



# Boron Nitride Powders

NX Grades

Momentive Performance Materials produces over 70 standard and custom grades of BN powders to meet a wide range of application requirements, and has over 50 years of expertise in the synthesis and refinement of boron nitride powders.

## Potential Applications

Momentives' boron nitride (BN) NX grades are excellent candidates to consider for use in a wide range of demanding applications, including:

- Lubricants and release agents for high-temperature metal and glass processing
- Refractory coatings
- Base material for hot pressed solids and metal-matrix or ceramic-metal composites
- Processing and final-product enhancement of plastics, including nucleation of solid and foamed products.
- Lubricating and reinforcing additives for tribological enhancement of polymer composites.

## Key Features & Typical Benefits

- Thermal Conductor
- Electrical Insulator
- Low Dielectric Constant/Loss
- High Temperature Stability
- Lubricious
- Inert and Chemically Stable
- Non-Wetting

Typical Physical Properties <sup>1</sup>	NX1	NX5	NX9	NX10
Crystal (Type)	Hexagonal (Graphitic)	Hexagonal (Graphitic)	Hexagonal (Graphitic)	Hexagonal (Graphitic)
Color	White	White	White	White
Mean Particle Size $\mu\text{m}$	0.9	5.0	9.0	10.0
Crystal Size $\mu\text{m}$	0.2-0.5	0.2-0.5	0.2-0.5	0.2-0.5
Surface Area $\text{m}^2/\text{g}$	20	14	8	12
Tap Density $\text{g}/\text{cm}^3$	0.12	0.25	0.50	0.40
Oxygen %	0.9-0.12	1.0-1.5	11.0-13.0	0.9-1.2
Soluble Borates %	0.10	0.10	4.0-7.0	0.10
Carbon %	0.03	0.10	0.10	0.10
Calcium %	<0.01	<0.01	3.0-4.0	<0.01

## Boron Nitride Powder Grades NX1, NX5, NX9, NX10

### NX1

Grade NX1 is an ultrafine grade with a submicron mean particle size, making it easy to disperse. It also has the highest surface area of the NX grades.

### NX5

NX5 has a mean particle size of approximately 5 microns. It contains slightly higher oxygen levels than typical BN grades.

### NX9

NX9 has a mean particle size of approximately 9 microns and the lowest

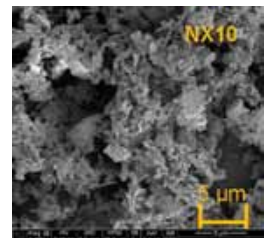
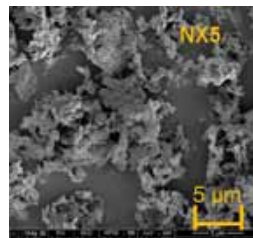
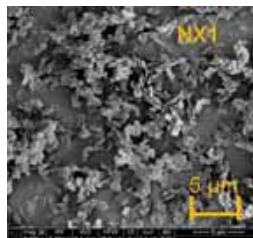
surface area of the NX grades; it has a higher level of residual calcium and soluble borates than most BN grades.

### NX10

NX10 has a mean particle size of approximately 10 microns and is a higher purity grade than NX9.

## Typical Trace Element Content<sup>1</sup>

Si	<500
Cu, Al, Mg, Fe, K	<100
Cl, S	<50
Na	<20
Other Metals	<10



<sup>1</sup> Typical data are average and actual results may vary. Typical data shall not be used as product specifications.

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