

In fruit drinks to keep the solid and

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In this lab, the main components consist of applesauce, pectinase, and the cold/hot water bath used to vary temperatures. Pectinase is an enzyme which breaks down pectin. Pectin is a polysaccharide that is found in the cell walls of plants. Thus, pectinase enzymes are often used in processes such as the degradation of plant materials, or speeding up the extraction of fruit juice from fruit, and apples. The purpose of this lab is to see how the pectinase acts within the applesauce at various temperatures, or if the temperature is a large factor in the activity of pectinase. Pectinase attaches to the active site in pectin, then breaks bonds in the polysaccharide. Pectinase is the enzyme, and pectin is the substrate.

Apples, as well as other plant materials, have a lot of pectin. The apple in the lab is already broken down into a sauce, helping the pectinase break down the sauce into juice better. Enzymes help speed up chemical reactions. Enzymes are found throughout the body and almost any other living creature. They help carry out chemical reactions quickly and efficiently. Enzymes are made of amino acids, which are proteins. Pectin is used mainly as a gelling agent for the production of jams and jellies.

For example, it is added to some yogurts to provide the consistency that allows the yogurt to hold its shape and still be capable of being stirred. It is added to manufactured, concentrated fruit drinks to keep the solid and liquid components of the drink in suspension with each other. Pectin is also used as an additive in pharmaceutical and cosmetic preparations. The U. S. Food and Drug Administration (USDA) has classified pectin as an approved food additive.

It is considered safe for human consumption when used in normal amounts as a food additive. Keep this in mind as the USDA is not as strict as other food administrations as in other countries such as Europe.