Melting Point: Mp 13-15°

>>**Derivative:** Me_2EtN complex (1:1)
Synonym(s): DMEAA

CAS Registry Number: 124330-23-0
Molecular Formula: $C_4H_{14}AlN$
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 $Me_2EtNHCl + LiAlH_4$
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, ^{9Cl}. Trihydro(tributylamine)aluminium. Aluminium hydride tributylamine. Tributylamine-alane

CAS Registry Number: 33913-81-4
Molecular Formula: $C_{12}H_{30}AlN$
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 $LiAlH_4$, $AlCl_3$ and Bu_3N in Et_2O
Physical Description: Air- and moisture-sensitive colourless cryst. (C_6H_6)
Solubility: Sol. C_6H_6, Et_2O

>>**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: $C_6H_{19}AlN_2$
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-Me_3N 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°. $\Delta H°_f$ -108 kJ mol^{-1}

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

CAS Registry Number: 136316-92-2
Molecular Formula: $C_{18}H_{32}Al_2N_2$
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 $LiAlH_4$ and *N*-benzyldimethylamine hydrochloride in Et_2O at –78°
Physical Description: Air- and moisture-sensitive cryst.
Melting Point: Mp 75-76°
Boiling Point: $Subl._{0.1}$ 100°
Solubility: Sol. C_6H_6, Et_2O
Other Data: Dec. >150°

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

CAS Registry Number: 149763-82-6
Molecular Formula: $C_{12}H_{30}AlP$
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^t_3P, HCl and $LiAlH_4$ in Et_2O
Physical Description: Air- and moisture-sensitive colourless cryst. (Et_2O)
Melting Point: Mp 103-105°
Solubility: Sol. Et_2O, C_6H_6