>>**Entry Name: Aluminium ammonium sulfate (1:1:2)**
Synonym(s): Aluminium ammonium bis(sulfate). Burnt ammonium alum. Exsiccated ammonium alum

CAS Registry Number: 7784-25-0
Related CAS Registry Numbers(s): 15710-63-1
$NH_4Al(SO_4)_2$

Molecular Formula: $AlH_4NO_8S_2$
Molecular Weight: 237.147
Accurate Mass: 236.919373
Percentage Composition: Al 11.38%; H 1.70%; N 5.91%; O 53.97%; S 27.04%
Physical Description: Cryst.
Other Data: Dec. at 280°

>>**Derivative:** Dodecahydrate
Synonym(s): Ammonium alum

CAS Registry Number: 7784-26-1
Extra CAS Registry Numbers(s): 15614-99-0
Molecular Formula: $AlH_{28}NO_{20}S_2$
Molecular Weight: 453.329
Accurate Mass: 453.046153
Percentage Composition: Al 5.95%; H 6.23%; N 3.09%; O 70.59%; S 14.15%
Source/Synthesis: Occurs in nature as the mineral *tschermigite*. Synth. from $Al_2(SO_4)_3.18H_2O + (NH_4)_2SO_4$
Physical Description: Cryst. (H_2O)
Other Data: Becomes anhyd. at *ca*. 250°

References:

Franke, W. *et al.*, *Acta Cryst.*, 1965, **19**, 870-871, *(synth, cryst struct)*
Larson, A.C. *et al.*, *Acta Cryst.*, 1967, **22**, 793-800, *(dodecahydrate, cryst struct)*
Venkatesh, G.M. *et al.*, *Indian J. Pure Appl. Phys.*, 1971, **9**, 39-43, *(dodecahydrate, ir)*
Bailey, W.C. *et al.*, *J. Chem. Phys.*, 1974, **60**, 1952-1953, *(dodecahydrate, N-14 nmr)*
Abdeen, A.M. *et al.*, *Z. Kristallogr.*, 1981, **157**, 147-166, *(dodecahydrate, cryst struct)*
Eckert, H. *et al.*, *J.A.C.S.*, 1986, **108**, 2140-2146, *(dodecahydrate, S-33 nmr)*
Bradley, S.M. *et al.*, *Magn. Reson. Chem.*, 1993, **31**, 883-886, *(dodecahydrate, Al-27 nmr)*