	ass 205 is considered to be an 1 part of Class 204 (see the Class	59	<pre>.Group IA metal-containing active material (e.g., Li, Na, K, etc.)</pre>
204 schedule for the position of this Class in schedule hierarchy). This Class		60	.Nickel-containing active material
retains	all pertinent definitions and	61	Cadmium-containing
class 1	ines of Class 204.	62	.Cadmium-containing active material
		63	.Lead-containing active material
		64	.Zinc-containing active material
43	ELECTROLYTIC PROCESS INVOLVING	65	.Silver-containing active
	ACTINIDE SERIES ELEMENTS OR		material
	COMPOUND (AT. NO. 89+) (PRODUCT, PROCESS,	66	.Iron- or tin-containing active material
	COMPOSITION, AND METHOD OF	67	ELECTROFORMING OR COMPOSITION
	PREPARING COMPOSITION)	0 7	THEREFOR
44	.Plutonium	68	.Recording device
45	.Thorium	69	.Printing plate or electrotype
46	.Uranium	70	.Mold, mask, or masterform
47	Utilizing fused bath	71	.Mirror or reflector
48	Involving electrolytic coating,	72	Ornamental article
40	etching, or polishing	73	
49	Uranium containing compound		Roll, ring, or hollow body
49	produced	74	.Powder, flakes, or colloidal
50	PRODUCT PRODUCED BY ELECTROLYSIS	7.5	particles
30	INVOLVING ELECTROLYTIC	75	.Perforated or foraminous article
		76	.Sheet, web, wire, or filament
	MARKING, BATTERY ELECTRODE ACTIVE MATERIAL FORMING,	77	Of indeterminate length
	ELECTROFORMING, OR	78	.Electrical product
	ELECTROLYTIC COATING	79	.Optical element
51	SUPERCONDUCTOR PREPARATION	80	ELECTROLYTIC COATING (PROCESS,
31	INVOLVING ELECTROLYTIC		COMPOSITION AND METHOD OF
	MARKING, ELECTROFORMING OR		PREPARING COMPOSITION)
	ELECTROLYTIC COATING, OR	81	.Involving measuring, analyzing,
	COMPOSITION THEREFOR		or testing
52	ELECTROLYTIC MARKING OR	82	Controlling coating process in
0.2	COMPOSITION THEREFOR		response to measured or
53	.Utilizing inorganic color-		detected parameter
33	forming material other than	83	Parameter is current, current
	carbon		density, or voltage
54	.Utilizing organic color-forming	84	Parameter is thickness,
0 1	material		weight, or composition of
55	Heterocyclic color-forming		coating
	material	85	.Displacement or replacement coating
56	Hydroxyl or carboxyl group-	86	.Employing internal battery
	containing color-forming		action during coating
- 7	material	87	.Simultaneous deplating and
57	UTILIZING ELECTROLYSIS TO FORM		plating
	BATTERY ELECTRODE ACTIVE	88	.Utilizing subatmospheric or
	MATERIAL OR COMPOSITION		superatmospheric pressure
E O	THEREFOR		during coating
58	Organic active material other	89	.Utilizing magnet or magnetic
	than organic metal salt		field during coating

205 - 2 $\,$ CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

90	Ferromagnetic material	112	.Coating is discontinuous single
0.1	deposited		metal or alloy layer (e.g.,
91	.Utilizing electromagnetic wave	112	islands, porous layer, etc.)
	energy during coating (e.g.,	113	Coating is microcracked
0.0	visible light, etc.)	114	.Uniting two separate solid
92	Energy produced by laser	115	materials
93	.Contacting coating as it forms	115	Repairing
	with solid member or material	116	.Mirror or reflector produced
0.4	other than electrode	117	.Utilizing brush or absorbent
94	.Utilizing mist prevention		applicator
95	.Coating has specified thickness	118	.Coating selected area
0.6	variation	119	Depositing ferromagnetic
96	.Controlling current distribution within bath		coating or coating ferromagnetic substrate
97	Shaped counterelectrode	120	Design or ornamental article
98	.Treating process fluid by means		produced
	other than agitation or	121	Predominantly nonmetal
	heating or cooling		electrolytic coating (e.g.,
99	Purifying electrolyte		anodic oxide, etc.)
100	Treating rinse solution (e.g.,	122	Specified product produced
	rinse water, etc.)	123	Product is semiconductor or
101	Regenerating or maintaining		includes semiconductor
	electrolyte (e.g., self-	124	Predominantly nonmetal
	regulating bath, etc.)		electrolytic coating (e.g.,
102	.Depositing predominantly single		anodic oxide, etc.)
	metal or alloy coating on	125	Product is circuit board or
	single metal or alloy using		printed circuit
	specified waveform other than	126	Electroless coating from bath
	pure DC		containing metal ions and
103	Reversing current or voltage		reducing agent prior to
104	Nonreversing pulsed current or		electrolytic coating
	voltage	127	Product is printing member
105	.Depositing predominantly single	128	Simultaneous or sequential
	metal or alloy coating on		coating of a plurality of
	nonmetal using specified		separate articles
	waveform other than pure DC or	129	Selectively coating moving
	60 Hz sine wave AC (e.g., single metal or alloy coating		substrate of indeterminate
	within or above pores of		length (e.g., strip, wire,
	anodic oxide layer, etc.)	120	fiber, etc.)
106	.Forming nonmetal coating using	130	Completely coating one side of strip
100	specified waveform other than	131	Internal coating (e.g., coating
	pure DC or 60 Hz sine wave AC	131	inside of cylinder, etc.)
	(e.g., anodic oxide coating,	132	Moving counterelectrode
	etc.)	133	Moving counterelectrodeDirecting electrolyte to
107	Reversing current or voltage	133	selected area (e.g., jet
108	Nonreversing pulsed current or		plating, etc.)
	voltage	134	Partially submerging substrate
109	.Coating contains embedded solid		in bath
	material (e.g., particles,	135	Utilizing specified mask
	etc.)	-	material
110	Abrasive article produced	136	Utilizing means other than mask
111	.Coating is dendritic or nodular	137	.Coating moving substrate

138	Indeterminate length (e.g., strip, wire, fiber, etc.)	163	Conductive material applied to substrate by painting,
139	Predominantly aluminum substrate		spraying, or immersion (e.g., electroless plating, etc.)
140	Tin-containing coating	164	Synthetic resin substrate
141	Zinc-containing coating	165	Conductive material applied to
142	Chromium-containing coating		substrate by vacuum or vapor
143	Rotary (e.g., barrel plating,		deposition
	etc.)	166	Conductive material applied to
144	Utilizing fluidized bed (e.g., coating particles, flakes,		substrate by painting, spraying, or immersion
	granules, etc.)	167	Conductive material applied
145	Simultaneous or sequential coating of a plurality of separate articles		to substrate by plating from bath containing metal ions and reducing agent (e.g.,
146	Reciprocating substrate		electroless plating, etc.)
147	.Applying current to substrate	168	Resin contains etchable filler
	without mechanical contact	169	Conductive material is
	<pre>(e.g., liquid contact, bipolar electrode, etc.)</pre>	105	copper or nickel
1.40	• • •	170	.Forming multiple superposed
148	.Agitating or moving electrolyte during coating	170	electrolytic coatings
149	.Coating predominantly single	171	At least one anodic coating
149	metal or alloy substrate of	172	Predominantly aluminum
	specified shape	1,2	substrate
150	Perforated, foraminous, or	173	Electrolytically depositing
130	permeable substrate	175	material only within or above
151	Cylinder, roll, or hollow		pores of anodic coating (e.g.,
131	article		electrolytic coloring, etc.)
152	Sheet, plate, or foil	174	Multiple anodic coatings
153	Predominantly aluminum	175	Multiple anodic coatings
133	substrate	176	At least one alloy coating
154	Tin-containing coating	177	At least one predominantly zinc
155	Zinc-containing coating		metal coating
156	Chromium-containing coating	178	At least one chromium-
	3 3	1,0	containing coating
157	.Coating predominantly	179	Multiple chromium-containing
	semiconductor substrate (e.g.,	175	coatings
	<pre>silicon, compound semiconductor, etc.)</pre>	180	At least one predominantly
158	.Coating a substrate	100	nickel metal coating
130	predominantly comprised of	181	At least one predominantly
	nonconductive material to	101	nickel metal coating
	which conductive material or	182	At least one predominantly
	material which can be		copper metal coating
	converted into conductive	183	.Forming nonelectrolytic coating
	material has been added (e.g.,	_00	before depositing
	nonconductive polymer		predominantly single metal or
	substrate containing carbon or		alloy electrolytic coating
	copper oxide particles, etc.)	184	Nonelectrolytic coating or
159	.Coating predominantly nonmetal		coatings all contain single
	substrate		metal or alloy
160	Fabric substrate	185	Nonelectrolytic coating from
161	Perforated, foraminous, or		zincate or stannate bath
	permeable substrate	186	Nonelectrolytic coating by
162	Ceramic or glass substrate		vacuum or vapor deposition

205 - 4 CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

187	Nonelectrolytic coating by plating from bath containing	204	Sealing agent includes organic constituent
	<pre>metal ions and reducing agent (e.g., electroless plating,</pre>	205	.Treating substrate prior to coating
	etc.)	206	Contacting substrate with solid
188	.Forming nonelectrolytic coating	200	member or material (e.g.,
	before forming nonmetal		polishing, rolling, etc.)
	electrolytic coating	207	Heating substrate
189	Predominantly titanium,	207	
100	vanadium, zirconium, niobium,	200	Blasting substrate with
	hafnium, or tantalum	0.00	particulate material
	nonelectrolytic coating	209	Heating substrate other than by
190			contact with liquid
190	Predominantly aluminum	210	Treating substrate with liquid
4.04	nonelectrolytic coating		other than tap water (e.g.,
191	.Forming nonelectrolytic coating		for removing foreign material,
	after depositing predominantly		etching, activating, etc.)
	single metal or alloy	211	Liquid is nonaqueous (e.g.,
	electrolytic coating		hydrocarbon solvent, fused
192	Nonelectrolytic coating by		bath, etc.)
	vacuum or vapor deposition of	212	Predominantly titanium,
	a predominantly single metal		vanadium, zirconium, niobium,
	or alloy coating		hafnium, tantalum, molybdenum,
193	Nonelectrolytic coating by		or tungsten substrate
	immersion in bath of molten	213	Predominantly aluminum
	metal to form predominantly	210	substrate
	single metal or alloy coating	214	Graining or roughening
	(e.g., hot dipping, etc.)	214	chemically or electrolytically
194	Nonelectrolytic coating is	215	
	predominantly nonmetal	215	Predominantly copper, zinc, or
195	Nonelectrolytic coating is	016	tin substrate
233	ceramic, glass, or vitreous	216	Predominantly cobalt or nickel
	enamel		substrate
196	Nonelectrolytic coating is	217	Predominantly iron or steel
100	predominantly organic material		substrate
	(e.g., paint, etc.)	218	Steel containing chromium or
197			nickel (e.g., stainless steel,
197	Nonelectrolytic coating is		etc.)
	phosphorus- or chromium-	219	Electrolytic treatment
	containing (e.g., phosphate,	220	.Treating electrolytic or
100	chromate, etc.)		nonelectrolytic coating after
198	.Forming nonelectrolytic coating		it is formed
	after forming nonmetal	221	Selected area
	electrolytic coating	222	Contacting with solid member or
199	Electrolytic coating is oxygen-		material (e.g., buffing,
	containing (e.g., chromate,		burnishing, polishing, etc.)
	silicate, oxide formed by	223	Etching of coating
	anodizing, etc.)	224	Heating
200	Predominantly titanium,	225	3
	vanadium zirconium, niobium,		Tin-containing coating
	hafnium, or tantalum substrate	226	Coating is fused (e.g.,
201	Predominantly aluminum		reflowing, flow brightening,
	substrate	005	etc.)
202	Nonelectrolytic coloring	227	Single metal or alloy coating
	(including nonelectrolytic		on single metal or alloy
	coloring and sealing)		substrate
203	Sealing	228	Coating is at least partially
			diffused or forms alloy

229	Drodominantly nonmotal	260	Organia gulfowy gontaining
229	Predominantly nonmetal electrolytic coating	261	Organic sulfoxy-containing
230	.Utilizing fused bath	201	.Depositing predominantly single metal coating
231	_	262	
231	<pre>Reactive coating (e.g., by diffusion, etc.)</pre>	202	Group VIIB transition metal (i.e., Mn, Tc, or Re)
232		263	
232	Depositing predominantly alloy		Silver
222	coating	264	Platinum group metal
233	Depositing aluminum coating	265	Palladium
234	.Utilizing nonaqueous bath	266	Gold
235	Coating is predominantly organic material	267	Utilizing organic compound- containing bath
236	Depositing predominantly alloy	268	Inorganic cyanide-containing
	coating	269	Cobalt
237	Deposition aluminum coating	270	Iron
238	.Depositing predominantly alloy	271	Nickel
	coating	272	Utilizing specified anode
239	Copper-containing alloy	273	Utilizing sulfamate-containing
240	Including zinc (e.g., brass,		bath
	etc.)	274	Utilizing organic sulfoxy
241	Including tin (e.g., bronze,		compound-containing bath
	etc.)	275	And acetylenic compound-
242	Including noble metal (e.g.,		containing
	gold-copper-cadmium alloy,	276	And polyether-containing
	etc.)	277	And nitrogen-heterocyclic
243	Chromium is predominant	211	
243	constituent	270	compound-containing
244	Zinc is predominant constituent	278	Utilizing oxygen-heterocyclic
245	_	070	compound-containing bath
243	Including iron group metal	279	Utilizing nitrogen-
246	(i.e., Fe, Co, or Ni)		heterocyclic compound-
246	Nickel	0.00	containing bath
247	Gold is predominant constituent	280	Utilizing organic carbonyl
248	Utilizing sulfite-containing		compound-containing bath
0.40	bath	281	Cadmium
249	Utilizing phosphonic or phosphinic acid or derivative-	282	Utilizing inorganic cyanide- containing bath
	containing bath	283	Chromium
250	Including iron group metal	284	Utilizing specified anode
251	Including arsenic, indium, or	285	Colored chromium coating
	thallium	286	Utilizing inorganic fluorine-
252	Tin, lead, or germanium is		containing bath
	predominant constituent	287	Utilizing trivalent chromium-
253	Utilizing organic compound-		containing bath
	containing bath	288	Thiocyanate-containing
254	Organic sulfoxy-containing	289	Organic carboxyl compound-
255	Group VIII metal is predominant	200	containing
	constituent (i.e., Fe, Co, Ni,	290	Utilizing organic compound-
	Pt, Pd, Rh, Ru, Ir, or Os)	250	containing bath
256	Utilizing specified anode	291	Copper
257	Platinum group metal-	292	
	containing alloy (i.e.,		Utilizing specified anode
	containing diloy (1.e., contains Pt, Pd, Rh, Ru, Ir,	293	Utilizing inorganic cyanide- containing bath
	or Os)	294	Selenium or tellurium-
258	Phosphorus-containing alloy		containing
259	Utilizing organic compound-	295	Utilizing alkaline bath
	containing bath	-	<u> </u>

205 - 6 $\,$ CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

296	Utilizing organic compound- containing bath	328	Utilizing sulfuric acid- containing bath
297	Nitrogen-heterocyclic	329	Organic compound-containing
	compound-containing	330	Organic carboxyl compound-
298	And organic sulfur compound-		containing
	containing	331	Organic sulfoxy compound-
299	Lead		containing
300	Tin	332	Utilizing organic compound-
301	Utilizing alkaline bath		containing bath
302	Utilizing organic compound-	333	Oxide-containing coating (e.g.,
	containing bath		<pre>lead dioxide, etc.)</pre>
303	Organic carbonyl compound-	334	ELECTROLYTIC SYNTHESIS (PROCESS,
204	containing		COMPOSITION, AND METHOD OF
304	Aldehyde-containing	225	PREPARING COMPOSITION)
305	Zinc	335	.Involving measuring, analyzing,
306	Utilizing inorganic cyanide-	336	or testing during synthesis
205	containing bath	330	Utilizing fused bath (e.g., eliminating anode effect in a
307	Nitrogen-heterocyclic		fused bath, etc.)
200	compound-containing	337	
308	Organic carbonyl compound-	337	Current, current density, or voltage
309	containingUtilizing alkaline bath	338	.Utilizing subatmospheric or
310	Nitrogen-heterocyclic	330	superatmospheric pressure
310	compound-containing		during synthesis
311	Utilizing organic compound-	339	.Utilizing magnet or magnetic
211	containing bath		field during synthesis
312	Nitrogen-heterocyclic	340	.Utilizing electromagnetic wave
	compound-containing		energy during synthesis (e.g.,
313	Organic sulfur compound-		visible light, etc.)
	containing	341	.Utilizing AC or specified wave
314	Organic carbonyl compound-		form other than pure DC
	containing	342	Reversing nonpulsed current or
315	Antimony		voltage
316	.Forming nonmetal coating	343	.Involving fuel cell
317	Coating is predominantly	344	.Utilizing bipolar membrane
	organic material	345	.Utilizing plural distinct
318	Phosphorus-containing coating		electrolytic cells where the
	(e.g., phosphate, etc.)	246	cells are separate containers
319	Chromium-containing coating	346	Including decomposing or
	(e.g., chromate, etc.)	2.45	purifying cell
320	Predominantly iron or steel	347	Identical plural distinct cells
	substrate	348	.Utilizing fluidized bed or
321	Predominantly magnesium	349	particulate electrode
	substrate	349	Recycling electrolytic product produced during synthesis back
322	Predominantly titanium,		to production cell
	vanadium, zirconium, niobium,	350	.Treating electrode, diaphram, or
202	hafnium, or tantalum substrate	550	membrane during synthesis
323	Predominantly aluminum		(e.g., corrosion prevention,
204	substrate		etc.)
324	Anodizing		
325	Specified alloy substrate		
326	Utilizing alkaline bath		
327	Utilizing chromium-containing		
	bath		

351	.Treating electrolyte or bath without removal from cell	377	Utilizing membrane or diaphragm between electrodes
	other than agitating, moving, regenerating, replenishing, or	378	Utilizing spacer between electrodes
	replacing consumed material	379	Utilizing nonmetal cell
	during synthesis		lining other than inorganic
352	.Utilizing emulsion, dispersion,		carbon or graphite
	or suspension electrolyte	380	Utilizing specified electrode
2.52	system		other than consumable
353	.Utilizing electrolyte system having two or more separate		<pre>electrode (e.g., cylindrical, tapered, etc.)</pre>
	immiscible layers	381	Inclined electrode (not
354	.Utilizing fused bath		horizontal or vertical)
355	Organic compound produced	382	Liquid electrode
356	Halogen containing	383	Bipolar electrode
357	Inorganic compound produced	384	Coated electrode
358	Silicon, boron, or phosphorus	385	Specified electrode
	containing		composition other than
359	Halogen containing		consumable inorganic carbon or
360	Nitrogen containing		graphite
361	Sulfur containing	386	Nonconsumable electrode
362	Oxygen containing		having inorganic carbon or
363	Alloy produced		graphite and a nonmetal
364	Silicon or aluminum containing		containing material (e.g.,
365	Iron, cobalt, or nickel	387	cermet, etc.)
	containing	387	Nonmetal containing (e.g.,
366	Lead, zinc, titanium,	388	<pre>metal oxide, carbide, etc.)Utilizing coated or treating</pre>
	zirconium, or hafnium	300	electrode connecting or
2.67	containing		positioning means (e.g.,
367	Single metal produced		coating, cooling, etc.)
368	Rare earth metal (At. No. 21, 39 or 57-71)	389	Specific replenishing,
369	Lead, zinc, or cadmium		replacing, or feeding of
370	Iron, cobalt, nickel, or		consumable electrode material
	manganese	390	Involving specific process
371	Vanadium, niobium, tantalum,		startup other than mere turn
	chromium, molybdenum, or		on
	tungsten (V, Nb, Ta, Cr, Mo,	391	Collecting or controlling
	or W)		fumes or gases produced during
372	Aluminum	200	synthesis
373	And elemental alkali or	392	Utilizing specific method or
	alkaline earth metal,		means to feed or replenish
	magnesium, beryllium, or	202	electrolyte or bath material
	nonmetal element other than	393	Purifying or treating
	halogen produced		electrolyte or bath prior to or after synthesis
374	Utilizing specified current	394	Bath contains fluorine or
	distributing means or method	J J 4	bromine containing compound
	other than wire connecting		other than cryolite (Na3ALF6)
275	means	395	Fluorine or bromine
375	Utilizing specified distance	3,3	containing compound contains
376	between cathode and anode		3 1
3 / D	Agitating as marries		aikaiine earth metai.
3,0	Agitating or moving		alkaline earth metal, beryllium, or magnesium (Ca,
370	<pre>Agitating or moving electrolyte or bath during synthesis</pre>		beryllium, or magnesium (Ca, Sr, Ba, Ra, Be, or Mg)

205 - 8 $\,$ CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

sep to maintain bath temperature 426 The hetero atoms in the polycyclo ring system on the hafnium (Ti. Zz. or Hf) 427 Oxygen containing hetero ring is six-membered electrode structure or and aloy composition ring system containing hetero ring is six-membered electrode structure or and electrode structure or and electrode structure or and aloy composition ring system containing compound aloy composition ring system containing compound produced (e.g., steroids, etc.) 400 Julilizing diaphram or barrier between anode and cathode 420 Bath contains metal oxide or fluorine containing compound produced (e.g., steroids, etc.) 401 Bath contains metal oxide or fluorine containing compound produced (e.g., steroids, etc.) 402 Alkaline earth metal, beryllium, or magnesium 421 Alkaline earth metal, bydrocarbon or halogenated hydrocarbon or fluorine containing compound produced Alkaline metal (bi, Na, K. Rb, Cs, or Fr) 436 Carbon triple bonded to nitrogen or fluorine containing compound 437 Alkaline earth metal Sodium 438 Carbox mitting compound produced Solium chloride Solium compound produced Carboxylic acid or derivative produced Adiponitrile Adiponitrile Adiponitrile Solium compound produced Solium compound produc				
temperature 426The hetero ring is sixmembered hafnium (Ti, Zr, or Hf) 427	396		425	
hafnium (Ti, Zr, or Hf) 427Oxygen containing hetero ring 398Titanium 428The hetero ring is three electrode structure or anode alloy composition alloy composition cathode cathode and cathode described and cathode and cathode described and cathode desc		-	426	
398Titanium 428 membered 10 compound 10 composition 429 composition 429 composition 430 composition 430 composition 430 cathode 430 cathode 430 cathode 430 compound 431 compound produced (e.g., steroids, etc.) 430 compound other than hydrocarbon or halogenated 430 compound other than hydrocarbon or halogenated 431 compound other than hydrocarbon or halogenated 433 compound other than hydrocarbon or halogenated 434 compound 434 compound 435 compound 436 compound 437 compound 438 compound 439 compound 440 compound 441 compound 442 compound 444 compound 445 compound 445 compound 446 compound 447 compound 448 compound 449	397			membered
Section Sect				Oxygen containing hetero ring
electrode structure or anode alloy composition 3			428	The hetero ring is three-
alloy composition barrier between anode and cathode cathode 101Bath contains metal oxide or fluorine containing compound 102Alkaline earth metal, beryllium, or magnesium 103Beryllium 104Bath contains alkali metal 105Bath contains alkali metal 106Bath contains alkali metal 107 fluorine containing 108 compound 109Bath contains alkali metal 100Serplium 100Lithium, sodium, or potassium 101Sodium 102Bath contains halide other than sodium chloride 103Serplium 104Sodium 105Sath contains halide other than sodium chloride 106Silicon, boron, or phosphorus produced 107Lithium, sodium, or potassium 108Sodium 109Bath contains halide other than sodium chloride 101Silicon, boron, or phosphorus produced 102Bath contains halide other than sodium chloride 103Serplium 104Serplium 105Serplium 106Serplium 107Lithium, sodium, or potassium 108Sodium 109Bath contains halide other than sodium chloride 100Silicon, boron, or phosphorus produced 101Balogen produced 102Bath contains halide other than sodium chloride 103Serplium, or magnesium 104Serplium, or magnesium 105By dimerization 106By dimerization 107Adiponitrile 108Serplium, or magnesium 109From ring containing dimer produced 109From ring containing reactant produced 100Silicon, boron, or phosphours containing compound produced 101Balogen containing compound produced 102Silicon, boron, or phosphorus produced 103Serplium, or magnesium 104Carboxylic acid or derivative produced 105By dimerization 106Serplium, or magnesium 107Serplium, or magnesium 108Carboxylic acid or derivative produced 109Serplium, or magnesium 109Serplium, or magnesium 109Serplium, or magnesium 100Carboxylic acid or deriv	399	0 1		membered
Section Sect			429	
barrier between anode and cathode				
cathode 401Bath contains metal oxide or fluorine containing compound 402Alkaline earth metal, beryllium, or magnesium 403Beryllium 404Magnesium 405Bath contains alkali metal 406Alkali metal (Li, Na, K, Rb, carbon crylliph bonded to nitrogen containing compound 407Lithium, sodium, or potassium 408Sodium 409Bath contains halide other than sodium chloride 410Bath contains halide other than sodium chloride 411Bath contains halide other than sodium chloride 412Bath contains halide other than sodium chloride 413Beryllium, sodium and the standard containing or potuced 414Bath contains halide other than sodium chloride 415Bath contains halide other than sodium chloride 416Bath contains halide other than sodium chloride 417Bath contains halide other than sodium chloride 418Bath contains halide other than sodium chloride 419Bath contains halide other than sodium chloride 410Bath contains halide other than sodium chloride 411Bath contains halide other than solution of the sorboxylic acid or derivative produced 412Bath contains halide other than solution of the carboxylic acid or derivative produced 413Bath contains dimer than solution of the carboxylic acid or derivative of the carboxyl	400			
401Bath contains metal oxide or fluorine containing compound 402Alkaline earth metal, beryllium, or magnesium 403Beryllium 405Bath contains alkali metal or fluorine containing compound 406Bath contains alkali metal or fluorine containing compound 407Lithium, sodium, or potassium 408Sodium 409Bath contains halide other than sodium chloride 410Bath contains halide other produced 411Halogen produced 412Bath gor containing dimer produced 414Sp olymerization 415By dimerization 416Nitrogen containing dimer produced 417Adiponitrile 418Carbonyl or hydroxy containing dimer produced 419From ring containing dimer containing dimer produced 410Silicon, boron, or phosphorus produced 411By dimerization 412Sp dimerization 413Preparing organic compound 414Sp vimerization 415By dimerization 416Nitrogen containing dimer produced 417Adiponitrile 418Carbonyl or hydroxy group containing dimer produced 419From ring containing dimer produced 410Silicon, boron, or phosphours containing dimer produced 411Adiponitrile 412By dimerization 413Sep dimerization 414Sp dimerization 415By dimerization 416Silicon, boron, or phosphous containing dimer produced 417Adiponitrile 418Carbonyl or hydroxy 448Aldehyde produced 419From ring containing reactant 420Silicon, boron, or phosphours containing compound produced 421Carbohydrate or derivative containing compound produced 422Streptomycin, etc.) 455Sep dimerization only 423Streptomycin, etc.) 455Sep dimerization only 424Polycyclo ring system having the hetero ring as one of the 458Carbonyclic ring containing compound produced 423Streptomycin, etc.) 455Sep dimerization only 424Polycyclo ring system having the hetero ring as one of the 458Carbonyclic ring containing compound				
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cyclos 459Halogen containing compound	424			produced
				Lead containing
		cyclos	459	

460	Fluorine containing	501	Utilizing tubular or coated
461	Acyclic		electrode
462	Hydrocarbon produced	502	Chlorate
463	Carbocyclic ring containing	503	Alkali metal containing
464	.Preparing inorganic compound	504	Utilizing graphite or
465	Peroxy compound produced		inorganic carbon containing
466	Hydrogen peroxide		electrode
467	Utilizing mercury or amalgam	505	Utilizing coated electrode
	electrode	506	Germanium, tin, or lead
468	Utilizing inorganic carbon		containing (Ge, Sn, or Pb)
	containing electrode	507	Copper, silver, or gold
469	Boron containing		containing (Cu, Ag, or Au)
470	Phosphorus containing	508	Hydroxide
471	Sulfur containing	509	Group VIII metal containing
472	Utilizing specified electrode	510	Alkali metal containing
473	Perhalogen acid or salt thereof	511	Utilizing bipolar electrode
	produced	512	Potassium hydroxide produced
474	Perchlorate or perchloric acid	513	Utilizing filter press cell
475	Permanganate produced	313	configuration
476	Potassium containing	514	Utilizing cell having three
477	Metal containing compound	311	or more compartments or units
4//	<u> </u>	515	Including gas compartment
470	produced	516	And elemental halogen
478	Carbon containing	310	produced
479	Cyanide	517	_
480	Carbonate or bicarbonate	317	Utilizing structurally
481	Lead containing		defined diaphragm or membrane
482	Alkali metal containing		or diaphragm or membrane other than nonstructurally defined
483	Chromium containing		single layer cation exchange
484	Chromate		membrane having single-type
485	Alkali metal containing		cation exchange groups (e.g.,
486	Chromic acid		anion exchange membrane, etc.)
487	Utilizing specified	518	Asbestos containing
	electrode	519	
488	Phosphorus containing	520	And polymer containing
489	Phosphate	320	Membrane having two or
490	Alkali or alkaline earth		more different ion exchange
	metal, beryllium, or magnesium	F 0 1	groups in a single layer
	containing	521	Multilayered membrane
491	Nitrogen containing	522	Roughened membrane
492	Nitrite	523	Diaphragm or membrane
493	Nitrate		having a specified porosity
494	Sulfur containing (e.g.,	524	Diaphragm or membrane
	sulfide, etc.)		having nonelectrode layer
495	Sulfite, bisulfite, or		bonded thereto or embedded
400	dithionite		therein
496	Sulfate or bisulfate	525	Electrode bonded diaphragm
497			or membrane
497	Group VIII metal, lead, or	526	Utilizing specified
	copper containing (Fe, Co, Ni,		electrode (e.g., rod,
	Ru, Rh, Pd, Os, Ir, Pt, Pb, or Cu)		cylinder, etc.)
100	•	527	Mercury or amalgam cathode
498	Halogen containing	528	Specified anode
499	Oxygen containing		composition
500	Hypochlorite or chlorite	529	Purifying the cathode

205 - 10 CLASS 205 ELECTROLYSIS: PROCESSES, COMPOSITIONS USED THEREIN, AND METHODS OF PREPARING THE COMPOSITIONS

530	Concentrically arranged electrodes	555	Carbon containing compound produced
531	Foraminous or perforated (e.g., mesh, screen, etc.)	556	Halogen containing compound produced
532	Laminated or coated	557	Preparing alloy
533	Polymer or graphite or inorganic carbon containing coating	558	Amalgam produced (e.g., utilizing mercury or amalgam electrode during synthesis,
534	Raney metal containing		etc.)
	<pre>coating (e.g., Ni-Al alloy, etc.)</pre>	559	Precious metal containing (Ru, Rh, Pd, Os, Ir, Pt, Ag, or Au)
535	Valve metal containing	560	.Preparing single metal
	electrode substrate (i.e., Ta,	561	Utilizing bipolar electrode
	Nb, Hf, Zr, Ti, V, W, Be, or	562	Mercury produced
	Al)	563	Arsenic, antimony, or bismuth
536	Treating electrolyte or	5 0 5	produced (As, Sb, or Bi)
	bath material prior to	564	
	synthesis other than heating,	364	Gallium, germanium, indium,
			vanadium, or molybdenum
	cooling, or replacing consumed		produced
	material during synthesis	565	Precious metal produced
537	Controlling electrolyte	566	Utilizing specified electrode
	flow other than by flow		other than consumable precious
	through a diaphragm or		metal containing electrode
	membrane	567	Alloy electrode
538	Oxide	568	Leaching, dissolving, or
539	Manganese containing	300	extracting prior to synthesis
540	And elemental zinc or	E C O	
	elemental manganese produced	569	Utilizing nitrogen containing
541	Utilizing specified	- F - O	material
Jai	electrode	570	Utilizing halogen containing
E 4 O			material
542	Titanium, zirconium,	571	Silver or gold
	hafnium, vanadium, niobium, or	572	Chromium produced
	tantalum containing (Ti, Zr,	573	Manganese produced
	Hf, V, Nb, or Ta)	574	Copper produced
543	Group VIII metal containing	575	Utilizing specified electrode
544	Germanium, tin, or lead containing		other than consumable copper containing electrode
545	Copper, silver, gold, zinc,	576	Specified anode
	cadium, or mercury containing	577	Elemental carbon containing
	(Cu, Ag, Au, Zn, Cd, or Hg)	311	
546	Hydrate	550	(e.g., graphite, etc.)
547	Germanium, tin, or lead	578	Lead containing
31,	containing	579	Iron, cobalt, or nickel containing
548	Iron, cobalt, or nickel	FOO	-
	containing	580	Leaching, dissolving, or
549	Silicon, boron, or phosphorus		extracting prior to synthesis
3 1 3	containing compound produced	581	Utilizing organic material
550	Phosphine	582	Utilizing halogen containing
	-		material
551	Nitrogen containing compound	583	Utilizing sulfur containing
	produced		material
552	Ammonia	584	Recycling electrolyte or
553	Nitric acid or oxide of	-	bath material back to
	nitrogen		production cell after
554	Sulfur containing compound		synthesis
	produced	585	Bath contains organic material
		505	Dath contains organic material

586	Purifying or treating electrolyte or bath prior to	619	Fluorine, bromine, or iodine produced
	or after synthesis	620	Chlorine and hydrogen produced
587	Ion, cobalt, or nickel produced	621	Utilizing specified metal or
588	Specified anode other than	021	alloy cathode
300	consumable iron, cobalt, or	622	Utilizing specified electrode
	nickel containing	022	other than graphite or
589	Leaching, dissolving, or		inorganic carbon
303	extracting prior to synthesis	623	Mercury or amalgam cathode
590	Utilizing organic material	624	Diaphragm or membrane bonded
591	Utilizing halogen containing	024	electrode
0 J I	material	625	Coated electrode
592	Of iron	626	Ozone produced
593	Of iron	627	Deuterium or tritium produced
594	Nickel	628	Oxygen and hydrogen produced
595	Bath contains organic	629	Utilizing inorganic solid
333	material	023	electrolyte
596	Bath pH below 5	630	Utilizing specified electrode
597	Lead produced	631	Specified single metal or
598	Utilizing specified electrode	031	alloy
330	other than consumable lead	632	Group VIII metal
	containing electrode	633	Oxygen produced
599	Leaching, dissolving, or	634	Utilizing inorganic solid
333	extracting prior to synthesis	034	electrolyte
600	Utilizing halogen containing	635	-
000	material	033	Utilizing nonmetal containing electrode
601	Bath contains organic material	636	
602	Zinc produced	030	Utilizing group VIII metal
603	Utilizing specified electrode	637	alloy electrode
005	other than consumable zinc	638	Hydrogen produced
	containing electrode	639	Utilizing specified electrode
604	Leaching, dissolving, or	039	Specified single metal or
001	extracting prior to synthesis	640	alloy ELECTROLYTIC EROSION OF A
605	Utilizing organic material	040	WORKPIECE FOR SHAPE OR SURFACE
606	Utilizing halogen containing		CHANGE (E.G., ETCHING,
000	material		POLISHING, ETC.) (PROCESS AND
607	Utilizing sulfur containing		ELECTROLYTE COMPOSITION)
007	material	641	.With control responsive to
608	Removing iron or iron	011	sensed condition
000	containing material	642	To adjust voltage across or
609	Bath contains silver,	042	size of tool-workpiece gap
005	strontium, or organic material	643	In response to sensed voltage
610	Tin produced	644	In response to sensed voltage
611	Leaching, dissolving, or	011	or current
011	extracting prior to synthesis	645	.With measuring, testing, or
612	Utilizing halogen containing	045	sensing
OIZ	material	646	.With programmed, cyclic, or time
613	Utilizing sulfur containing	040	responsive control
013	material	647	Including nonelectrolytic
614	Bath contains silicon or	047	erosion
014	organic material	648	
615	Preparing nonmetal element	040	Using diverse-type tool electrodes
616	Utilizing bipolar electrode	649	Eroding workpiece to match
617		UHJ	nonplanar surface shape of
	Sulfur or nitrogen produced		tool electrode
618	Halogen produced		COOT GIECCIONE

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650	Cleaning, recycling, or reusing electrolyte	680	More than 20 weight percent of one or more phosphoric acids
651	Moving tool or workpiece	681	Chromium containing
652	.Gap maintenance or defined tool-	682	Phosphorus containing
002	workpiece gap	683	Cyano compound containing
653	Using tool electrode with two	000	(e.g., hydrogen cyanide, etc.)
000	or more holes for passage of	684	Organic material containing
	electrolyte	685	Nitrate containing (e.g.,
654	Moving tool electrode		nitric acid, sodium nitrate,
655	.With irradiation or illumination		etc.)
656	.Eroding workpiece of nonuniform	686	.Moving tool electrode
	internal electrical	687	ELECTROLYTIC MATERIAL TREATMENT
	characteristics		(PRODUCT, PROCESS, AND
657	.Internal battery action		ELECTROLYTE COMPOSITION)
658	.Simple alternating current	688	.Organic
659	Plural separate currents or	689	Fibrous
	voltages applied	690	Bleaching
660	.Preliminary cleaning or shaping	691	Dyeing
	of workpiece	692	Hides or skins
661	Nonelectrolytic (e.g.,	693	Cleaning or refining
	mechanical grinding, milling,	694	Protection
	machining, etc.)	695	Oil or fat
662	.With mechanical abrasion or	696	Hydrocarbon oil
	grinding	697	Sugar
663	Rotating tool or workpiece	698	Cellulosic
664	.Sharpening or point making	699	Rubber or latex
665	.Aperture making	700	Bleaching
666	.Using mask	701	Biological (e.g., sterilizing,
667	Of photoresist or radiation		etc.)
	resist	702	Removing metal
668	.Local application of electrolyte	703	Using membrane
669	Using surface tension or	704	.Metal or metal alloy
	capillary action to hold	705	Removing foreign material
	electrolyte in contact with		(e.g., cleaning, etc.)
C7.0	workpiece	706	Internal battery action
670	Through open nozzle or flow-	707	From precious metal or
	through piping (e.g.,		precious metal alloy
671	unsupported jet, etc.) .Agitation or vibration of	708	Using anode containing
071	electrolyte		aluminum
672	.Defined electrolyte movement or	709	With solid-workpiece moving
072	pressure		contact (e.g., brushing, etc.)
673	Regenerating or rehabilitating,	710	With changing current
075	per se, of electrolyte	711	Simple alternating current
674	.Electrolyte composition or	712	Nonelemental material from
0 / 1	defined electrolyte	E4.2	ferrous metal
675	Less than 50 weight percent	713	Using fused bath (e.g.,
	water	71	molten salt, etc.)
676	More than 20 weight percent	714	Using acidic electrolyte
	organic material	715	Containing one or more
677	With one or more phosphoric	716	phosphoric acids
	acids	716	Containing nitric acid
678	With sulfuric acid	717	Entire identifiable elemental
679	More than 20 weight percent		layer or portion removed
	chromium compound		(e.g., stripping, etc.)

718 719	Precious metal removedTin removed	752	And treatment with oxygen or ozone
720	Nickel removed	753	Using particle bed
721		754	As electrode
	Copper removed	_	
722	Using electrolyte containing	755	With mixing, agitating, or gas-
	surface active agent (e.g.,		liquid contacting
	foaming or wetting agent,	756	Using oxygenating gas (e.g.,
	etc.)		ozone, air, etc.)
723	Using acidic electrolyte	757	Bubbling (e.g., for flotation
724	Object protection		of solids, etc.)
725	With control responsive to	758	Using porous electrode (e.g.,
	sensed condition		perforated, etc.)
726	Current sensed	759	Using coated electrode (e.g.,
727	Voltage sensed		having electrocatalytic
728	And programmed, cyclic, or		coating, etc.)
	time responsive control	760	Using electrode containing
729	With programmed, cyclic, or		precious metal or free carbon
	time responsive control		(e.g, insoluble electrode,
730	Internal battery action (e.g.,		etc.)
	using sacrificial anode, etc.)	761	Using electrode containing
731	Ferrous metal		ferrous metal
732	Using anode containing	762	.Alkali-forming metal hydroxide
	aluminum	763	.Gas, vapor, or critical fluid
733	Using anode containing	764	Internal battery action
	magnesium	765	Using solid electrolyte
734	Metal imbedded in asphalt,	766	.Solid (e.g., articles,
	concrete, stone, or masonry,		particles, ore, etc.)
	(e.g., reinforced concrete,	767	Containing precious metal
	etc.)		(e.g., beneficiating ore,
735	Ferrous metal		etc.)
736	Stainless steel	768	Containing free carbon (e.g.,
737	Using anode containing free		graphite, carbon black, etc.)
737	carbon (e.g., graphite, carbon	769	Glass, silica, quartz, or
	fibers, etc.)	705	optical material (e.g.,
738	Using anode containing		contact lenses, etc.)
750	precious metal	770	.Using membrane
739	Using anode containing free	771	.Removing metal
139		772	
	carbon (e.g., graphite, carbon	775	Copper
740	fibers, etc.)	113	ELECTROLYTIC ANALYSIS OR TESTING (PROCESS AND ELECTROLYTE
740	Vessel (e.g., ship hull, steam		COMPOSITION)
741	boiler, etc.)	775.5	
	Containing iron		.For corrosion
742	.Water, sewage, or other waste water	776	Testing by internal battery action
743	With control responsive to	776.5	Of coating, coated substrate,
	sensed condition		or imbedded object
744	With programmed, cyclic, or	777	Of ferrous metal
	time responsive control	777.5	.Involving enzyme or micro-
745	Internal battery action		organism
746	Using membrane	778	And using semipermeable
747	With filtering		membrane
748	Plural membranes	778.5	.For halogen or halogen
749	With recycle or reuse		containing compound
750	Removing metal	779	In biological fluid (e.g.,
751	With filtering		urine, etc.)

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779.5	Gaseous halogen or halogen	799	MISCELLANEOUS ELECTROLYSIS
775.5	containing compound	133	MISCELLANEOUS ELECTROLISIS
780	Using electrode containing		
	precious metal or free carbon		
780.5	.For nitrogen or nitrogen containing compound	CROSS-F	REFERENCE ART COLLECTIONS
781	Including nitrogen oxide (e.g., gaseous nitrogen dioxide,	915	ELECTROLYTIC DEPOSITION OF SEMICONDUCTOR
	dissolved sodium nitrate,	916	SECUENTIAL ELECTROLYTIC AND
	etc.)	210	NONELECTROLYTIC, OR
781.5	.For alkali metal, alkaline earth		NONELECTROLYTIC AND
	metal, or compound thereof		ELECTROLYTIC COATING FROM THE
782	.For oxygen or oxygen containing		SAME BATH
	compound (except water)	917	TREATMENT OF WORKPIECE BETWEEN
782.5	Using semipermeable membrane		COATING STEPS
783	Gaseous oxygen or oxygen	918	USE OF WAVE ENERGY OR ELECTRICAL
E00 E	containing compound		DISCHARGE DURING PRETREATMENT
783.5	Using solid electrolyte		OF SUBSTRATE OR POST-TREATMENT
784	Gaseous oxygen or oxygen	010	OF COATING
701 E	containing compound	919	WATERPROOFING
784.5	<pre>In combustible gas (e.g., air/fuel mixture for internal</pre>	920	ELECTROLYTIC COATING OF CIRCUIT
	combustion engine, etc.)		BOARD OR PRINTED CIRCUIT (OTHER THAN SELECTED AREA
785	With heating or temperature		COATING)
703	sensing	921	ELECTROLYTIC COATING OF PRINTING
785.5	Gaseous oxygen or oxygen	<i>72</i> ±	MEMBER (OTHER THAN SELECTED
, 00 10	containing compound		AREA COATING)
786	Using electrode containing	922	ELECTROLYTIC COATING OF MAGNETIC
	precious metal or free carbon		STORAGE MEDIUM (OTHER THAN
786.5	.For sulfur or sulfur containing		SELECTED AREA COATING)
	compound	923	SOLAR COLLECTOR OR ABSORBER
787	.For organic compound	924	ELECTROLYTIC COATING SUBSTRATE
787.5	.For pH		PREDOMINANTLY COMPRISED OF
788	.For water (e.g., moisture, etc.)		SPECIFIED SYNTHETIC RESIN
788.5	.Including titration	925	.Synthetic resin is electrically
789	.For ion concentration (e.g., ion	006	conductive
	activity, pKa, etc.)	926	.Polyamide or polyimide (e.g.,
789.5	Cations	927	nylon, etc.)
790	.For composition of metal or metal alloy		<pre>.Polyolefin (e.g., polyethylene, polypropylene, etc.)</pre>
790.5	.For properties of solid material	928	.ABS Copolymer
791	<pre>(e.g., surface area, etc.)Of coating or coated substrate</pre>		
7.7.1	(e.g., thickness, bonding		
	strength, etc.)	FORETCE	I ART COLLECTIONS
791.5	Defects	ronmin	MIT COULDCITOND
792	.Of biological material (e.g.,	FOR OOO	CLASS-RELATED FOREIGN DOCUMENTS
500 5	urine, etc.)	1010 000	CEMENT REMITED FORESTON DOCUMENTS
792.5	.Using ion exchange resin		
793	.Using semipermeable membrane		
793.5	.Tracking chemical reactions		
794	<pre>Coating (e.g., electroless, etc.)</pre>		
794.5	.Using electrode containing		
	precious metal or free carbon		