

## What's This In My Food?

**TUNKHANNOCK** (Wyoming Co.) — Although many of us never give them a thought, we count on a variety of food ingredients to make food more appealing to the senses, provide nutritional benefits and keep food fresh longer, among other things. These ingredients can cause concern and confusion among consumers — especially if they have chemical names. Actually, many of these additives are quite familiar, they just go by more scientific names when used on food labels. For example, ascorbic acid is another name for vitamin C and alphanatocopherol is vitamin E.

### • What Do They All Do?

There are approximately 3,000 food additives used in this country, and many of them are common food ingredients we use at home every day, such as sugar or baking soda. Food additives are divided into categories based on function. Some of the basic categories are: acidulants, antioxidants, colors, emulsifiers, flavors and flavor enhancers, gums, preservatives, sweeteners and vitamins/minerals.

• **Acidulants.** A lemon-lime beverage or food product wouldn't have that refreshing tartness without an acidulant ingredient. Basically, acidulants are acids that are used for flavoring, as preservatives, for gelling and coagulation, and to help prevent oxidation of fats and oils. Examples of acidulants include citric acid, tartaric acid, lactic acid, adipic acid, and malic acid.

• **Antioxidants.** Many of us are familiar with the term "antioxidants" from a health perspective. In this context, however, the antioxidants are added to delay or prevent rancidity. Over time, fats and oils that come in contact with oxygen from the air can become rancid — developing unpleasant off-flavors and odors. Two of the most commonly used antioxidants are BHA, or butylated hydroxyanisole, and BHT, or butylated hydroxytoluene. Natural antioxidants such as tocopherols (forms of vitamin E) and guaiac gum are also used. Food to which antioxidants are added include fats and oils, cereals, and high-fat foods such as doughnuts and chips.

• **Colors.** Almost everyone has had fun mixing up colored frosting or coloring homemade play-clay with food colors. Food colors, dyes and pigments used in food, drugs and cosmetics are regulated by the U.S. Food and Drug Administration (FDA), and require testing similar to that required for other food additives. Colors are either classified as "certified" or "exempt from certification." All nine certified colors are artificial, and most are named with the color name and number, (e.g., Red #2, Yellow #5). Exempt colors are frequently derived from natural sources such as vegetables, and also must meet certain criteria for purity and safety. Examples of exempt colors include substances such as annatto extract (yellow), dehydrated beets (bluish-red to brown), caramel (yellow to tan), bet-carotene (yellow to orange) and grape skin extract (red, green).

• **Emulsifiers.** In food science classes, making salad dressing or mayonnaise is the classic lesson for teaching what emulsions are. With proper mixing, fat or oil and water will combine to become an emulsion. In food products, emulsifiers are added to keep emulsified products stable, reduce stickiness, control crystallization, keep ingredients dispersed (such as spices within a salad dressing) and to help products dissolve more easily (such as powdered coffee creamer). They work because their chemical structure attracts fats on one end and water on the other, thereby letting the two substances combine easily. Common emulsifiers include lecithin (often made from soybeans), alginates (chemical salts found in algae) and mono- and diglycerides (syrup- or fat-like substances found in alcohols).

• **Flavors and Flavor Enhancers.** We all like our food pleasing flavors, and the food industry relies on various substances to provide the flavors that consumers demand. Spices and herbs, essential oils and their extracts, fruit and fruit juices and manufactured (also called "artificial") compounds are classified as flavors. Often, both natural and artificial flavors are used together in one food item.



**Broad Street Market, Harrisburg, celebrated National Potato Month by holding potato cooking demonstrations throughout February. Chef Carrie Bogar, Empire Restaurant, Carlisle, prepares potato soup seasoned with roasted garlic, spices, and cream for visitors to sample. The market also held a potato art contest for kids and a potato lovers recipe contest.**

Somewhat less understood are flavor enhancers, the most common of which is probably monosodium glutamate, or MSG. Since 1909 when it was first manufactured, MSG has been used in a variety of foods, including meat and poultry items, soups and broths, salad dressings and sauces. MSG is the sodium salt of glutamic acid (glutamate), which is one of the most common amino acids found in nature. Although it has no taste of its own, MSG works to enhance the flavors already present in foods. The overall taste effect contributed by glutamate is savory or meaty.

• **Gums.** Gums provide thickness to foods and help form gels in products such as frozen desserts, candies, salad dressings, puddings, and whipped toppings. They're also used to keep ingredients suspended in a food and to inhibit crystallization, among other functions. Gums are classified by source, such as seaweed (which includes agar, alginates, carrageenan), plant seed gums (which include pectin), fermentation gums (which include xanthan gum), plant exudates

(which include gum arabic) and cellulose derivatives.

• **Preservatives.** Because of preservatives, bread does not grow mold overnight, but remains fresh for several days. Preservatives can be antimicrobials, antioxidants, or both. As antioxidants, they keep foods from becoming rancid and turning brown. As antimicrobials, they inhibit the growth of bacteria, yeast and mold.

Food additives are very tightly regulated. The Food Additives Amendment to the U.S. Food, Drug and Cosmetic Act, implemented in 1958, assigned proof

for additive safety to the food industry. The degree of safety testing necessarily became very high because the industry had to prove additives were safe before they could be used.

Consumers can easily see which food additives are present in a food by reading the ingredient statement on the product label — the FDA requires all additives and ingredients to be listed. Food additives play many important roles in our food supply, helping to ensure that the wide array of foods we eat are safe, wholesome and tasty.

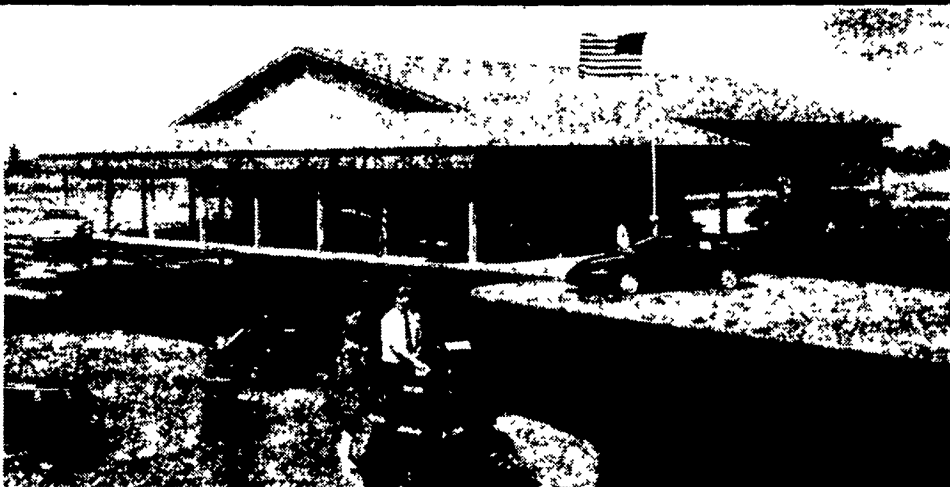
## Hand Washing Helps — Keep Germs Out!

Children in child care are exposed to colds, coughs, and flu. Frequent hand washing by children and adults can help keep children from getting sick. Parents, make sure this is happening at your child's child care and at home.

Wash hands:

• Before handling and serving food.

• Before and after eating.  
• After wiping noses or mouths.  
• Before and after diapering routines.  
• Before and after bathroom routines.  
• After handling pets.  
• After playing outdoors.  
Help wage the war on germs!  
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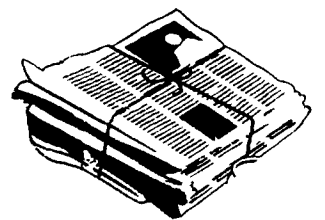
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