β''-Alumina

β″-alumina (rhombus: R3m) and β-alumina (hexagonal system: P63/mmc) are the two different crystal structures. The chemical composition of β-Al2O3 and β″-Al2O3 and the stacking sequence of oxygen ions between ionic conductive layers are different, β-alumina is Na2O·(8 ~ 11)Al2O3, β″-alumina is Na2O·(5 ~ 7)Al2O3, β-alumina is 2 spinel accumulation, β″-alumina is 3 spinel accumulation. The ionic conductivity of the beta phase is higher than that of the beta phase because it contains more Na+.

As a traditional sodium ion conductor material, NA-β′/β″-Al2O3 is widely used in the membranes and electrolytes of Na/S batteries and solid sodium ion batteries.

At present, our company can provide with two grades of β″-alumina products, B-D2 and BM-D2.

Specifications:

Items			B-D2	BM-D2
Phase			β"≥ 95%	β" ≥ 95%
Average Particle Size (by Bettersize Laser 9300SE)		D50, um	1-10	1-10
Loose Density		g/cm^3	0.5-0.6	0.5-0.6
Purity (Na2O·5.33Al2O3) ≥		%	99.99	-
Purity (Na1.67Mg0.67Al10.33O17) ≥		%	-	99.99
Impurities≤ (by ICP-OES)	Ca	ppm	5	5
	Mg	ppm	3	-
	Fe	ppm	10	10
	Si	ppm	30	30
	Ti	ppm	1	1
	Cu	ppm	1	1
25kg/drum				

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