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ADVANCED PMU

PIGMENT THEORY

UNDERSTAND COLOR,
CREATE BETTER RESULTS

SCIENCE • ARTISTRY • CONFIDENCE



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WHAT IS A PIGMENT?

A pigment is a colorant used in PMU formulations. It gives the pigment its color and opacity.

A PMU PIGMENT IS NOT JUST COLOR.
It is a combination of:

- Color pigments
- Carrier solution
- Stabilizers
- Other formulation ingredients



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MAIN PIGMENT CATEGORIES

PMU pigments can be grouped into three main categories.

ORGANIC PIGMENTS



Synthetic carbon-based color pigments

INORGANIC PIGMENTS



Mineral/metal-based color pigments

HYBRID FORMULATIONS



Combination of organic and inorganic pigments

Each type has unique characteristics and purposes in PMU.

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ORGANIC PIGMENTS

Synthetic carbon-based color pigments

- Made of complex carbon molecules (synthetically produced)
- Often bright, vivid, and high in color strength
- Wide range of colors (reds, pinks, oranges, yellows, etc.)
- Commonly used in lip pigments and some brow/eyeliner formulations
- "Organic" refers to chemical structure, NOT natural or plant-based.



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INORGANIC PIGMENTS

Mineral/metal-based pigments



- Made from minerals and metal compounds
- Generally more muted, earthy, and opaque
- Often very stable and light-resistant
- Commonly used in brow pigments
- Includes iron oxides, titanium dioxide, carbon black, chromium oxides, and other metal oxide pigments

Inorganic pigments are a broad category.
Iron oxides, titanium dioxide, carbon black, chromatium oxides, and ultramarines are all inorganic pigments.

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IRON OXIDES

A major family of inorganic pigments

- Most commonly used inorganic pigments in PMU
- Available in red, yellow, and black
- Can be blended to create many natural brown shades
- Stable and widely used in cosmetic colorants



Red Iron Oxide
CI 77491



Yellow Iron Oxide
CI 77492



Black Iron Oxide
CI 77499

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TITANIUM DIOXIDE

An inorganic white pigment (CI 77891)



- Adds opacity and brightness
- Used to lighten colors or create nude shades
- Can make colors more opaque
- Very stable and light-resistant
- Important to understand because it can remain visible in the skin and may complicate laser removal.

TIP Use titanium dioxide intentionally and in appropriate concentrations.

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CARBON BLACK

A powerful inorganic pigment (CI 77266)



- Extremely high tinting strength
- A small amount can significantly darken a formulation
- Used in some dark brow and eyeliner pigments
- Despite being carbon, it is classified as an inorganic pigment in standard pigment classification.

Use with knowledge and caution.
It can strongly influence the final healed color.

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OTHER INORGANIC PIGMENTS

Additional inorganic pigments used in cosmetic formulations



- **Chromium Oxides**
  (CI 77288 / CI 77289)
  Green colorants, used in some cosmetic formulations and color correction.



- **Ultramarines (CI 77007)**
  Can produce blue, violet, or pinkish tones depending on composition.

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HYBRID FORMULATIONS

A combination of organic and inorganic pigments

- Many modern PMU pigments are blends of organic and inorganic pigments
- Designed to achieve specific color, opacity, and performance characteristics
- Can offer the benefits of multiple pigment types
- Always review the manufacturer's ingredient list and understand the formulation.



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Type	Main Ingredients	Color Characteristics	Common Use in PMU	Examples
Organic	Synthetic carbon-based pigments	Bright, vivid high color strength	Lips, some brows/eyeliners	Azo, Quinacridones, Phthalocyanines
Inorganic	Mineral/metal compounds	Muted, earthy, opaque	Brows, eyeliners, color correction	Iron oxides, Titanium dioxide, Carbon black, Chromium oxides, Ultramarines
Iron Oxides (inorganic)	Iron oxide compounds	Red, yellow, black (natural brow tones)	Brow pigments	CI 77491 CI 77499
Titanium Dioxide (inorganic)	Titanium dioxide	White, lightening, opaque	Light shades, opacity	CI 77891
Carbon Black (inorganic)	Carbon black	Very strong tinting strength	Dark brows, eyeliner	CI 77266
Hybrid	Combination of organic and inorganic pigments	Balanced performance	Many modern PMU pigments	Varies by manufacturer

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KEY TAKEAWAYS

1. Organic and inorganic are broad pigment classifications. **Iron oxides** are inorganic pigments—not a separate category.
2. Titanium dioxide, carbon black, chromium oxides, and ultramarines are also inorganic pigments.
3. Organic pigments are synthetic carbon-based color pigments (not natural or plant-based).
4. Most modern PMU pigments are hybrid formulations.
5. A pigment's behavior in the skin depends on more than just its type. Consider the formulation, skin type, technique, and aftercare.

Better Knowledge. Better Artists.

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