

Confusing Ingredients in the Gluten-Free Diet

KEY POINTS

There are some ingredients that you may come across on a food label that need more explanation.

<p><i>Artificial Flavorings</i></p>	<p>What are they? Artificial flavorings are blended from chemical compounds.</p>	<p>Are they Gluten-Free? Yes.</p>	
<p><i>Blue Cheese</i>^{1, 2, 3, 4}</p>	<p>What is It? The mold in blue cheese may be grown on a variety of materials including wheat, barley, and rye. Only purified mold spores of <i>Penicillium roquefortii</i> are used in the cheese culture.</p>	<p>Is it Gluten Free? It depends. Past testing of blue cheese containing mold spores grown on gluten-containing materials has been done by the Canadian Celiac Association. Results were < 5 ppm gluten. However, more recent testing shows that it is possible that barley enzymes may sometimes contain enough barley protein to be a problem for individuals with celiac disease.</p>	<p>Take Note. Choose blue cheese labeled gluten-free. As an extra precaution, until more is known, it may be best to avoid products containing or using barley enzymes unless the final product is tested for residual gluten using a competitive ELISA (a test for gluten contamination).⁴ Contact the manufacturer directly to ask these questions. For more information, read “Gluten-free labeling: are growth media containing wheat, barley, and rye falling through the cracks” (See article below in References)</p>
<p><i>Caramel/Caramel Coloring</i>¹</p>	<p>What is it? Caramel is a coloring agent that may be made from a variety of sources including malt syrup and starch hydrolysates, such as wheat starch hydrolysates. However, caramel is most often made from</p>	<p>Is it Gluten-Free? Regardless of the starting material, caramel is considered gluten-free. Even if made from wheat or barley it is highly unlikely that it would cause an otherwise gluten-free food to contain 20 ppm or more gluten.</p>	<p>Take Note: Don’t confuse the ingredient caramel/caramel coloring which is used as a food coloring with caramel candy which may contain gluten.</p>

	cornstarch.		
<i>Color Additives</i>	What are they? These generally are derived from chemicals and dyes and are free from food allergens and gluten.	Are they Gluten-Free? Yes.	
<i>Distilled alcohol</i> ⁷	What Is It? Distilled alcohol is an alcoholic liquor made from distillation of wine or other fermented fruit or plant juice, or from a starchy material (such as various grains) that has first been brewed.	Is It Gluten-Free? Regardless of whether distilled alcohol is made from wheat, barley, or rye it is considered gluten-free. For detailed information, please see the section on alcohol.	Take Note: For more information on Alcohol, visit https://www.bidmc.org/centers-and-departments/digestive-disease-center/services-and-programs/celiac-center and scroll down to Alcohol and the Gluten-Free Diet under Patient Education Materials.
<i>Glucose syrup</i> ¹	What Is It? Glucose syrup is a starch hydrolysate that is sometimes made from wheat starch or barley starch. For products sold in the US, this ingredient is most likely made from cornstarch.	Is It Gluten-Free? Regardless of the starting material, glucose syrup is considered gluten-free. Even if wheat or barley is listed as the source, it is highly unlikely that it would cause an otherwise gluten-free food to contain 20 ppm or more gluten.	Take Note: Dextrose is simply another word for glucose. It is considered gluten-free regardless of the starting material.
<i>Malt</i>	What Is It? This is a flavoring ingredient that is usually made from barley. It may be listed as malt, malt flavoring, malt extract, or malt syrup.	Is It Gluten-Free? Any product containing malt is not gluten-free, and must be avoided.	Take Note: There have been a few instances where products labeled gluten-free contain malt. These products are incorrectly labeled as gluten-free and should be avoided.

<i>Maltodextrin^{1,8}</i>	<p>What Is It? Maltodextrin is a starch hydrolysate that may be made from wheat starch but is usually made from cornstarch, especially in the US.</p>	<p>Is It Gluten-Free? Regardless of the starting material, maltodextrin is considered gluten-free. Even if wheat or barley is listed as the source, it is highly unlikely that it would cause an otherwise gluten-free food to contain 20 ppm or more gluten.</p>	
<i>Modified Food Starch¹</i>	<p>What Is It? Most often this ingredient is made from corn. If it is derived from wheat starch, modified food starch may not be gluten-free.</p>	<p>Is It Gluten-Free? On FDA-regulated products sold in the U.S. if modified food starch is derived from wheat, it will be clearly listed either in the ingredients list or in a “Contains” statement (or both). If wheat is not listed in either place, modified food starch can be considered gluten-free.</p> <p>In USDA-regulated products containing wheat-based modified food starch, wheat may not be stated on the label. If modified food starch is listed, and the product does NOT have a gluten-free label, it may be best to contact the manufacturer to ask about the source of their starch.</p>	<p>Take Note: Food containing wheat-based modified food starch may be labeled gluten-free as long as the final product contains <20ppm. There should be a statement on the package that reads “The wheat has been processed to allow this food to meet the Food and Drug Administration (FDA) requirements for gluten-free foods.”</p>
<i>Monoglycerides and Diglycerides</i>	<p>What are they? These are fats used as chemical binding agents.</p>	<p>Are they Gluten-Free? Monoglycerides and diglycerides do not contain gluten, though occasionally wheat may be used as a “carrier.” If so, wheat will be listed in the ingredients list or the “Contains” statement (or both) on an FDA-regulated package.</p>	

<p><i>Monosodium Glutamate (MSG)</i> ⁹⁻¹²</p>	<p>What Is It? MSG is a flavor enhancing food additive. It is the salt of the amino acid glutamic acid.</p>	<p>Is It Gluten-Free? Various starches and sugars may be used as starting materials but wheat starch does not appear to be one of them. Even if it was, it is highly unlikely that the salt of glutamic acid would contain traces of gluten.</p>	<p>Take Note: While the FDA has classified MSG as a food ingredient that is "generally recognized as safe," it is a controversial ingredient. Anecdotal reports of symptoms from sensitivity to MSG include headache, flushing, sweating, nausea, and weakness, etc. However, these reactions do not have anything to do with gluten.</p>
<p><i>Natural flavors</i> ^{1,13}</p>	<p>What are they? Natural flavors are products from any one of numerous sources of plant material or animals whose primary function is to flavor food.</p>	<p>Are they Gluten-Free? Most likely. Unless wheat, barley, rye, or malt are included in the ingredients list or "Contains" statement (or both) of a product containing natural flavor, the natural flavor is most likely free of gluten.</p>	
<p><i>Rice syrup</i> ^{1, 3,4,14}</p>	<p>What Is It? Rice syrup or brown rice syrup is a liquid sweetener made from rice. Enzymes are added to the rice to break down the starch into sugar. These enzymes are sometimes derived from barley.</p>	<p>Is It Gluten-Free? Unclear. Past testing done on barley enzymes and products made using barley enzymes found them to contain < 5ppm gluten. However, more recent testing shows that it is possible that barley enzymes may sometimes contain enough barley protein to be a problem for individuals with celiac disease. Until more is known, it may be best to avoid products containing or using barley enzymes unless the final product is tested for residual gluten using a competitive ELISA (a test for gluten contamination). Contact the manufacturer directly to ask these questions.</p>	<p>Take Note: For more information, read Gluten-free labeling: are growth media containing wheat, barley, and rye falling through the cracks (See the article below in References).</p>

<p><i>Seasonings</i>^{1,15,16}</p>	<p>What are they? In general, seasonings are blends of flavoring agents (e.g. spices, herbs, hydrolyzed wheat protein, smoke flavoring) and sometimes an anti-caking agent such as (calcium silicate). These are often combined with a carrier agent (e.g. salt, sugar, lactose, whey powder, starch or flour). Wheat starch, wheat flour and malted barley flour are common carrier agents in seasoning blends.¹⁶ Any spices, flavoring, or colorings included in the seasoning may be listed collectively but all other ingredients (including the carrier agent) must be named in a sub-ingredient list.</p>	<p>Is It Gluten-Free? It depends. If the word “seasonings” in an ingredient list does not include a sub-ingredient list, it is best to avoid the product because it is likely incorrectly labeled. If the words wheat, barley, rye, or malt are not in the sub-ingredient list, the seasoning probably does not contain gluten.</p>	
<p><i>Smoke Flavoring</i>¹</p>	<p>What Is It? Smoke flavoring is flavoring derived from burning various types of woods.</p>	<p>Is It Gluten-Free? It depends. “When used as an ingredient in a food product, dry smoke flavoring may sometimes use barley malt flour to capture the smoke. It is not known at this time how often this occurs or how much gluten smoke flavoring may contain.”¹ This is not a concern if the product is labeled gluten-free.</p>	<p>Take Note: Contact the manufacturer if you have concerns about this ingredient.</p>

<p><i>Sorbitol and other sugar alcohols (e.g., xylitol, mannitol, maltitol, etc.)</i>¹</p>	<p>What are they? Sugar alcohols rarely may be derived from glucose syrup that is derived from wheat starch or barley starch.</p>	<p>Are they gluten-free? Sugar alcohols are considered gluten-free regardless of the starting materials so sorbitol and other sugar alcohols are considered gluten-free, too.</p>	<p>Take Note: Physical symptoms, such as gas, bloating, cramping and loose stool, can occur from the ingestion of large amounts of sugar alcohols. However, these reactions do not have anything to do with gluten.</p>
<p><i>The single word “spice” or “spices”</i>^{1, 17}</p>	<p>What Is It? Spices are aromatic vegetable substances whose significant role is as a seasoning in food.</p>	<p>Is It Gluten-Free? Usually, yes. “Spice” or “spices” are naturally gluten-free. Spices such as basil, oregano, and thyme may be listed collectively in an ingredients list as spice or spices; the ingredient list does not need to name each spice. If any non-spice ingredients, such as starch, are included in a spice mixture, they must be included in the ingredients list by their common or usual name. If the words wheat, barley, rye, or malt are not in the sub-ingredient list, the spice mix probably does not contain gluten.</p>	<p>Take Note: Some spices have been found to be contaminated with wheat, barley, or rye. Read Gluten Free Watchdog’s report on gluten contamination of spices (See link to the article below in References).</p>
<p><i>The single word “starch”</i>^{12, 18}</p>	<p>What Is It? The single word “starch” in the ingredients list of FDA-regulated food product means cornstarch.</p>	<p>Is It Gluten-Free? If an FDA-regulated product contains starch made from wheat, it will be listed as “wheat starch.” The manufacturer is allowed to label the product gluten-free if the final product contains < 20ppm gluten.</p>	<p>Take Note: In USDA-regulated foods, the single word “starch” may mean cornstarch or wheat starch. If starch is listed, and the product does not have a gluten-free label, it may be best to contact the manufacturer to ask about the source of their starch.</p>

<p><i>The single word “vinegar”^{1,19,20}</i></p>	<p>What Is It? The single word “vinegar” in an ingredients list means “vinegar made from apples.”</p>	<p>Is It Gluten-Free? The following kinds of vinegars are gluten-free: vinegar, cider vinegar, apple cider vinegar, wine vinegar, grape vinegar, distilled vinegar, white vinegar and balsamic vinegar.</p>	<p>Take Note: Malt vinegar is NOT gluten-free because it contains barley. Flavored vinegar also may contain malt as an ingredient.</p>
<p><i>Wheat Starch</i> <i>21, 22, 23</i></p>	<p>What Is It? Wheat starch is a finely processed powder derived from the endosperm (starchy portion) of the wheat plant.</p>	<p>Is it Gluten-Free? It depends. Food containing wheat starch that is NOT labeled gluten-free should not be eaten because it can contain high levels of gluten.</p> <p>A food labeled gluten-free may contain wheat starch if the food contains <20 ppm of gluten. However, it is difficult to separate starch from protein in a grain of wheat and current testing is not perfect. If a person with celiac disease chooses to eat wheat starch, Gluten-Free Watchdog recommends only choosing a product:</p> <ul style="list-style-type: none"> • IF it is labeled “gluten-free.” • IF the manufacturer and/or supplier test wheat starch for gluten using both the sandwich and competitive R5 ELISAs. 	<p>Take Note: For more information on wheat starch, visit https://www.bidmc.org/centers-and-departments/digestive-disease-center/services-and-programs/celiac-center and scroll down to Wheat Starch and the Gluten-Free Diet under Patient Education Materials.</p> <p>The FDA has mandated that if a food labeled gluten-free includes the word wheat in the ingredients list or “Contains” statement as required by FALCPA then the food label must include the statement, <i>“The wheat has been processed to allow this food to meet the Food and Drug Administration requirements for gluten-free foods.”</i></p>

<i>Whey</i>	What Is It? Whey is a protein found in milk.	Is It Gluten-Free? Yes.	
<i>Yeast Extract/ Autolyzed Yeast Extract</i> ^{1,24-26}	What Is It? Yeast extract and autolyzed yeast extract are ingredients that may be made from spent brewer's yeast which is used in food as a flavoring agent. They can also be grown on sugar beets which are gluten-free.	Is It Gluten-Free? It depends. Spent brewer's yeast is a by-product of the beer brewing process and, thus, can be contaminated with small amounts of gluten-containing grain and malt. An example of a product containing yeast extract from barley is Marmite, a British food spread. Per Gluten Free Watchdog, Marmite tested at ~30 parts per million which is not considered gluten-free.	Take Note: Per Gluten-Free Watchdog: It is not clear at this time how often spent yeast is the source of yeast extract in products sold in the US. Until we know more, it is best to avoid products NOT labeled gluten-free containing the ingredient "yeast extract" [or autolyzed yeast extract] unless the source is confirmed to be gluten-free by the manufacturer.

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Revised by Melinda Dennis, MS, RDN

Editors: Amy Keller, MS, RDN, LD and Daniel Leffler, MD, MS

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Author: Tricia Thompson, MS, RD

Editors: Melinda Dennis, MS, RD, LDN and Daniel Leffler, MD, MS

