

## Natural Color Extraction Method for Blue Pea Flower

### Goal:

Extract **anthocyanins** from dried or fresh Blue Pea Flowers to create a **natural pH-sensitive colorant** that replaces **FD&C Blue No. 1 (Brilliant Blue FCF)** and **FD&C Blue No. 2 (Indigotine)**.

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### Cold Water Extraction Method (Food & Cosmetic Grade)

#### Materials:

- Fresh or dried **Clitoria ternatea flowers**
  - **Distilled water**
  - Fine mesh strainer or cheesecloth
  - Citric acid (optional for stabilization)
  - Amber bottles for storage
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#### Steps:

##### 1. Preparation

- Use **2 grams of dried flowers** or **10–15 fresh flowers** per 250ml of distilled water.
- Rinse fresh flowers briefly to remove debris.

##### 2. Extraction

- Place flowers in a glass container.
- Pour **room temperature or slightly warm water** over them (not hot).
- Let steep for **20–30 minutes**, or up to 2 hours for deeper color.
- Gently stir or swirl occasionally.

##### 3. Filtration

- Strain using fine mesh or cheesecloth to remove solids.
- For a more vivid extract, flowers may be steeped a second time.

##### 4. Optional: pH Adjustment

- Add a pinch of **citric acid or lemon juice** to shift the color from **blue to purple or pink** depending on application.
- Leave as-is for vibrant blue color.

## 5. Storage

- Store in **amber glass bottles** in the fridge (4–8°C).
- Add **potassium sorbate** (0.1%) if longer shelf life is needed.

## Optional: Dry Powder Form

You can also:

1. **Dry petals completely**
2. **Grind into powder**
3. **Use powder in teas, soaps, or as a dry colorant additive**



## Resulting Product:

- Water-based, **natural blue pigment**
- **pH-sensitive:**
  - Acidic = pink/magenta
  - Neutral = blue
  - Alkaline = green to teal

## Applications:

Use Case	Benefit
Beverages (teas, cocktails)	Color-shifting effects (great for marketing)
Bath bombs, soaps	Bright blue base with color-changing reactions
Skincare (serums, creams)	Anti-oxidant and color appeal

**Shelf Life:**

- Fresh extract: **7–10 days refrigerated**
  - With preservative: **4–6 weeks**
  - Powder form: **6–12 months** (airtight container, cool dry place)
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**Quality Tips:**

- Keep all tools and water pH-neutral or slightly acidic for blue hues
- Use glass or plastic (not metal) to avoid reaction with anthocyanins
- Combine with lemon juice in beverages to showcase color shifts

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