>>**Entry Name: Aluminium(*III*) hydride (AlH_3)**
Synonym(s): Alane

CAS Registry Number: 7784-21-6
AlH_3

Molecular Formula: AlH_3
Molecular Weight: 30.005
Accurate Mass: 30.005014
Percentage Composition: Al 89.92%; H 10.08%

Source/Synthesis: Synth. from $LiAlH_4$ and $AlCl_3$ in Et_2O or $LiAlH_4$ and H_2SO_4 in THF
Use/Importance: Commercially available
Physical Description: Air- and moisture-sensitive white amorph. or microcryst. solid
Solubility: Sol. Et_2O, THF
Other Data: Usually made in THF or Et_2O and used *in situ*. Several solid forms descr. Solids $AlH_3.nEt_2O$ (n = 0.3 - 3) obt. from Et_2O

>>**Derivative:** Me_3N complex (1:1)
Synonym(s): (*N,N*-Dimethylmethanamine)trihydroaluminium, 9CI. Trihydro(trimethylamine)aluminium. Aluminium hydride trimethylamine. Trimethylamine-alane

CAS Registry Number: 16842-00-5
Molecular Formula: $C_3H_{12}AlN$
Molecular Weight: 89.116
Accurate Mass: 89.078513
Percentage Composition: C 40.43%; H 13.57%; Al 30.28%; N 15.72%
Source/Synthesis: Synth. from $LiAlH_4$ and $[Me_3NH]Cl$
Physical Description: V. air- and moisture-sensitive white solid
Melting Point: Mp 76°
Aldrich: 45579-2

>>**Derivative:** Me_3N complex (1:2)
Synonym(s): *N,N*-Dimethylmethanamine, compd. with aluminium hydride (AlH_3) (2:1), 9CI. Trihydrobis(trimethylamine)aluminium. Aluminium hydride bis(trimethylamine). Bis(trimethylamine)alane. Trimethylamine-alane (2:1)