No. 26A-5 $BaNiF_4$

(M = 272.02)

1a	Ferroelectric activity in $BaNiF_4$ was found by Eibschütz et al. in 1969.			69Eib
b	phase	I		
	state	F		
	crystal system	orthorhombic [a])		[a]) 67Cou
	space group	$A2_1am$ [b]) – C_{2v}^{12}		[b]) 68Sch
	P_s || [100]. T_{melt} = 965(5) °C.			69DiD
2a	Crystals can be synthesized from the melt of high purity binary components BaF_2 and NiF_2 in an HF atmosphere. Single crystals can be prepared by a horizontal pass method.			68Eib
	BaF_2–NiF_2 phase diagram: see			67Cou
3a	Unit cell parameters: a = 5.799 Å, b = 14.458 Å, c = 4.153 Å.			68Sch
b	Z = 4.			68Sch
5a	Dielectric constant along the ferroelectric a axis at 100 MHz: see Fig. 26A-1-001 in No. 26A-1.			
	κ_a = 8, κ_b = 14, κ_c = 8 at 100 MHz at RT, and $\kappa_a \approx$ 20 near the melting point (≈965 °C).			69DiD
c	$P_s = 6.7(3) \cdot 10^{-2}$ C m^{-2} at RT.			69Eib
d	Pyroelectric behavior: see			77Gla
12	Magnetic susceptibility: Fig. 26A-5-001.			
	Magnetic structure: Fig. 26A-5-002. The magnetic moments are directed along the b axis and the ordered moment ≈2.0 μ_B per Ni ion.			70Cox
	Magnetoelectric effect: see			75Dvo