Use of Hydrocolloids and Gums in Food by Evan Nasseri

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Hydrocolloids or gums are widely used in the food industry thanks to its thickening and stabilizing properties. These are simply hydrophilic polymers taken from animals, microbes or vegetables and maybe sometimes generated synthetically and should contain a number of hydroxyl groups or polyelectrolytes. Used primarily for its viscosity, these substances are used sparingly on food so that the functional properties and looks of aqueous food solutions will be controlled. The effect of a small amount of hydrocolloid can be large, thus itâ€™s recommended to use these substances in small amounts. So the challenge for the food manufacturers here is to choose the right hydrocolloids and gums for food applications. Aside from the help in gelling, these hydrocolloids and gums are also used for the prevention of the ice re-crystalization and for emulsion stabilization. Some of the most common hydrocolloids and gums used by chefs and food manufacturers include agar, carrageenan and gelatin which will be discussed in greater detail below.

How does hydrocolloid works in food applications?

These are large molecules that are dispersed in water, thus giving the water its form. What makes it work are the presence of the colloid particles and depending on the amount of water, the end product of the mixture can become liquid or appear in gel form. The nice thing about the use of hydrocolloids and gums in food is that the characteristics of these substances can easily be altered through the manipulation of heat. This is one reason why these substances are the favored ingredients by some chefs wanting to create masterpieces on their plates. These substances can thicken and will form gels if used sparingly. This is also used as whipped foam or as emulsifiers. Most of the hydrocolloids that can be used for food applications are considered as polysaccharides. When these are used in water, water molecules will gather around the sugar and in the process water with restricted movement is formed. This is where it gets the â€˜gellingâ€™ formation that one sees i many food preparations. What is at work here is the stabilization process, as food not just water will be prevented to settle, separate, collapse or even crystallize.

What are the top hydrocolloids and gums used in food production?

A popular type of hydrocolloid is gelatin sourced from animals. This is used in a number of food preparations and known to melt easily. To use this, one must melt this first in high heat and to mold it cold water must be used. This is a common ingredient used by chefs to gel and as a whipping agent.

One can also count on the Xanthan and Guar gums. Xanthan Gum is used as a thickening agent in food production. Some fat-free salad dressing contains this gum. This is used in the production of ice cream as well, that adds to the smoothing effect on this icy delicacy. Guar Gum is another thickening agent that can be used in a number of food items like desserts and bakery products.

Carrageenan is another example of a hydrocolloid. Sourced from the red seaweeds, Carrageenan is hard to separate. If one has to use this hydrocolloid then itâ€™s recommended that the supplier or manufacturer should be informed where this will be used traditionally, this is used for low concentration applications like milk mixture.

Agar is another type of hydrocolloid that works like the Carrageenan and can be used for gelling purposes. This is another popular ingredient for chefs and restaurants and can be seen in many Asian groceries.

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