

TRÈS BN[®] Cosmetic Powders

Boron Nitride powders for color cosmetics and skin care



Achieving the perfect balance in the way a cosmetic product affects our senses, flows through a process and costs, are the formulator's challenge. TRÈS BN powders work in synergy with many other materials to achieve this balance. Whether it's the shimmer of an eye shadow, the coverage in a foundation, or higher yield in the extrusion process, TRÈS BN[®] powders offer formulators many solutions wrapped into one material.

What is TRÈS BN ?

Hexagonal boron nitride (hBN) is a synthesis of Borax (natural mineral) and a Nitrogen source at high temperature resulting in a lamellar structure that resembles graphite, except pure hBN is white. TRÈS BN Cosmetic Powders are Ultra-High Purity (UHP) versions of this lamellar form with each layer or cleavage face containing boron and nitrogen. There is no B-N bonding between layers and therefore planes slide over one another, creating a soft and lubricating effect.

- Lamellar crystal structure
- Transparent through basal plane
- Density 2.26 g/cc
- Chemically inert and stable
- Refractive Index 1.74
- Thermally Conductive
- Low Coefficient of Friction < 0.3

A Beautiful Alternative

Each TRÈS BN grade has unique properties that are associated with crystal size, morphology, and surface characteristics. Crystalline platelets, from 2 to 30 microns, each grade within this range has a different appearance from matte to shiny, but all are soft, smooth and adherent. TRÈS BN powders may be used as a major stand alone component in pressed and loose powders, or as minor additive to any formulation for improved texture, enhanced luminosity, decreased tack and increased pick-up and play-time in skin creams. In formulations where talc, mica or bismuthoxychloride are undesirable or fall short on performance, TRÈS BN powders offer a perfect alternative.

Features / Benefits

- Lamellar crystal structure improves texture
- Soft and lubricious for superior spreading and adherence
- Decreases tack by absorbing excess oils
- Finely divided particle size distributions
 - < = 2 um high opacity and soft focus
 - 6 - 8 um for luminous coverage and soft focus
 - 12- 16 um for translucent appearance
 - > 16 um for reflection and luminosity

Key Applications

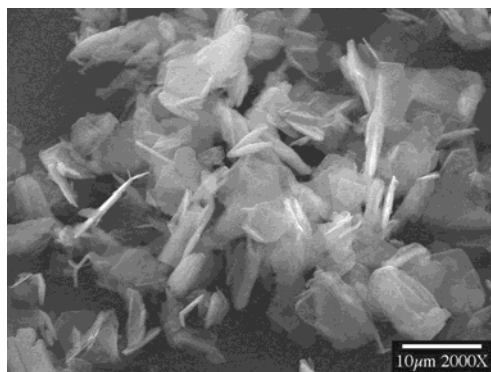
- Foundation and liquid makeup
- Concealers, BB Cream
- Loose and pressed powder
- Lipstick
- Pencils
- Nail enamel
- Sunscreen and moisturizers

Target Markets

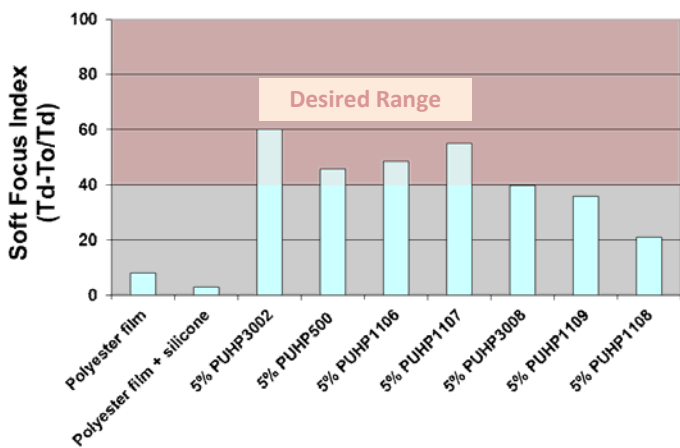
- Color cosmetics
- Skin care and personal care

TRÈS BN® Cosmetic Powders Typical Properties

Part Number	Chemistry				Particle Size Distribution					Other Physical	
	BN	O ₂	B ₂ O ₃	Hq, As, Pb	mV	D10	D50	D90	Max.	Tap Density	Surface Area
	%	%	%	ppm	µm	µm	µm	µm	µm	g/cc	m ² /g
PUHP3002	98.8	1.2	0.05	< 1	2	1	2	4	11	0.2	15
PUHP500	99.5	0.4	0.02	< 1	6	4	6	11	22	0.4	7
PUHP3008	99.5	0.5	0.02	< 1	10	4	8	18	44	0.5	4
PUHP1109	99.6	0.4	0.02	< 1	13	5	12	22	52	0.5	3.5
PUHP3016	99.6	0.4	0.02	< 1	18	7	16	31	74	0.6	2
PUHP1108	99.8	0.2	0.02	< 1	31	11	30	49	103	0.6	1



SEM of typical TRÈS BN hexagonal crystals



PUHP1106 and PUHP1107 are silicone treated PUHP500.

Trade Information

Trade Name TRÈS BN®
 INCI Name Boron Nitride
 JCIC code 523146
 EINECS Number 233-136-6
 CAS No. 10043-11-5
 REACH Ref. No. 17-2119680038-36-0000

Toxicology

TRÈS BN Cosmetic Powders have had product safety evaluations conducted by an independent laboratory and were determined to be completely safe for cosmetic use in all parts of the world. Boron Nitride powders are inert and non-toxic. Please refer to the MSDS available at www.tresbn.com for further information.

Storage Recommendations

TRÈS BN powders are expressly manufactured for cosmetic use. The proprietary methods used in their manufacture ensure final powders that are of the highest purity. When stored with a desiccant in cool, humidity controlled conditions, TRÈS BN powders will remain fresh up to 24 months after date of shipment.

TRÈS BN® is a registered trademark of Saint Gobain Advanced Ceramics.

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