

- Aluminum
- Barium
- Bismuth
- Calcium
- Cerium
- Cesium
- Chromium
- Cobalt
- Copper
- Dysprosium
- Erbium
- Europium
- Gadolinium
- Gallium
- Holmium
- Indium
- Iron
- Lanthanum
- Lead
- Lithium
- Lutetium
- Magnesium
- Manganese
- Molybdenum
- Neodymium
- Nickel
- Niobium
- Oxygen
- Palladium
- Potassium
- Praseodymium
- Rubidium
- Ruthenium
- Samarium
- Scandium
- Silver
- Strontium
- Terbium
- Thallium
- Thulium
- Titanium
- Ytterbium
- Yttrium
- Zinc

13-5000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)aluminum, 99% (99.9%-Al) [Al(TMHD)₃] (14319-08-5) Al(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 576.80; white xtl.; m.p. 255-258°; b.p. dec. >400° (subl. 150°/0.01mm)	1g 5g 25g
56-8500 HAZ	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)barium hydrate [Ba(TMHD)₂] (17594-47-7) Ba(C ₁₁ H ₁₉ O ₂) ₂ ·XH ₂ O; FW: 503.85; white powdr.; m.p. 195-200°; b.p. dec. 285° (subl. 225°/0.05mm) <i>moisture sensitive</i>	1g 5g 25g
83-1000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)bismuth(III), min. 98% (99.9%-Bi) [Bi(TMHD)₃] (142617-53-6) Bi(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 758.74; off-white xtl.; m.p. 114-116°; b.p. dec. 295° (subl. 150°/0.05mm)	1g 5g 25g
20-1000	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)calcium, min. 97% [Ca(TMHD)₂] (118448-18-3) Ca(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 406.62; white powdr.; m.p. 220-223°; b.p. dec. 280° (subl. 205°/0.1mm)	1g 5g 25g
Technical Notes:		
1. Volatile source of calcium for use in the growth of: calcium carbonate Ref. (1).		
2. Volatile source of calcium for use in the growth of: calcium oxide Ref. (2).		
3. Volatile source of calcium for use in the growth of: calcium fluoride Ref. (3).		
References:		
1. <i>Thin Solid Films</i> , 2004 , 450, 161		
2. <i>Physica B: Condensed Matter (Amsterdam, Netherlands)</i> 2009 , 404, 8, 11, 1398		
3. <i>Chem. Mater.</i> 2007 , 19, 3387		
58-5000	Tetrakis(2,2,6,6-tetramethyl-3,5-heptanedionato)cerium(IV), min. 97% (99.9%-Ce) (REO) [Ce(TMHD)₄] (18960-54-8) Ce(C ₁₁ H ₁₉ O ₂) ₄ ; FW: 873.20; red powdr.; m.p. 275-280°; b.p. dec. 295° (subl. 140°/0.05mm)	1g 5g 25g
55-5000	2,2,6,6-Tetramethyl-3,5-heptanedionato cesium [Cs(TMHD)] (61346-75-6) CsC ₁₁ H ₁₉ O ₂ ; FW: 316.18; pale yellow powdr.	1g 5g
24-1500	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)chromium(III), 99% [Cr(TMHD)₃] (14434-47-0) Cr(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 601.82; purple xtl.; m.p. 230-232°; b.p. dec. 270°	1g 5g
27-3000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)cobalt(III), 99% (99.9%-Co) [Co(TMHD)₃] (14877-41-9) Co(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 608.74; green powdr.; m.p. 254-256°; b.p. 250° dec. (subl. 120°/0.5mm)	1g 5g 25g
29-3000	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)copper(II), 99% [Cu(TMHD)₂] (14040-05-2) Cu(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 430.05; blue xtl.; m.p. 198°; b.p. dec. 315° (subl. 88°/0.05mm)	1g 5g 25g
66-8500	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)dysprosium(III), 98+% (99.9%-Dy) (REO) [Dy(TMHD)₃] (15522-69-7) Dy(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 712.31; off-white xtl.; m.p. 182-185°; b.p. dec. 265° <i>hygroscopic</i>	1g 5g
68-8750	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)erbium(III), 99% (99.9%-Er) (REO) [Er(TMHD)₃] (35733-23-4) Er(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 717.08; pink xtl.; m.p. 179-180°; b.p. dec. 345° (subl. 160°/0.1mm)	1g 5g 25g
93-6328	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)europium(III), 99% (99.9%-Eu) (REO) [Eu(TMHD)₃] (15522-71-1) Eu(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 701.78; yellow powdr.; m.p. 188-189°; b.p. dec. 275°	1g 5g
64-5000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)gadolinium(III), 99% (99.9%-Gd) (REO) [Gd(TMHD)₃] (14768-15-1) Gd(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 707.07; off-white xtl.; m.p. 178-183°; b.p. dec. 295°	1g 5g
31-5000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)gallium(III), 99% (99.999%-Ga) [Ga(TMHD)₃] PURATREM (34228-15-4) Ga(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 619.54; white xtl.; m.p. 219-220°; b.p. dec. 360° (subl. 170°/0.2mm)	1g 5g 25g

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Metal TMHD Compounds

67-5000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)holmium(III), 99% (99.9%-Ho) (REO) [Ho(TMHD)₃] (15522-73-3) Ho(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 714.75; off-white xtl.; m.p. 179-181°; b.p. dec. 290°	1g 5g
49-2200	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)indium(III), 99% (99.9%-In) [In(TMHD)₃] (34269-03-9) In(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 664.63; white to off-white powdr.; m.p. 167°	1g 5g
26-3910	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)iron(III), 99% (99.9%-Fe) [Fe(TMHD)₃] (14876-47-2) Fe(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 605.66; red xtl.; m.p. 164°; b.p. dec. 300°	1g 5g 25g
57-1000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)lanthanum(III), 99% (99.9%-La) (REO) [La(TMHD)₃] (14319-13-2) La(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 688.72; white powdr.; m.p. 227-231°; b.p. dec. 370° (subl. 210°/0.2mm)	1g 5g 25g
82-2100	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead(II), 99% [Pb(TMHD)₂] (21319-43-7) Pb(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 573.75; white powdr.; m.p. 126-128°; b.p. 325° dec. (subl. 134°/0.1mm)	1g 5g 25g
03-5001	2,2,6,6-Tetramethyl-3,5-heptanedionato lithium, 98+% [Li(TMHD)] (22441-13-0) LiC ₁₁ H ₁₉ O ₂ ; FW: 190.24; white powdr.; m.p. 265-268°; b.p. dec. 295°	1g 5g 25g
71-1080	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)lutetium(III), 99% (99.9+%-Lu) (REO) [Lu(TMHD)₃] (15492-45-2) Lu(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 724.76; off-white xtl.	1g 5g 25g
12-0900	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)magnesium, anhydrous, min. 98% [Mg(TMHD)₂] (21361-35-3) Mg(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 390.85; white powdr. <i>hygroscopic</i> Note: Available prepacked in ALD cylinder- see 98-4069.	1g 5g
98-4069	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)magnesium, anhydrous, min. 98% [Mg(TMHD)₂] , 12-0900, contained in high-temp 50 ml Swagelok® cylinder (96-1071) for CVD/ALD (21361-35-3) Mg(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 390.85; white powdr. <i>hygroscopic</i>	15g
12-1000	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)magnesium dihydrate, min. 98% [Mg(TMHD)₂] (625832-70-4) Mg(C ₁₁ H ₁₉ O ₂) ₂ ·2H ₂ O; FW: 390.85 (426.88); white powdr.; m.p. 135-150°(-H ₂ O); b.p. dec. 290° (subl. 150°/0.05mm)	1g 5g 25g
25-5000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)manganese(III), 99% [Mn(TMHD)₃] (14324-99-3) Mn(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 604.74; black xtl.; m.p. 165°; b.p. dec. 255°	1g 5g 25g
42-1357	Molybdenum(VI) dioxide bis(2,2,6,6-tetramethyl-3,5-heptanedionate), min. 98% [O₂Mo(TMHD)₂] (34872-98-5) MoO ₂ (C ₁₁ H ₁₉ O ₂) ₂ ; FW: 494.48; yellow xtl.; m.p. 129-131° <i>moisture sensitive</i>	1g 5g 25g
60-8750	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)neodymium(III), 99% (99.9%-Nd) (REO) [Nd(TMHD)₃] (15492-47-4) Nd(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 694.06; light purple xtl.; m.p. 209-212°; b.p. dec. 270° (subl. 150°/0.1mm)	1g 5g
28-0088	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)nickel(II), min. 98% (99.9%-Ni) [Ni(TMHD)₂] (14481-08-4) Ni(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 425.23; purple xtl.; m.p. 223-225°; b.p. subl. 90-110°/0.1mm <i>hygroscopic</i>	1g 5g 25g
41-7000	Tetrakis(2,2,6,6-tetramethyl-3,5-heptanedionato)niobium(IV), 99% [Nb(TMHD)₄] (41706-15-4) Nb(C ₁₁ H ₁₉ O ₂) ₄ ; FW: 826.00; black xtl.; m.p. 219-220°; b.p. dec. 325°	1g 5g 25g
08-2050	2,2,6,6-Tetramethylheptane-3,5-dione, 98% TMHD (1118-71-4) (CH ₃) ₃ CC(O)CH ₂ C(O)C(CH ₃) ₃ ; FW: 184.28; colorless to pale yellow liq. or low melting solid; b.p. 72-73°/6 mm; f.p. 153°F; d. 0.883	5g 25g 100g
46-0248	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)palladium(II), min. 98% [Pd(TMHD)₂] (15214-66-1) Pd(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 472.95; orange powdr.	1g 5g
19-6000	2,2,6,6-Tetramethyl-3,5-heptanedionato potassium, min. 95% [K(TMHD)] (22441-14-1) KC ₁₁ H ₁₉ O ₂ ; FW: 222.40; light brown powdr.; b.p. dec. 150° <i>hygroscopic</i>	1g 5g 25g
93-5937	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)praseodymium(III), 99% (99.9%-Pr) (REO) [Pr(TMHD)₃] (15492-48-5) Pr(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 690.72; light green powdr.; m.p. 212-214°; b.p. dec. 300° (subl. 150°/0.1mm)	1g 5g
37-5000	2,2,6,6-Tetramethyl-3,5-heptanedionato rubidium [Rb(TMHD)] (166439-15-2) RbC ₁₁ H ₁₉ O ₂ ; FW: 268.74; white to off-white powdr.	1g 5g 25g
44-8000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)ruthenium(III), 99% (99.9%-Ru) [Ru(TMHD)₃] (38625-54-6) Ru(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 650.88; orange powdr.; m.p. 210-213°; b.p. dec. 250° (subl. 120°/0.5mm)	1g 5g
62-4000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)samarium(III) (99.9%-Sm) (REO) [Sm(TMHD)₃] (15492-50-9) Sm(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 700.11; pale yellow xtl.; m.p. 191-193°; b.p. dec. 250° (subl. 183°/1.3mm)	1g 5g
21-1000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)scandium(III), 99% (99.9%-Sc) (REO) [Sc(TMHD)₃] (15492-49-6) Sc(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 594.77; white powdr.; m.p. 150-152°; b.p. dec. 275°	500mg 2g
47-2600	2,2,6,6-Tetramethyl-3,5-heptanedionato silver(I) (99.9%-Ag) [Ag(TMHD)] (79827-25-1) AgC ₁₁ H ₁₉ O ₂ ; FW: 291.14; gray powdr.; m.p. 178° dec.	1g 5g 25g
38-1000	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)strontium hydrate [Sr(TMHD)₂] (199445-30-2) Sr(C ₁₁ H ₁₉ O ₂) ₂ ·XH ₂ O; FW: 454.16; light yellow powdr.; m.p. 200-203°; b.p. dec. 250° (subl. 230°/0.05mm)	1g 5g 25g
65-8000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)terbium(III), 99% (99.9%-Tb) (REO) [Tb(TMHD)₃] (15492-51-0) Tb(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 708.74; off-white xtl.; m.p. 155-156°; b.p. dec. 275°	1g 5g

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Metal TMHD Compounds

81-1000 HAZ	2,2,6,6-Tetramethyl-3,5-heptanedionatothallium(I), 99% [Tl(TMHD)] (56713-38-3) Tl(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 387.62; white to off-white powdr.; m.p. 159-164°; b.p. dec. 260° (subl. 110°/0.1mm)	1g 5g
69-7000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)thulium(III), 98% (99.9%-Tm) (REO) [Tm(TMHD)₃] (15631-58-0) Tm(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 718.75; off-white xtl.; m.p. 169-172°; b.p. dec. 280°	1g 5g
22-0340	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)oxotitanium(IV), min. 95% [OTi(TMHD)₂] (152248-67-4) OTi(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 430.42; off-white powdr.; m.p. 120° dec.	500mg 2g 10g
22-6000 amp	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)titanium(III), min. 97% [Ti(TMHD)₃] (181418-64-4) Ti(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 597.70; purple xtl.; b.p. subl. 75°/0.1mm <i>air sensitive, moisture sensitive</i>	1g 5g 25g
70-0100	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)ytterbium(III), 99% (99.9%-Yb) (REO) [Yb(TMHD)₃] (15492-52-1) Yb(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 722.86; off-white xtl.; m.p. 167-169°; b.p. dec. 300° Note: Volatile precursor for the ALD, CVD and MOCVD deposition of ytterbium oxide.	1g 5g
39-1000	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)yttrium(III), 98+% (99.9%-Y) (REO) [Y(TMHD)₃] (15632-39-0) Y(C ₁₁ H ₁₉ O ₂) ₃ ; FW: 638.72; white to off-white xtl.; m.p. 170-173°; b.p. dec. 290° (subl. 95°/0.05mm)	1g 5g 25g
30-0500	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)zinc, 99% [Zn(TMHD)₂] (14363-14-5) Zn(C ₁₁ H ₁₉ O ₂) ₂ ; FW: 431.93; white xtl.; m.p. 144°; b.p. dec. 250°	1g 5g 25g
40-5000	Tetrakis(2,2,6,6-tetramethyl-3,5-heptanedionato) zirconium(IV), 99% [Zr(TMHD)₄] (18865-74-2) Zr(C ₁₁ H ₁₉ O ₂) ₄ ; FW: 824.30; white xtl.; m.p. 318-320°; b.p. subl. 180°/0.1mm	1g 5g 25g

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