

## **Food Additives: Colorants**

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Food additives are used in many stages of food production process to preserve the food, to enhance its quality and extend its shelf life. Food quality is influenced by many factors including industrial advances in countries worldwide, ever increasing population, and the related requirement for greater amount of products. Food preferences and demands of populations show changes with time, and this leads to increased utilization of food additives. Food additives are a group of substances which are not consumed as food on their own, and not a typical ingredient of a food product. They may or may not have nutritional value; they are added to the food to perform a certain function. Their innocuous dose is known, and their utilization requires certification. The defining feature of a food additive is that it is added to a food product on purpose, to perform a certain function. In food industry, additives are typically used during production stages like preparation of raw materials, manufacturing, packaging and storage to extend shelf life, reduce losses, regulate or improve food's sensory properties, maintain food's quality characteristics and preserve its nutritional value. Additives used in food product should be specified in the product label with the corresponding "E code". The E code is a 3-digit number given by European Union to designate a certain food additive whose toxicological studies have been completed, i.e.; its ADI (Acceptable Daily Intake) value has been determined.

The colorant substances used in the food industry are categorized with the designating E codes between E100 to E180. International Codex Alimentarius Commission (CAC) defines colorants as substances that give color to the food, or modify its color in a desired way. Considering the current advanced production technologies, foods can be subject to discoloration or color loss due to physical and chemical conditions during various stages including processing, storage and marketing, such as variations in heat, light, pH and oxygen. Colorants are used to recover these losses, to enhance the weak color, to colorize an originally colorless food, and to make the product more appealing by veiling the decrease in quality. They are used in various products including soft drinks, confectioneries, ice-creams, jellies, pastries, powdered drink mixes, chewing gums, wafers, biscuits and creams. Colorants differ according to their physical and chemical properties including their chemical composition, source of acquisition, and intended use. According to their acquisition type, they can be categorized in two groups as natural colorants (organic and inorganic ones) and artificial colorants. Although the artificial colorants have some advantages like giving brightness, being stable and less costly and providing the desired color tone, the demand to these type of colorants is low due to consumers' distrustful attitude. Artificial organic colorants that are permitted for use in European Union, United States and Turkey are water soluble forms of these colorants, and they are categorized based on their chemical compositions as Azo dyes, Triarylmethane dyes, Xanthene dyes, Quinoline dyes and Indigoid dyes.

**Keywords:** food additives; food technology; colorant

### **References**

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