



Melting Point: Mp 13-15°

>>Derivative: Me₂EtN complex (1:1)

Synonym(s): DMEAA

CAS Registry Number: 124330-23-0

Molecular Formula: C₄H₁₄AlN

Molecular Weight: 103.143

Accurate Mass: 103.094163

Percentage Composition: C 46.58%; H 13.68%; Al 26.16%; N 13.58%

Source/Synthesis: Synth. from Me₂EtNHCl + LiAlH₄

Use/Importance: Precursor for chem. vapour deposition of Al thin films

Physical Description: Stable liq.

Melting Point: Mp 5°

>>Derivative: Tributylamine complex (1:1)

Synonym(s): (*N,N*-Dibutyl-1-butanamine)trihydroaluminium, 9CI. Trihydro(tributylamine)aluminium. Aluminium hydride tributylamine. Tributylamine-alane

CAS Registry Number: 33913-81-4

Molecular Formula: C₁₂H₃₀AlN

Molecular Weight: 215.357

Accurate Mass: 215.219363

Percentage Composition: C 66.93%; H 14.04%; Al 12.53%; N 6.50%

Source/Synthesis: Synth. from LiAlH₄, AlCl₃ and Bu₃N in Et₂O

Physical Description: Air- and moisture-sensitive colourless cryst. (C₆H₆)

Solubility: Sol. C₆H₆, Et₂O

>>Derivative: TMED complex (1:1)

Synonym(s): Trihydro(*N,N,N',N'*-tetramethylethylenediamine)aluminium. Aluminium hydride tetramethylethylenediamine. *N,N,N',N'*-Tetramethylethylenediamine-alane

CAS Registry Number: 32995-50-9

Molecular Formula: C₆H₁₉AlN₂

Molecular Weight: 146.211

Accurate Mass: 146.136362

Percentage Composition: C 49.29%; H 13.10%; Al 18.45%; N 19.16%

Source/Synthesis: Synth. from bis-Me₃N complex and TMED at r.t.

Physical Description: Air- and moisture-sensitive white needles (by subl.)

Solubility: Insol.

Other Data: Vp 1.5 mm at 99°. ΔH_f° -108 kJ mol⁻¹

>>Derivative: *N*-Benzyldimethylamine complex (2:2)

CAS Registry Number: 136316-92-2

Molecular Formula: C₁₈H₃₂Al₂N₂

Molecular Weight: 330.427

Accurate Mass: 330.219626

Percentage Composition: C 65.43%; H 9.76%; Al 16.33%; N 8.48%

Source/Synthesis: Synth. from LiAlH₄ and *N*-benzyldimethylamine hydrochloride in Et₂O at -78°

Physical Description: Air- and moisture-sensitive cryst.

Melting Point: Mp 75-76°

Boiling Point: Subl._{0.1} 100°

Solubility: Sol. C₆H₆, Et₂O

Other Data: Dec. >150°

>>Derivative: Tri-*tert*-butylphosphine complex (1:1)

CAS Registry Number: 149763-82-6

Molecular Formula: C₁₂H₃₀AlP

Molecular Weight: 232.324

Accurate Mass: 232.190051

Percentage Composition: C 62.04%; H 13.01%; Al 11.61%; P 13.33%

Source/Synthesis: Synth. from Bu^t₃P, HCl and LiAlH₄ in Et₂O

Physical Description: Air- and moisture-sensitive colourless cryst. (Et₂O)

Melting Point: Mp 103-105°

Solubility: Sol. Et₂O, C₆H₆