White Graphene Enhanced Cosmetics

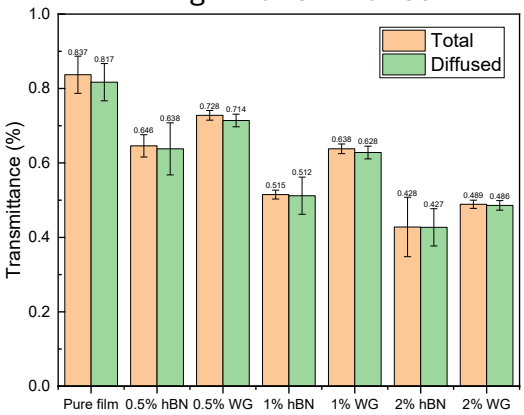
Key findings:

White Graphene (WG) is advantageous compared to the traditional hexagonal boron nitride particles in enhancing key properties of cosmetics including moisture retention, oil adsorption, thermal conductivity and skin smoothness:

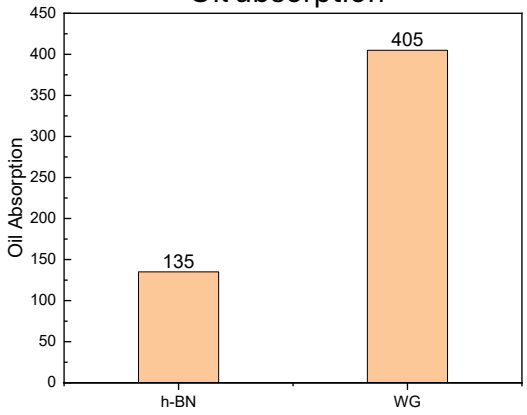
- Oil adsorption: +200%
- Moisture retention: +80%
- Thermal conductivity: +55%
- Skin smoothness: +40%
- Optical translucency: +14%
- Coefficient of friction: −63%



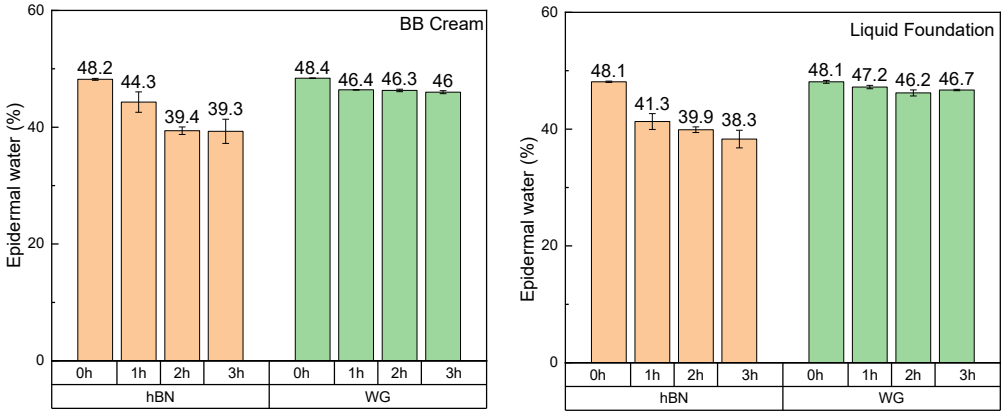
Light transmittance



Oil absorption



Epidermal water retention

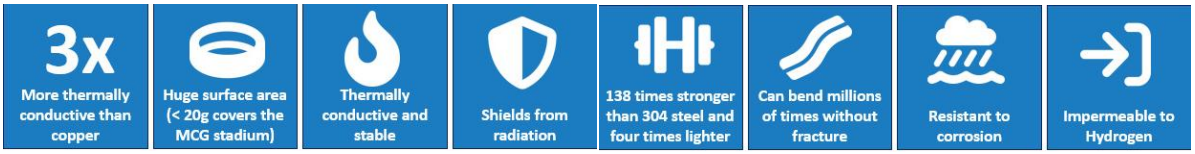


White Graphene

A novel two-dimensional layered nanomaterial - BNNS







PRODUCT CHARACTERISTICS	METHDOLOGY	STANDARD
Appearance	Visual	White solid powder
Lateral Size	Scanning Electron Microscope	0.3-10 µm
Lateral Aspect ratio	Scanning Electron Microscope	1:1 - 1:30
Thickness	Atomic Force Microscope	1-50 nm
Bulk density	EN17199-1 weighting method	0.055 g/cm³
Respirable dustiness fraction	EN17199 Small Rotating drum (M4)	55 mg/kg
Water solubility	OECD 105 Flask Method	Insoluble
Chemical composition and Impurities	Raman Spectroscopy	BN vibrational peak
	Fourier-transform infrared spectroscopy	BN vibrational peaks
	Energy-Dispersive X-ray Spectroscopy	B & N > 98% O < 2% Other < 0.5%
Surface functionalization	-	Customized

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