



PEARLY®

Platelet Alumina for Pearlescent pigments

P·AP

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ABOUT PAP

PAP has been researching special alumina for many years and is a company with its own proprietary core technology.

Alumina produced by PAP provides optimized performance in cosmetics and paints, helping to express more natural skin tones and radiant colors.

It is also chemically stable and has excellent heat dissipation performance and chemical resistance, so it can be applied to various advanced material fields.

PEARLY®

PEARLY® is a product based on alumina (Al_2O_3), one of the most stable and inactive substances in nature. It is a white powder and has a unique pearl luster depending on the particle shape and size.

The fine white powder absorbs impurities and excess sebum to form a soft and creamy texture in cleansers, mask packs, and other cosmetic formulations, and its unique ingredients provide high UV protection.

SPECIAL FEATURES

Pure alumina substrate

Very smooth surface

Low heavy metal content

Uniform thickness

Excellent gloss effect and color purity

ESG-based production process

APPLICATIONS

PEARLY® products can be applied to all cosmetics. Not only will its effectiveness be maximized when applied to various cosmetic products, it can also be utilized in various additional industries.

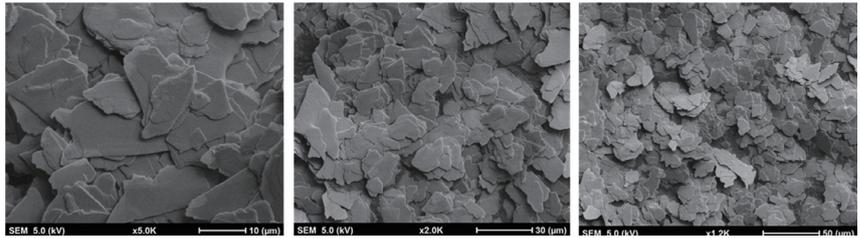
- Basic cosmetics related products
- Color cosmetics related products
- Sunscreen related products
- Paint, automotive related industrial products
- Advanced industrial products related to semiconductors and secondary batteries

WHY PLATELET ALUMINA?

SYNTHETIC MICA

#cost-effectiveness, #environmental issues, #sustainability issues

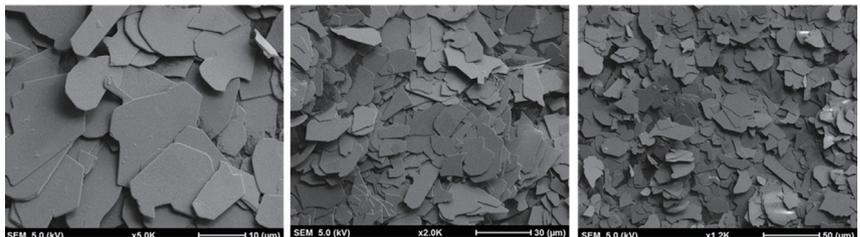
- Advantages in terms of cost and efficiency
- Blurry gloss and saturation
- The production process for synthetic mica pigments produces potentially harmful by-products, raising concerns about the environment and sustainability.



PLATELET ALUMINA

#Overwhelming gloss and saturation, #Uniform Thickness, #Strong adhesion, #Translucency, #Long history

- Overwhelming gloss and saturation
- A combination of high reflective transmittance and strong diffusion and scattering unique to plate-shaped alumina for more natural and superior skin expression
- Alumina is a stable material that has already been approved for use in food and medicine by the FDA and has a long history of use.



SYNTHETIC MICA

Irregular thickness and Rough surface
Low Gloss And Saturation

PLATELET ALUMINA

Uniform thickness And smooth surface
High gloss and saturation

STRONG ADHESION



Platelets lie flat allowing more light to pass through.

It combines strong diffuse scattering with high reflective transmittance to provide a more natural soft focus effect.



TRANSLUCENCY

More natural skin tone and
More brilliant material colors



STRONG ADHESION

Strong skin adhesion and durability

SOFT FOCUS FUNCTION

It aims to reduce the appearance of fine wrinkles through strong diffusion of light.

Cosmetics that use the soft focus function hide fine wrinkles, but they are highly transparent and show natural skin tone.

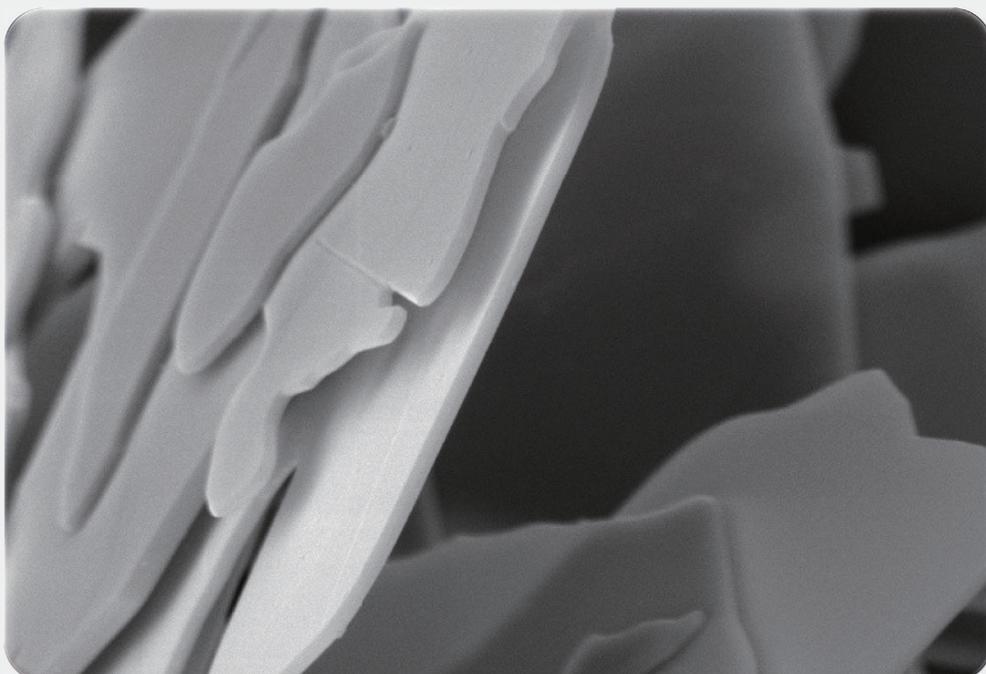
When light hits the skin, plate-shaped particles scatter the light in many directions.

These diffuse reflections create a smoother, softer appearance by optically blurring uneven areas of the skin.

The soft focus function reduces the reflective component of light that exaggerates wrinkles and causes

the skin to appear unnaturally white, while increasing the amount of diffused light that gently softens fine lines.

PEARLY® maximizes the diffusion of light while maintaining excellent transparency, enabling a more natural and superior skin expression.



#Thin thickness #Soft edges #Structure optimization



CHEMICAL COMPOSITION

INCI Name	CAS No.	EINECS
SYNTHETIC SAPPHIRE	1344-28-1	215-691-6

FORMULATION

General usage range of PEARLY® powder in cosmetic formulations

- 1-15% : Face and body powder
- 1-15% : Eye Shadow/blushes
- 1-20% : Lipstick
- 1-60% : Lip and eye pencils
- 1 -10% : Concealers/foundations
- 1 - 5% : Nail enamels
- 1-10% : Skin care lotions/creams
- 1-10% : Sunscreens



APPLICATIONS

- Sunscreens
- Lip and eye pencils
- Eye shadows
- Face Powders / Blush
- Foundations and concealers
- Lipstick
- Skin Care
- Bath and Body Products
- Beauty Products
- Nail enamels
- Acne treatment and the removal of hard skin
- Abrasive medium for microdermabrasion
- Opacifier
- Drying agent
- Viscosity controlling agent
- Colour additive (FDA exemption from certification)

SPECIFICATION SHEET

PEARLY - 01

Polygonal Synthetic Sapphire powder of high purity for use in cosmetics, cutting tools, separator coating, thermal Interface Materials

IDENTITY
SPECIFICATIONS

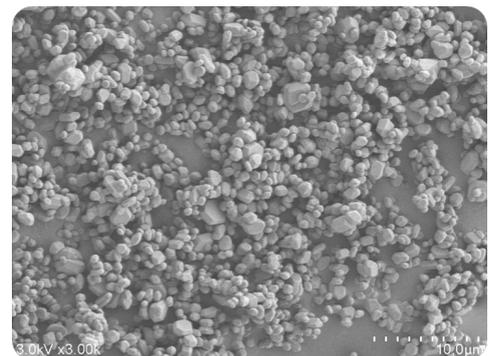
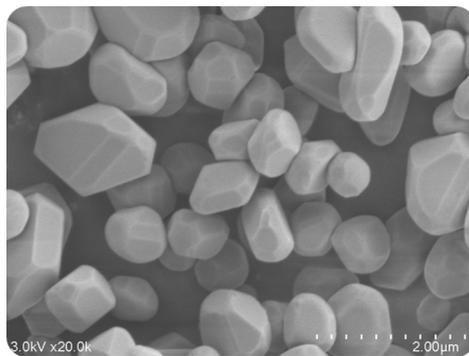
Chemical composition: α -Al₂O₃
Micro sized high-purity spherical Sapphire powder

INCI NAME

SYNTHETIC SAPPHIRE

PRODUCT
SPECIFICATIONS

	PRODUCT	UNIT	SPECIFICATION
Purity	Al ₂ O ₃	%	≥ 99
Impurity	Na ₂ O	%	0.1
	SiO ₂	%	0.06
	Fe ₂ O ₃	%	0.04
	MgO	%	0.1
PSD	D50	μm	3-5
	D10-D90	μm	1-10
LOI		%	0.5
Bulk Density		g/cm ³	0.3-0.6
Specific Surface Area		m ² /g	1-5



PACKING

Paper box of 15-25kg net

SHELF LIFE

5 years in a closed container

NON-WARRANTY The information contained herein is offered in good faith and is believed to be accurate. But, without guarantee as conditions and methods of application are beyond our control.

SPECIFICATION SHEET

PEARLY - 100

Semi-Platelet Synthetic Sapphire powder of high purity for use in cosmetics, thermal Interface Materials

IDENTITY
SPECIFICATIONS

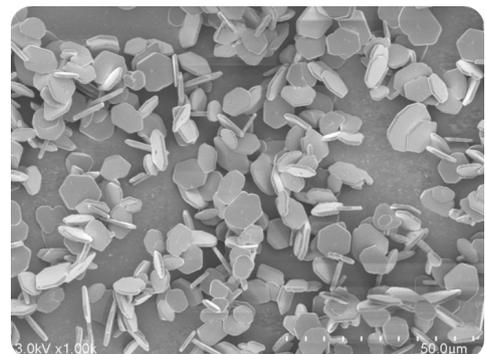
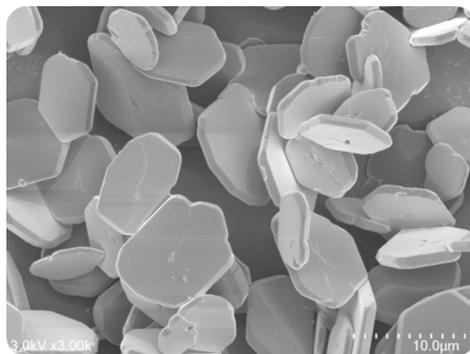
Chemical composition: α -Al₂O₃
Micro sized high-purity synthetic Sapphire powder with semi-Platelet shape

INCI NAME

SYNTHETIC SAPPHIRE

PRODUCT
SPECIFICATIONS

	PRODUCT	UNIT	SPECIFICATION
Purity	Al ₂ O ₃	%	≥ 99
Impurity	Na ₂ O	%	0.45
	SiO ₂	%	0.02
	Fe ₂ O ₃	%	0.02
	MgO	%	0.01
PSD	D50	μm	7-12
	D10~D90	μm	1-30
Thickness		μm	0.5-2.0
LOI		%	0.5
Bulk Density		g/cm ³	0.3-0.6
Specific Surface Area		m ² /g	1-5



PACKING

Paper box of 15-25kg net

SHELF LIFE

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SPECIFICATION SHEET

PEARLY - 200

Platelet Synthetic Sapphire powder of high purity for use in cosmetics, special filler, surface treatment, thermal Interface Materials

IDENTITY
SPECIFICATIONS

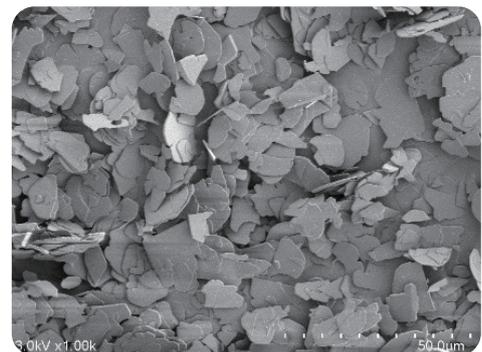
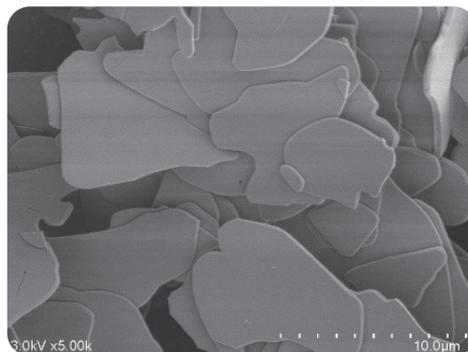
Chemical composition: α -Al₂O₃
Micro sized high-purity synthetic Sapphire powder Flaky with smooth

INCI NAME

SYNTHETIC SAPPHERE

PRODUCT
SPECIFICATIONS

	PRODUCT	UNIT	SPECIFICATION
Purity	Al ₂ O ₃	%	≥ 99
Impurity	Na ₂ O	%	0.45
	SiO ₂	%	0.02
	Fe ₂ O ₃	%	0.02
	MgO	%	0.01
PSD	D50	μm	7-12
	D10~D90	μm	1-30
Thickness		μm	0.1-0.5
LOI		%	0.5
Bulk Density		g/cm ³	0.3-0.6
Specific Surface Area		m ² /g	1-5



PACKING

Paper box of 15-25kg net

SHELF LIFE

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SPECIFICATION SHEET

PEARLY - 2500

Platelet Synthetic Sapphire powder of high purity for use in cosmetics, industrial & automotive effect pigments, thermal Interface Materials

IDENTITY
SPECIFICATIONS

Chemical composition: α -Al₂O₃

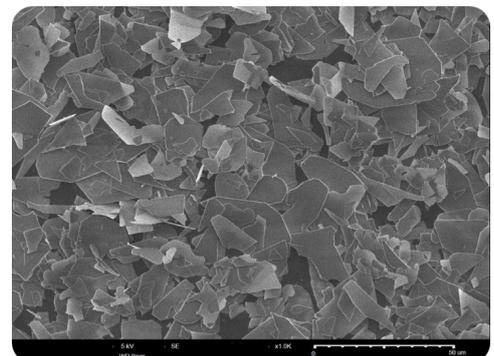
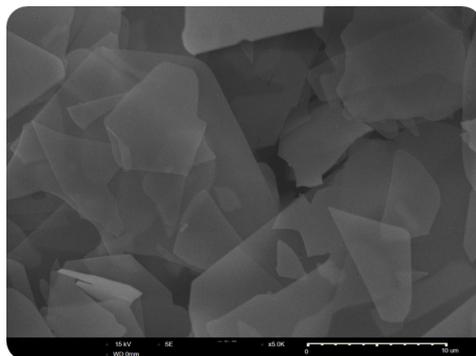
Ultra-thin micro sized high-purity synthetic Sapphire powder with medium gloss

INCI NAME

SYNTHETIC SAPPHIRE

PRODUCT
SPECIFICATIONS

	PRODUCT	UNIT	SPECIFICATION
Purity	Al ₂ O ₃	%	≥ 99
Impurity	Na ₂ O	%	0.45
	SiO ₂	%	0.02
	Fe ₂ O ₃	%	0.02
	MgO	%	0.01
PSD	D50	μm	11-14
	D10~D90	μm	1-30
Thickness		μm	0.01-0.3
LOI		%	0.5
Bulk Density		g/cm ³	0.3-0.6
Specific Surface Area		m ² /g	1-5



PACKING

Paper box of 15-25kg net

SHELF LIFE

5 years in a closed container

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SPECIFICATION SHEET

PEARLY - 5000L

Platelet Synthetic Sapphire powder of high purity for use in cosmetics, industrial & automotive effect pigments, thermal Interface Materials

IDENTITY
SPECIFICATIONS

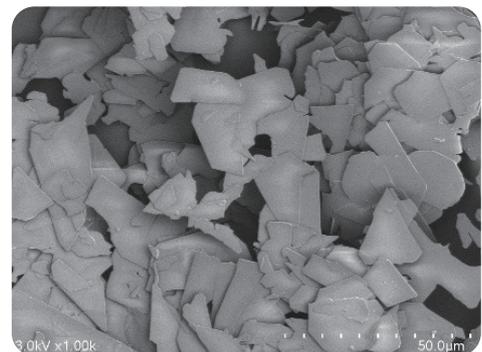
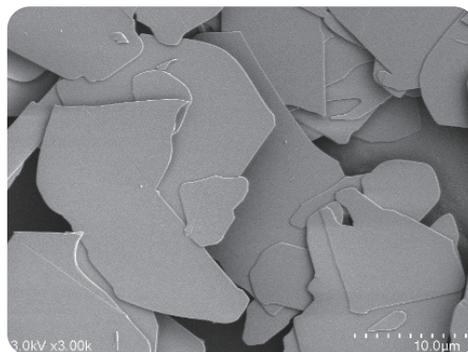
Chemical composition: α -Al₂O₃
Micro sized high-purity synthetic Sapphire powder with high gloss

INCI NAME

SYNTHETIC SAPPHIRE

PRODUCT
SPECIFICATIONS

	PRODUCT	UNIT	SPECIFICATION
Purity	Al ₂ O ₃	%	≥ 99
Impurity	Na ₂ O	%	0.45
	SiO ₂	%	0.02
	Fe ₂ O ₃	%	0.02
	MgO	%	0.01
PSD	D50	μm	15-25
	D10~D90	μm	1-60
Thickness		μm	0.1-0.5
LOI		%	0.5
Bulk Density		g/cm ³	0.3-0.6
Specific Surface Area		m ² /g	1-5



PACKING

Paper box of 15-25kg net

SHELF LIFE

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SPECIFICATION SHEET

Platelet Synthetic Sapphire powder of high purity for use in
cosmetics, industrial & automotive effect pigments, thermal Interface Materials

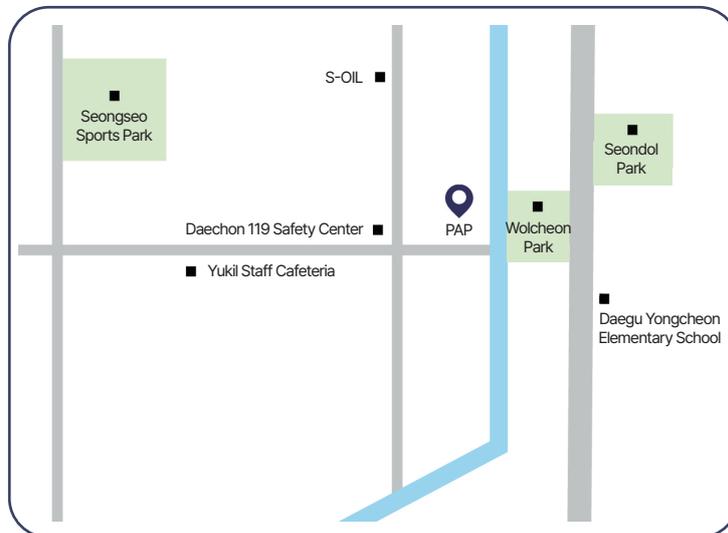
APPEARANCE		White, Free-Flowing Powder			
INGREDIENTS & COMPOSITION					
Ingredients	By Weight(%)		CAS NO.		EINECS
Alumina(Al ₂ O ₃)	≥ 99		1344-28-1		215-691-6
Product type	Polygonal	Semi-Platelet	Platelet	Platelet	Platelet
Product name	PEARLY-01	PEARLY-100	PEARLY-200	PEARLY-2500	PEARLY-5000L
Particle Size(μm)(D50)	3 - 5	7 - 12	7 - 12	11 - 14	15 - 25
Thickness(μm)	0.1 - 2.0	0.5 - 2.0	0.1 - 0.5	0.01 - 0.3	0.1 - 0.5
pH	5.0 - 10.0	5.0 - 10.0	5.0 - 10.0	5.0 - 10.0	5.0 - 10.0
Whiteness(%)	80 - 90	80 - 90	80 - 90	80 - 90	80 - 90
TRACE ELEMENTS(PPM)					
Cobalt (Co)	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Chromium (Cr)	≤ 20	≤ 20	≤ 20	≤ 20	≤ 20
Mercury (Hg)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Lead (Pb)	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Nickel (Ni)	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Arsenic (As)	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
Antimony (Sb)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Cadmium (Cd)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Barium(Ba)	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
Microorganisms(CFU/g)	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100



Research and Innovations for Next Generation Alumina

PAP drives the special alumina materials industry with new technology and innovation.

DIRECTIONS



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CONTACT US

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ISO 9001:2015 (SMI/KAB, KAB-QC-42)

ISO 14001:2015 (SMI/KAB, KAB-EC-37)

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