

## Eisenberg Lab Heavy Metals List

Compiled before 8/29/03, xls-ified 10/8/03, edited 6/10/2010

You must be formally introduced to these compounds. You may not just spontaneously start using them. I keep them locked up in 219A and I will closely supervise their use and that trainees are trained.

Read the heavy metals Standard Operating Protocol under Recipes at the lab web site [www.doe-mbi.ucla.edu](http://www.doe-mbi.ucla.edu)

The numbers refer to the cap labels. Please locate these chemicals by cap number, rather than by lifting every bottle.

Uranium and Thorium compounds were removed from 219A (LA404) on May 5, 2010.

ATOM	Cap	Category	NAME	FORMULA	MW	NOTES
Au	1	6.1	Gold Monochloride	AuCl	232.4	
	2	6.1	Gold thiomalate			
	3	6.1	Aurothioglucose	C6H11O6SAu	392.2	stored in freezer, dessicated
	4	6.1	Potassium Bromoaurate	K[AuBr]4	555.71	
	5	6.1	Potassium Chloroaurate	KAuCl	377.88	
	6	CN	Potassium Cyanoaurate	K[Au(CN)2]	288.1	
	7	6.1	Potassium Iodoaurate	KAuI4	743.7	
	8	6.1	Potassium dicyanoaurate	KAu(CN)2	288	
	9	6.1	Potassium tetrachloroaurate (III)	KAuCl4	377.8	
Bi	1	5.1	Bismuth Nitrate	Bi(NO3)3.5H2O	485.07	
	2	6.1	Bismuth Citrate	BiC6H5O7	398.1	
Cd	1	6.1	Cadmium Sulfate	3CdSO4 8H2O	795.5	
Cs	1	6.1	Caesium Acetate	CsC2H3O2	191.9	
Ce	1	6.1	Cerium IV Sulphate	Ce(SO4)2.4H2O	404.31	
Dy	1			Dy(C11H19O2)3	711.5	
Eu	1			Eu(C12H14F3O2)3	893	
	2			Eu(C10H10F7O2)3	974	
	3	6.1	Europium Chloride	EuCl3.6H2O	258.32	
Er	1	6.1	Erbium Chloride	ErCl3.6H2O	381.73	
Gd	1	6.1	Gadolinium Chloride	GdCl3	263.61	
	2	6.1	Gadolinium Oxide	Gd2O3	362.5	

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Hg	1	8Hg	Hg	200.59	liquid metal	
	2	6.1 Hg	Mercuric Acetate	Hg(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>	318.8	
	3	6.1 Hg	Methyl Hg Acetate			
	4	6.1 Hg	Baker's dimercurial		2 covalently bound Hg	
	5	6.1 Hg	dimercuriacetate		2 covalently bound Hg	
	6	6.1 Hg	2,3,4,5-tetrakis-(chloromerifuran)	C <sub>4</sub> C <sub>4</sub> H <sub>4</sub> Hg <sub>4</sub> O	1008.22	4 covalently bound Hg
	7	6.1 Hg	5,5'-bis(chloromercuri)2,2'bithiophene	C <sub>8</sub> H <sub>4</sub> Cl <sub>2</sub> Hg <sub>2</sub> S <sub>2</sub>	636.34	2 covalently bound Hg
	8	6.1 Hg	meso-1,4-bis(acetoxymcuri)-2-diethoxybutane	C <sub>16</sub> H <sub>22</sub> Hg <sub>2</sub> O <sub>6</sub>	636.34	2 covalently bound Hg
	9	6.1 Hg	2,8-bis(chloromercuri)dibenzofuran	C <sub>12</sub> H <sub>6</sub> Cl <sub>2</sub> Hg <sub>2</sub> O	638.27	2 covalently bound Hg
	10	6.1 Hg	2,5-bis(chloromercuri)thiophene	C <sub>4</sub> H <sub>2</sub> Cl <sub>2</sub> Hg <sub>2</sub> S	554.21	2 covalently bound Hg
	11	6.1 Hg	Hg Chloranilate			
	12	6.1 Hg	Mercury Cyclohexanebutyrate	C <sub>20</sub> H <sub>34</sub> HgO <sub>4</sub>	539.1	
	13	6.1 Hg	(1-[4-chloromercuriphenylaxo]-2-napthol)	C <sub>16</sub> H <sub>11</sub> ClHgN <sub>2</sub> O	483.3	(also Mercury Orange)
	14	6.1 Hg	Mercuric Salicylate	C <sub>14</sub> H <sub>10</sub> HgO <sub>6</sub>	474.8	
	15	6.1 Hg	Mercurochrome	C <sub>20</sub> H <sub>8</sub> Br <sub>2</sub> HgO <sub>6</sub> Na <sub>2</sub>	750.7	
	16	6.1 Hg	Methyl mercury chloride	CH <sub>3</sub> HgCl	251.1	volatile
	17	6.1 Hg	Methyl mercury iodide	CH <sub>3</sub> HgI	342.5	volatile
	18	6.1 Hg	Diphenyl mercury	C <sub>12</sub> H <sub>10</sub> Hg	354.8	volatile?
	19	6.1 Hg	Ethyl mercury chloride	CH <sub>3</sub> CH <sub>2</sub> HgCl	265.1	volatile?
	20	6.1 Hg	bis(trifluoromethyl)mercury	(CF <sub>3</sub> ) <sub>2</sub> Hg	338.6	
	21	6.1 Hg	Tetrakis(acetoxymcuri)methane	C(HgOAc) <sub>4</sub>	1050.6	(TAMM) 4 covalent Hg
	22	6.1 Hg	Dimethyl Hg	(CH <sub>3</sub> ) <sub>2</sub> Hg	230.7	volatile liquid, permanently gone
	23	6.1 Hg	4-(chloromercuri)benzenesulphonate		415.2	also PCMBS
	24	6.1 Hg	4-chloromercuri-2-nitrophenol	C <sub>6</sub> H <sub>4</sub> ClHgNO <sub>3</sub>	374.2	
	25	6.1 Hg	4-(Hydroxymcuri) benzoic acid	C <sub>7</sub> H <sub>5</sub> HgO <sub>3</sub> .Na	360.7	
	26	6.1 Hg	Mersaly Na <sup>+</sup>	C <sub>13</sub> H <sub>17</sub> HgNO <sub>6</sub>	483.9	
	27	6.1 Hg	2-chloromercuri-4-nitrophenol			
	28	6.1 Hg	Chloromercuriferrocene	(ClHgC <sub>4</sub> H <sub>4</sub> )Fe(C <sub>5</sub> H <sub>5</sub> )		
	29	6.1 Hg	p-chloro mercuri benzoic acid			
	30	6.1 Hg	Phenylmercuricchloride	(C <sub>6</sub> H <sub>5</sub> )HgCl	348.5	
	31	6.1 Hg	Aminomercuric Chloride	Hg(NH <sub>2</sub> )Cl	252.1	(HgII chloride ammonobasic)
	32	6.1 Hg	o-chloromercuriphenol	C <sub>5</sub> H <sub>5</sub> HgClO	329.2	
	33	6.1 Hg	Phenyl mercuric acetate	C <sub>8</sub> H <sub>8</sub> HgO <sub>2</sub>	336.74	
	34	6.1 Hg	p-aminophenylmercuric acetate	C <sub>8</sub> H <sub>9</sub> HgNO <sub>2</sub>	351.76	
	35	6.1 Hg	p-chloromercuriferrocene	C <sub>5</sub> H <sub>5</sub> .C <sub>5</sub> H <sub>5</sub> ClHg.Fe	421.1	
	36	6.1 Hg	Thimerosal	C <sub>9</sub> H <sub>9</sub> HgO <sub>2</sub> S	404.8	EMTS ethylmercurithiosalicylate
	37	6.1 Hg	Phenyl Hg nitrate	C <sub>6</sub> H <sub>6</sub> HgO.C <sub>6</sub> H <sub>5</sub> HgNO <sub>3</sub>	634.4	
	38	6.1 Hg	Phenylmercuric Stearate	C <sub>24</sub> H <sub>40</sub> HgO <sub>2</sub>	561.17	
	39	6.1 Hg	p-chloromercuri phenol			
	40	6.1 Hg	Mercuric Chloride	HgCl <sub>2</sub>	271.5	

	41	6.1 Hg	Mercurous Chloride	Hg <sub>2</sub> Cl <sub>2</sub>	472.1	
	42	CN	Mercury (II) Cyanide	Hg(CN) <sub>2</sub>	252.6	
	43	6.1 Hg	Mercuric Iodide	HgI <sub>2</sub>	454.9	
	44	6.1 Hg	Mercuric Oxide	HgO	216.6	
	45	6.1 Hg	Mercury (II) Potassium Iodide	K <sub>2</sub> HgI <sub>4</sub>	786.4	(potassium tetraiodomercurate)
	46	6.1 Hg	Potassium Thiocyanomercurate	K <sub>2</sub> Hg(SCN) <sub>4</sub>	382.87	
	47	6.1 Hg	Mercury Tetrathiocyanato-cobaltate (II)	C <sub>4</sub> CoN <sub>4</sub> S <sub>4</sub> .Hg	491.85	
	48	6.1 Hg	Mercuric Thiocyanate	Hg(SCN) <sub>2</sub>	316.7	
	49	6.1 Hg	Mercurous chloride	HgCl <sub>2</sub>	236.1	
	50	6.1 Hg	2Hydroxymercuri -4-amino benzoic acid			
I	1	6.1	Potassium Iodide	KI	166	
	2	5.1	Iodine	I <sub>2</sub>	253.8	
	3	6.1	Tetra iodo benzoic acid			
	4	6.1	o-iodosobenzoic acid			
	5	6.1	triiodo resourcinol			
	6	6.1	Barium Iodide	BaI <sub>2</sub>	391.15	
Ir	1	6.1	Potassium Iodoiridate	K <sub>3</sub> Ir <sub>6</sub>	1070.9	
	2	8	Iridium Trichloride	IrCl <sub>3</sub>	298.6	
	3	6.1	Sodium hexachloridiridate	NaIrCl <sub>6</sub>	473.89	
	4		Sodium hexachloridiridate IV		504.94	
La	1	6.1	Lanthanum Chloride	LaCl <sub>3</sub>	245.3	
	2	5.1	Lanthanum Nitrate	La(NO <sub>3</sub> ) <sub>3</sub> .6H <sub>2</sub> O	433	
	3	6.1	Lanthanum Oxide	La <sub>2</sub> O <sub>3</sub>	325.8	
Lu	1	6.1	Lutetium Chloride	LuCl <sub>3</sub> .6H <sub>2</sub> O	389.33	
Mo	1	6.1	Ammonium Molybdate	(NH <sub>4</sub> ) <sub>2</sub> .MoO <sub>4</sub>	196.01	
Nb	1	6.1	Nb <sub>6</sub> Cl <sub>14</sub>		1055	
Nd	1	6.1	Neodymium Chloride	NdCl <sub>3</sub> .6H <sub>2</sub> O	358.6	
Os	1	6.1	Potassium Hexachloroosmate	K <sub>2</sub> OsCl <sub>6</sub>	481.1	
	2	6.1	Osmium Trichloride	OsCl <sub>3</sub>	296.6	
	3	6.1	Potassium Osmiate			
	4	6.1	Os <sub>3</sub> (CO) <sub>12</sub>		906	
	5	6.1	Os <sub>3</sub> (H)(OH)(CO) <sub>10</sub>		868	
	6	CN	Osmium Potassium Cyanide	K <sub>4</sub> [Os(CN) <sub>6</sub> ].6H <sub>2</sub> O	556.8	
	7	6.1	Osmium tetraoxide	OsO <sub>4</sub>	254.1	Volatile liquid, in ampoules

Pb	1	6.1	Lead Acetate	Pb(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>	325.28	
	2	6.1	Lead Chloride	PbCl <sub>2</sub>	278.1	
	3	6.1	Lead Citrate	Pb <sub>3</sub> (C <sub>6</sub> H <sub>5</sub> O <sub>7</sub> ) <sub>2</sub> ·3H <sub>2</sub> O	1053.82	
	4	6.1	Lead Formate	Pb(CHO <sub>2</sub> ) <sub>2</sub>	297.23	
	5	6.1	Lead Sulfate	PbSO <sub>4</sub>	303.25	
	6	6.1	Lead Thiocyanate	Pb(SCN) <sub>2</sub>	323.35	
	7	6.1	Trimethyllead Acetate	(CH <sub>3</sub> ) <sub>3</sub> Pb(CH <sub>3</sub> COO)	311	
	8	6.1	Triethyllead Acetate	(CH <sub>3</sub> CH <sub>2</sub> ) <sub>3</sub> Pb(CH <sub>3</sub> COO)	317	
	9	6.1	Sodium Plumbate	Na <sub>2</sub> Pb	253.2	
	10	5.1	Lead Nitrate	Pb(NO <sub>3</sub> ) <sub>2</sub>	331.2	
	11	6.1	Tetraethyl Lead			volatile, permanently gone
Pd	1	6.1	K <sub>2</sub> PdCl <sub>6</sub>			
	2	6.1	K <sub>2</sub> PdBr <sub>4</sub>			
	3	6.1	K <sub>2</sub> PdCl <sub>4</sub>			
Pr	1	6.1	Praseodymium Chloride Hexahydrate	PrCl <sub>3</sub> ·10H <sub>2</sub> O	427.5	
	2	6.1	Praseodymium Acetate	Pr(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub> ·3H <sub>2</sub> O	372.09	
	3	6.1	Pr(C <sub>10</sub> H <sub>10</sub> F <sub>2</sub> O <sub>2</sub> ) <sub>3</sub>		741	
Pt	1	6.1	Platinum (II) Acetylacetonate			
	2	CN	Platinum Sodium cyanide	Na <sub>2</sub> Pt(CN) <sub>6</sub>	397.1	
	3	CN	Platinum Barium Cyanide	BaPt(CN) <sub>4</sub> ·4H <sub>2</sub> O	508.43	
	4	CN	Platinum Potassium Cyanide	K <sub>2</sub> Pt(CN) <sub>4</sub> ·3H <sub>2</sub> O	431.3	
	5	8	Platinum IV tetrachloride	PtCl <sub>4</sub>	336.9	
	6	6.1	Platinum Potassium Chloride	K <sub>2</sub> PtCl <sub>4</sub>	415.3	Potassium Tetrachloroplatinate
	7	6.1	K <sub>2</sub> PtCl <sub>6</sub>		486.3	
	8	6.1	Platinum Sodium Chloride	Na <sub>2</sub> PtCl <sub>6</sub> ·6H <sub>2</sub> O	550.1	
	9	6.1	Platinous Potassium Bromide	K <sub>2</sub> PtBr <sub>4</sub>	592.9	
	10	6.1	Platinous Potassium Bromide	K <sub>2</sub> PtBr <sub>6</sub>	752.7	
	11	6.1	Platinous Potassium Iodide	K <sub>2</sub> PtI <sub>6</sub>	1034.7	
	12	6.1	Platinum Potassium Thiocyanate	K <sub>2</sub> PtSCN	331	
	13	6.1	Platinum Sulfate	Pt(SO <sub>4</sub> ) <sub>2</sub> ·4H <sub>2</sub> O	459.27	
	14	5.1	Platinum Diammino Dinitrite	Pt(NH <sub>2</sub> ) <sub>2</sub> (NO <sub>2</sub> ) <sub>2</sub>	319.1	
	15	6.1	Dinitro dichloro diamino platinum	[PtCl <sub>2</sub> (NH <sub>2</sub> ) <sub>2</sub> ](NO <sub>3</sub> ) <sub>2</sub>	422.1	
	16	5.1	Tetrammineplatinum (II) Nitrate			
	17	6.1	Tetraammineplatinum II Cl	[Pt(NH <sub>2</sub> ) <sub>6</sub> ]Cl <sub>4</sub>		
	18	6.1	cis-Dichlorodiamine Platinum (II)	(also called cis Pt)		
	19	6.1	trans-Dichlorodiamine Platinum (II)			
	20	6.1	Chloro (2,2-Terpyridine) Platinum			
	21	6.1	Trimethylplatinium (IV) Iodide			
	22	6.1	Platinum Ethylenediamine Chloride			

	23	6.1	Potassium trichloro ethylene platinate			
	24	6.1	Bis (ethylenediamine) Platinum (II)			
	25	6.1	Pt en2 Cl2			
	26	6.1	Pt (pyridine)2 Cl2			
	27	CN	Potassium tetracyano platinate	K2Pt(CN)4	377.37	
	28	5.1	Potassium tetraniroplatinate (II)	K2Pt(NO2)4	457.32	
	29	6.1	Potassium tetrakis(thioncyanato)platinate (II)	K2Pt(SCN)4	273.2	
	30	6.1	Di iodobis (ethylenediamine)diplatinum (PIP)		888.2	
	31		(TBA)4 Pt2 (POP)4 Cl2		2005.08	Almost none
	32		Platinum(II)(2,2',6',2"-terpyridine)chloride2H2O		535.3	Hygroscopic
Re	1	8	Rhenium (III) Chloride	ReCl3	292.56	
	2	5.1	Potassium perrhenate (VII)	K ReO4	289.3	
	3		Potassium perrhenate (VII)	KReO4	289.3	oxidizer
Rh	1	6.1	Rhodium (III) Sulfate	Rh2(SO4)3.4H2O	566.05	
	2	6.1		Rh2(SO4)3.12H2O	710.18	
	3	6.1		Rh2(SO4)3.15H2O	764.22	
	4		Tetrahodium dodecacarbonyl	Rh4(CO)12	747.75	dha 4C shelf
Ru	1	6.1	Chloropentammine Ru III Dichloride			
	2	6.1	Potassium perruthenate (VII)	K RuO4	204.2	
Rb	1	6.1	Rubidium Chloride	RbCl	120.92	
Se	1	6.1	Ammonium Selenate	(NH4)2SeO4	179.03	
Sm	1	6.1	Samarium Chloride	SmCl2	221.26	
	2	6.1		SmCl3	256.71	
	3	6.1		SmCl3.6H2O	364.8	
	4	6.1	Samarium Acetate	Sm(C2H3O2)3.3H2O	381.53	
	5	5.1	Samarium (III) Nitrate	Sm (NO3)3.6H2O	444.46	
	6	6.1	Samarium Oxide	Sm2O3	348	
		6.1				
Ta	1	6.1	Tantalum Chloride	Ta6 Cl14	1582.5	
	2	6.1	Potassium Tantalate			
	3	6.1	TaCl12Cl2			
Tb	1	6.1	Terbium Oxalate	Tb2(C2O4)3.10H2O	762.06	
Tl	1	6.1	Thalium Acetate	Tl(CH2H3O2)	263.4	
	2	6.1	Thallium Chloride	TlCl	239.82	

	3	6.1	Thallium Iodide	TII	331.3	
	4	1.1	Thallium Perchlorate	TIClO <sub>4</sub>	303.82	
	5	6.1	Thallium Tungstate	Tl(WO <sub>4</sub> )	452.25	
	6	6.1		(CH <sub>3</sub> ) <sub>2</sub> TII	361.3	
	7	6.1		CH <sub>3</sub> OTI(TFA) <sub>2</sub>		
	8	6.1		Me <sub>2</sub> TIClO <sub>4</sub>	333.9	