



>>Entry Name: Thulium chloride (TmCl<sub>3</sub>)

Synonym(s): Thulium trichloride. Thulium chloride

CAS Registry Number: 13537-18-3

Related CAS Registry Numbers(s): 13778-39-7 83596-23-0

TmCl<sub>3</sub>

Molecular Formula: Cl<sub>3</sub>Tm

Molecular Weight: 275.292

Accurate Mass: 273.840768

Percentage Composition: Cl 38.63%; Tm 61.37%

Physical Description: Hygroscopic pale yellow solid

Melting Point: Mp 824° (821°)

Aldrich: 43964-9

>>Derivative: Hexahydrate

Synonym(s): Thulium chloride hexahydrate

CAS Registry Number: 1331-74-4

Molecular Formula: Cl<sub>3</sub>H<sub>12</sub>O<sub>6</sub>Tm

Molecular Weight: 383.384

Accurate Mass: 381.904158

Percentage Composition: Cl 27.74%; H 3.15%; O 25.04%; Tm 44.06%

Physical Description: Deliquescent green cryst.

Melting Point: Mp 162-163°

Solubility: Sol. H<sub>2</sub>O

Other Data: Begins to lose H<sub>2</sub>O at 90°

Aldrich: 20466-8

>>Derivative: Heptahydrate

Molecular Formula: Cl<sub>3</sub>H<sub>14</sub>O<sub>7</sub>Tm

Molecular Weight: 401.399

Accurate Mass: 399.914723

Percentage Composition: Cl 26.50%; H 3.52%; O 27.90%; Tm 42.09%

Physical Description: Green deliquescent cryst.

Solubility: V. sol. H<sub>2</sub>O, EtOH

>>Derivative: Tris-THF complex

Synonym(s): Trichlorotris(tetrahydrofuran)thulium

CAS Registry Number: 89086-47-5

Molecular Formula: C<sub>12</sub>H<sub>24</sub>Cl<sub>3</sub>O<sub>3</sub>Tm

Molecular Weight: 491.612

Accurate Mass: 490.013313

Percentage Composition: C 29.32%; H 4.92%; Cl 21.63%; O 9.76%; Tm 34.36%

Use/Importance: Useful starting material. Enables purification from oxychloride

Physical Description: Colourless cryst.

Solubility: Sl. sol. THF

Other Data: Higher solvates lose THF on washing with Et<sub>2</sub>O or C<sub>6</sub>H<sub>6</sub>

References: