

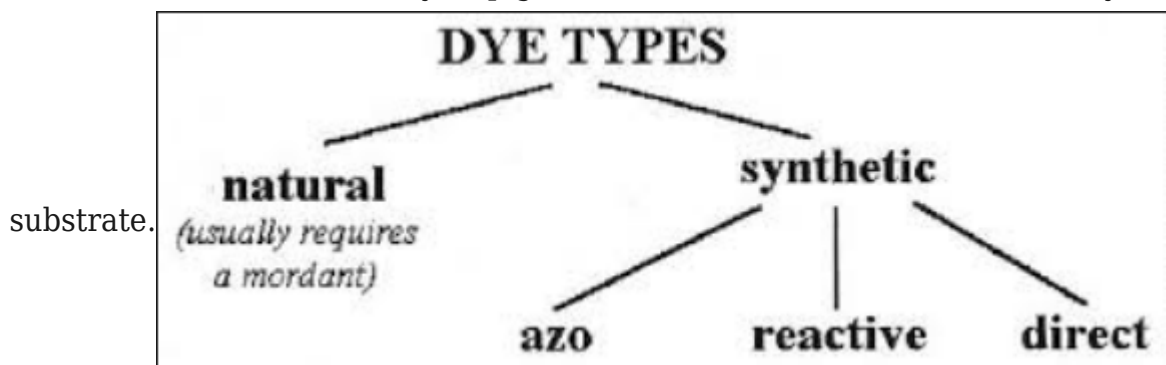
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DYE

A dye is a colored substance that has an affinity to the substrate to which it is being applied. The dye is generally applied in an aqueous solution, and may require a mordant to improve the fastness of the dye on the fiber.

Both dyes and pigments are colored because they absorb some wavelengths of light more than others. In contrast to dyes, pigments are insoluble and have no affinity for the



TYPES:

- NATURAL DYE:

The majority of natural dyes are from plant sources: roots, berries, bark, leaves, and wood, fungi, and lichens. Plant-based dyes such as woad, indigo, saffron, and madder were raised commercially and were important trade goods in the economies of Asia and Europe.

- SYNTHETIC DYE:

The discovery of man-made synthetic dyes late in the 19th century ended the large-scale market for natural dyes. Synthetic dyes are man-made. These dyes are made from synthetic resources such as petroleum by-products and earth minerals.

- ORGANIC DYE: Many dyes are organic compounds. These may be natural (from plant sources) or synthetic.

Dyes are classified according to their solubility and chemical properties

- Acid dyes are water-soluble anionic dyes that are applied to fibers such as silk, wool, nylon and modified acrylic fibers using neutral to acid dye baths.
 - Basic dyes are water-soluble cationic dyes that are mainly applied to acrylic fibers, but find some use for wool and silk.
 - Direct or substantive dyeing is normally carried out in a neutral or slightly alkaline dye bath, at or near boiling point, with the addition of either sodium chloride. Direct dyes are used on cotton, paper, leather, wool, silk and nylon. They are also used as pH indicators and as biological stains.
 - Vat dyes are essentially insoluble in water and incapable of dyeing fibres directly. The color of denim is due to indigo, the original vat dye.
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