

**Activity - 16**

**Topic:** Define the different type of colouring agents and write the colour of some chemicals.

**Colouring agents:**

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**Classification of Coloring agents or color additives or colorant**

**1. According to USFDA, Colouring agents in pharmaceuticals are classified into 3 categories:**

**A. Straight Colouring agents**

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Example of straight colouring agents: FD&C Blue No. 1.

**B. Lakes Colouring agents**

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Examples of lakes: Blue 1 Lake, Aluminum Lakes.

**C. Mixture Colouring agents**

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**2. According to their source, colouring agents or color additives are classified as:**

**A. Natural colouring agents**

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Natural colouring agents used in pharmaceutical preparations fall into three classes:

- **Mineral-derived colouring agents:** they are produced from mineral sources. For example, Red Ferric Oxide, Titanium Oxide, Lead Oxide, Copper Sulfate, and Carbon Black.
- **Plant-derived colouring agents:** Indigo, Beta-Carotene, Paprika, Turmeric, and Saffron.
- **Animal-derived colouring agents:** cochineal extract (and its lake, carmine) is derived from an insect.

**B. Synthetic colouring agents**

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For example, Green S, Patent Blue V, Quinoline yellow, Carmoisine, and Ponceau 4R.

**3. According to solubility, colouring agents or color additives are classified as:**

**A. Dye**

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**Example:** Safranin, FD&C red #4, FD&C yellow #5.

**B. Pigment**

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For example, Red Ferric Oxide, Titanium Oxide, Lead Oxide, Indigo, Beta-Carotene, Paprika, and Copper Sulfate.

**C. Lakes**

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Examples of lakes: Blue 1 Lake, Aluminum Lakes etc.

***Colouring agents:***

<b>Name of Color additives</b>	<b>Color</b>	<b>Uses</b>
Annatto extract		Ingested drugs generally and external drugs including eye area use.
Caramel		Ingested and topically applied drugs generally
$\beta$ -Carotene		Ingested drugs generally; Externally applied drugs including eye area
Cochineal extract		Ingested and externally applied drug
Carmine		Ingested and externally applied drugs
Ferric ammonium ferrocyanide		Externally applied drugs including eye area use.
Pyrophyllite		Externally applied drugs
Mica		Externally applied drugs including eye area use. Dentifrices.
Talc		Drugs generally
Titanium dioxide		Drugs generally including eye area use.
Aluminum powder		Externally applied drugs including eye area use.
Zinc oxide		Externally applied drugs including eye area use.