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>>Entry Name: Aluminium barium oxide (Al<sub>2</sub>BaO<sub>4</sub>)

CAS Registry Number: 12004-04-5

Related CAS Registry Numbers(s): 12254-17-0

BaAl<sub>2</sub>O<sub>4</sub>

Molecular Formula: Al<sub>2</sub>BaO<sub>4</sub>

Molecular Weight: 255.288

Accurate Mass: 255.84797

Percentage Composition: Al 21.14%; Ba 53.79%; O 25.07%

Source/Synthesis: Synth. from BaO or BaCO<sub>3</sub>-Al<sub>2</sub>O<sub>3</sub>-B<sub>2</sub>O<sub>3</sub> melt

Use/Importance: Used as ceramic in nuclear reactors and as support for transition metal and lanthanide phosphors

Physical Description: Clear hexagonal rods (melt)

Other Data: Mn<sup>2(+)</sup> doped cryst. also descr. Al<sub>2</sub>Ba<sub>5</sub>O<sub>8</sub> and several other related compds. descr.

Aldrich: 43401-9

#### References:

- Hoppe, R. *et al.*, *Naturwissenschaften*, 1960, **47**, 376, (*cryst struct*)  
Glasser, F.P. *et al.*, *J. Am. Ceram. Soc.*, 1963, **46**, 377, (*synth, cryst struct*)  
Arlett, R.H. *et al.*, *Acta Cryst.*, 1967, **22**, 315, (*cryst struct*)  
Palilla, F.C. *et al.*, *J. Electrochem. Soc.*, 1968, **115**, 642, (*phosphors*)  
Do-Dinh, C. *et al.*, *J. Phys. (Paris)*, 1970, **31**, 401, (*nd*)  
Beretka, J. *et al.*, *Aust. J. Chem.*, 1973, **26**, 2527, (*synth, reactions*)  
Riebling, E.-F. *et al.*, *Mater. Res. Bull.*, 1975, **10**, 997, (*synth*)  
Hörkner, W. *et al.*, *Z. Anorg. Allg. Chem.*, 1979, **451**, 40, (*cryst struct*)  
Sander, K. *et al.*, *Z. Anorg. Allg. Chem.*, 1980, **468**, 197, (*Mn-doped cryst*)  
Müller, D. *et al.*, *Chem. Phys. Lett.*, 1981, **79**, 59, (*Al-27 nmr*)  
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