Nb, or Ta)
543 ....Group VIII metal containing
544 ....Germanium, tin, or lead containing
545 ......Copper, silver, gold, zinc, cadmium, or mercury containing (Cu, Ag, Au, Zn, Cd, or Hg)
546 ....Hydrate
547 ...Germanium, tin, or lead containing
548 ...Iron, cobalt, or nickel containing
549 ..Silicon, boron, or phosphorus containing compound produced
550 ..Phosphine
551 ..Nitrogen containing compound produced
552 ..Ammonia
553 ..Nitric acid or oxide of nitrogen
554 ..Sulfur containing compound produced
555 ..Carbon containing compound produced
556 ..Halogen containing compound produced
557 ..Preparing alloy
558 ..Amalgam produced (e.g., utilizing mercury or amalgam electrode during synthesis, etc.)
559 ..Precious metal containing (Ru, Rh, Pd, Os, Ir, Pt, Ag, or Au)
560 ..Preparing single metal
561 ..Utilizing bipolar electrode
562 ..Mercury produced
563 ..Arsenic, antimony, or bismuth produced (As, Sb, or Bi)
564 ..Gallium, germanium, indium, vanadium, or molybdenum produced
565 ..Precious metal produced
566 ..Utilizing specified electrode other than consumable precious metal containing electrode
567 ..Alloy electrode
568 ..Leaching, dissolving, or extracting prior to synthesis
569 ..Utilizing nitrogen containing material
570 ..Utilizing halogen containing material
571 ..Silver or gold
572 ..Chromium produced
573 ..Manganese produced
574 ..Copper produced
575 ..Utilizing specified electrode other than consumable copper containing electrode
576 ..Specified anode
577 ......Elemental carbon containing (e.g., graphite, etc.)
578 ......Lead containing
579 ......Iron, cobalt, or nickel containing
580 ..Leaching, dissolving, or extracting prior to synthesis
581 ..Utilizing organic material
582 ..Utilizing halogen containing material
583 ..Utilizing sulfur containing material
584 ......Recycling electrolyte or bath material back to production cell after synthesis
585 ......Bath contains organic material
...Purifying or treating electrolyte or bath prior to or after synthesis
587 ...Ion, cobalt, or nickel produced
588 ...Specified anode other than consumable iron, cobalt, or nickel containing
589 ...Leaching, dissolving, or extracting prior to synthesis
590 ....Utilizing organic material
591 ....Utilizing halogen containing material
592 ......of iron
593 ......of iron
594 ......Nickel
595 ......Bath contains organic material
596 ......Bath pH below 5
597 ......Lead produced
598 ......Utilizing specified electrode other than consumable lead containing electrode
599 ......Leaching, dissolving, or extracting prior to synthesis
600 ....Utilizing halogen containing material
601 ......Bath contains organic material
602 ......Zinc produced
603 ......Utilizing specified electrode other than consumable zinc containing electrode
604 ......Leaching, dissolving, or extracting prior to synthesis
605 ....Utilizing organic material
606 ....Utilizing halogen containing material
607 ....Utilizing sulfur containing material
608 ......Removing iron or iron containing material
609 ......Bath contains silver, strontium, or organic material
610 ......Tin produced
611 ......Leaching, dissolving, or extracting prior to synthesis
612 ....Utilizing halogen containing material
613 ....Utilizing sulfur containing material
614 ......Bath contains silicon or organic material
615 ..Preparing nonmetal element
616 ..Utilizing bipolar electrode
617 ..Sulfur or nitrogen produced
618 ..Halogen produced
619 ....Fluorine, bromine, or iodine produced
620 ....Chlorine and hydrogen produced
621 ....Utilizing specified metal or alloy cathode
622 ....Utilizing specified electrode other than graphite or inorganic carbon
623 ....Mercury or amalgam cathode
624 ....Diaphragm or membrane bonded electrode
625 ....Coated electrode
626 ..Ozone produced
627 ..Deuterium or tritium produced
628 ..Oxygen and hydrogen produced
629 ....Utilizing inorganic solid electrolyte
630 ....Utilizing specified electrode
631 ....Specified single metal or alloy
632 ......Group VIII metal
633 ..Oxygen produced
634 ....Utilizing inorganic solid electrolyte
635 ....Utilizing nonmetal containing electrode
636 ....Utilizing group VIII metal alloy electrode
637 ..Hydrogen produced
638 ....Utilizing specified electrode
639 ....Specified single metal or alloy

ELECTROLYTIC EROSION OF A WORKPIECE FOR SHAPE OR SURFACE CHANGE (E.G., ETCHING, POLISHING, ETC.) (PROCESS AND ELECTROLYTE COMPOSITION)

With control responsive to sensed condition
642 .To adjust voltage across or size of tool-workpiece gap
643 ...In response to sensed voltage
644 ...In response to sensed voltage or current
645 .With measuring, testing, or sensing
646 .With programmed, cyclic, or time responsive control
647 .Including nonelectrolytic erosion
648 .Using diverse-type tool electrodes
649 .Eroding workpiece to match nonplanar surface shape of tool electrode
...Cleaning, recycling, or reusing electrolyte

Moving tool or workpiece

Gap maintenance or defined tool-workpiece gap

Using tool electrode with two or more holes for passage of electrolyte

Moving tool electrode

Eroding workpiece of nonuniform internal electrical characteristics

...Cleaning, recycling, or reusing electrolyte

Moving tool or workpiece

Gap maintenance or defined tool-workpiece gap

Using tool electrode with two or more holes for passage of electrolyte

Moving tool electrode

Eroding workpiece of nonuniform internal electrical characteristics

Internal battery action

Plural separate currents or voltages applied

Preliminary cleaning or shaping of workpiece

Nonelectrolytic (e.g., mechanical grinding, milling, machining, etc.)

With mechanical abrasion or grinding

Rotating tool or workpiece

Sharpening or point making

Aperture making

Using mask

Of photoresist or radiation resist

Local application of electrolyte

Using surface tension or capillary action to hold electrolyte in contact with workpiece

Through open nozzle or flow-through piping (e.g., unsupported jet, etc.)

Agitation or vibration of electrolyte

Defined electrolyte movement or pressure

Regenerating or rehabilitating, per se, of electrolyte

Electrolyte composition or defined electrolyte

Less than 50 weight percent water

...More than 20 weight percent organic material

...With one or more phosphoric acids

...With sulfuric acid

...More than 20 weight percent chromium compound

...More than 20 weight percent of one or more phosphoric acids

Chromium containing

Phosphorus containing

Cyano compound containing (e.g., hydrogen cyanide, etc.)

Organic material containing

Nitrate containing (e.g., nitric acid, sodium nitrate, etc.)

Organic

Fibrous

...Bleaching

...Dyeing

...Hides or skins

...Cleaning or refining

...Protection

...Hydrocarbon oil

Sugar

Cellulosic

Rubber or latex

Bleaching

Biological (e.g., sterilizing, etc.)

Removing metal

Using membrane

Metals or metal alloy

Removing foreign material (e.g., cleaning, etc.)

...Internal battery action

...From precious metal or precious metal alloy

...Using anode containing aluminum

...With solid-workpiece moving contact (e.g., brushing, etc.)

...With changing current

...Simple alternating current

...Nonelemental material from ferrous metal

...Using fused bath (e.g., molten salt, etc.)

...Using acidic electrolyte

...Containing one or more phosphoric acids

...Containing nitric acid

...Entire identifiable elemental layer or portion removed (e.g., stripping, etc.)
Precious metal removed
Tin removed
Nickel removed
Copper removed
Using electrolyte containing surface active agent (e.g., foaming or wetting agent, etc.)
Using acidic electrolyte
Object protection
With control responsive to sensed condition
Current sensed
Voltage sensed
And programmed, cyclic, or time responsive control
With programmed, cyclic, or time responsive control
Internal battery action (e.g., using sacrificial anode, etc.)
Ferrous metal
Using anode containing aluminum
Using anode containing magnesium
Metal imbedded in asphalt, concrete, stone, or masonry, (e.g., reinforced concrete, etc.)
Ferrous metal
Stainless steel
Using anode containing free carbon (e.g., graphite, carbon fibers, etc.)
Using anode containing precious metal
Using anode containing free carbon (e.g., graphite, carbon fibers, etc.)
Vessel (e.g., ship hull, steam boiler, etc.)
Containing iron
Water, sewage, or other waste water
With control responsive to sensed condition
With programmed, cyclic, or time responsive control
Internal battery action
Using membrane
With filtering
Plural membranes
With recycle or reuse
Removing metal
With filtering
And treatment with oxygen or ozone
Using particle bed
As electrode
With mixing, agitating, or gas-liquid contacting
Using oxygenating gas (e.g., ozone, air, etc.)
Bubbling (e.g., for flotation of solids, etc.)
Using porous electrode (e.g., perforated, etc.)
Using coated electrode (e.g., having electrocatalytic coating, etc.)
Using electrode containing precious metal or free carbon (e.g, insoluble electrode, etc.)
Using electrode containing ferrous metal
Alkali-forming metal hydroxide
Gas, vapor, or critical fluid
Internal battery action
Using solid electrolyte
Solid (e.g., articles, particles, ore, etc.)
Containing precious metal (e.g., beneficiating ore, etc.)
Using membrane
Removing metal
Copper
ELECTROLYTIC ANALYSIS OR TESTING (PROCESS AND ELECTROLYTE COMPOSITION)
For corrosion
Testing by internal battery action
Of coating, coated substrate, or imbedded object
Of ferrous metal
Involving enzyme or micro-organism
And using semipermeable membrane
For halogen or halogen containing compound
In biological fluid (e.g., urine, etc.)
CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

779.5 .Gaseous halogen or halogen containing compound
780 .Using electrode containing precious metal or free carbon
780.5 .For nitrogen or nitrogen containing compound
781 ..Including nitrogen oxide (e.g., gaseous nitrogen dioxide, dissolved sodium nitrate, etc.)
781.5 .For alkali metal, alkaline earth metal, or compound thereof
782 .For oxygen or oxygen containing compound (except water)
782.5 .Using semipermeable membrane
783 ...Gaseous oxygen or oxygen containing compound
783.5 ..Using solid electrolyte
784 ...Gaseous oxygen or oxygen containing compound
784.5 ....In combustible gas (e.g., air/fuel mixture for internal combustion engine, etc.)
785 ....With heating or temperature sensing
785.5 ...Gaseous oxygen or oxygen containing compound
786 .Using electrode containing precious metal or free carbon
786.5 .For sulfur or sulfur containing compound
787 .For organic compound
787.5 .For pH
788 .For water (e.g., moisture, etc.)
788.5 .Including titration
789 .For ion concentration (e.g., ion activity, pKa, etc.)
789.5 .Cations
790 .For composition of metal or metal alloy
790.5 .For properties of solid material (e.g., surface area, etc.)
791 ...Of coating or coated substrate (e.g., thickness, bonding strength, etc.)
791.5 ..Defects
792 ...Of biological material (e.g., urine, etc.)
792.5 .Using ion exchange resin
793 .Using semipermeable membrane
793.5 .Tracking chemical reactions
794 ..Coating (e.g., electroless, etc.)
794.5 .Using electrode containing precious metal or free carbon

MISCELLANEOUS ELECTROLYSIS

CROSS-REFERENCE ART COLLECTIONS

915 ELECTROLYTIC DEPOSITION OF SEMICONDUCTOR
916 SEQUENTIAL ELECTROLYTIC AND NONELECTROLYTIC, OR NONELECTROLYTIC AND ELECTROLYTIC COATING FROM THE SAME BATH
917 TREATMENT OF WORKPIECE BETWEEN COATING STEPS
918 USE OF WAVE ENERGY OR ELECTRICAL DISCHARGE DURING PRETREATMENT OF SUBSTRATE OR POST-TREATMENT OF COATING
919 WATERPROOFING
920 ELECTROLYTIC COATING OF CIRCUIT BOARD OR PRINTED CIRCUIT (OTHER THAN SELECTED AREA COATING)
921 ELECTROLYTIC COATING OF PRINTING MEMBER (OTHER THAN SELECTED AREA COATING)
922 ELECTROLYTIC COATING OF MAGNETIC STORAGE MEDIUM (OTHER THAN SELECTED AREA COATING)
923 SOLAR COLLECTOR OR ABSORBER
924 ELECTROLYTIC COATING SUBSTRATE PREDOMINANTLY COMPRISED OF SPECIFIED SYNTHETIC RESIN
925 .Synthetic resin is electrically conductive
926 .Polyamide or polyimide (e.g., nylon, etc.)
927 .Polyolefin (e.g., polyethylene, polypropylene, etc.)
928 .ABS Copolymer

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

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