



>>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

$\text{NH}_4\text{Al}(\text{SO}_4)_2$

Molecular Formula: $\text{AlH}_4\text{NO}_8\text{S}_2$

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: $\text{AlH}_{28}\text{NO}_{20}\text{S}_2$

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 $\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O} + (\text{NH}_4)_2\text{SO}_4$

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*)