Ingredients and Inflammation:
understanding the silent contributors
to gut dysfunction
and digestive impairment
• About Mira
• Food and Labeling
• Inflammatory Ingredients
• Resources
The Ingredient Guru

Ready to make healthy changes but not sure WHERE TO START?
Consult with The Ingredient Guru

The Pantry Principle
How to read the label and understand what’s really in your food.

By Nita Orecchio, MD
Nutritionist, LD, NYC, NY
“Tell me what you eat, and I will tell you what you are.”

~Jean Anthelme Brillat-Savarin
Do your clients really understand their food?

Most believe all calories are equal

Many have no concept of how nutrition affects their health

Even fewer read labels, shop consciously, or think about food choices
There are too many people counting calories and not enough people counting chemicals
It's not just what we eat
It's what's IN what we eat
Developed societies, although having successfully reduced the burden of infectious disease, constitute an environment where metabolic, cardiovascular, and autoimmune diseases thrive. Living in westernized countries has not fundamentally changed the genetic basis on which these diseases emerge, but has strong impact on lifestyle and pathogen exposure. In particular, nutritional patterns collectively termed the “Western diet”, including high-fat and cholesterol, high-protein, high-sugar, and excess salt intake, as well as frequent consumption of processed and ‘fast foods’, promote obesity, metabolic syndrome, and cardiovascular disease. These factors have also gained high interest as possible promoters of autoimmune diseases. Underlying metabolic and immunologic mechanisms are currently being intensively explored. This review discusses the current knowledge relative to the association of “Western diet” with autoimmunity, and highlights the role of T cells as central players linking dietary influences to autoimmune pathology.

A. Manzel, et al. Role of “Western Diet” in Inflammatory Autoimmune Diseases
*Current Allergy and Asthma Reports.* January 2014
Microbiome

• Impacted by birth circumstances
• Affected by dietary choices
• Limited number of studies looking at the effects of food additives
Microbiome

• Impacted by birth circumstances
• Affected by dietary choices
• Limited number of studies looking at the effects of food additives

• 1.6 million Americans currently have IBD
• 70,000 new cases of IBD are diagnosed in the United States each year
• 80,000 children in the United States with IBD
Generally Recognized As Safe
“The GRAS notification program provides a voluntary mechanism whereby a person may inform FDA of a determination that the use of a substance is GRAS, rather than petition FDA to affirm that the use of a substance is GRAS.”

“For a substance to be GRAS, the scientific data and information about the use of a substance must be widely known and there must be a consensus among qualified experts that those data and information establish that the substance is safe under the conditions of its intended use.”

www.fda.gov - How U.S. FDA's GRAS Notification Program Works
December 2005/January 2006
How much is safe?

Who determines safety levels?
How much is safe?

Who determines safety levels?

**63 notifications in 2015**

46 FDA had no questions
10 At notifier's request FDA ceased to evaluate the notice
7 no questions but a note that
  “some uses may require a color additive listing”
Trans Fats
• Trans fats are a known cause of systemic inflammation
• May hinder production of dopamine and serotonin
• Usually listed as hydrogenated or partially hydrogenated ingredients
  • Mono- and diglycerides are also a form of trans fat
• In 2014 trans fats were removed from GRAS listing
# Nutrition Facts

### Serving Size 1 oz. (28g/About 15 Chips)

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>Calories 75</th>
<th>Calories from Fat 0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Fat</strong></td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Cholesterol</strong></td>
<td>0mg</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Sodium</strong></td>
<td>200mg</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Total Carbohydrate</strong></td>
<td>17g</td>
<td>6%</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>1g</td>
<td>4%</td>
</tr>
<tr>
<td>Sugars</td>
<td>0g</td>
<td></td>
</tr>
<tr>
<td><strong>Protein</strong></td>
<td>2g</td>
<td></td>
</tr>
</tbody>
</table>

### Vitamins
- *Vitamin A* 0%
- *Vitamin C* 10%
- *Calcium* 0%
- *Iron* 2%
- *Thiamin* 2%
- *Niacin* 4%
- *Vitamin B6* 4%
- *Phosphorus* 2%
- *Zinc* 2%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

### Daily Values

<table>
<thead>
<tr>
<th>Calories: 2,000</th>
<th>Calories: 2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>Less than 65g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>Less than 20g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than 300mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than 2,400mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>300g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>25g</td>
</tr>
</tbody>
</table>

Calories per gram:
- *Fat*: 9
- *Carbohydrate*: 4
- *Protein*: 4

Image: TheIngredientGuru
**Nutrition Facts**

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories 75</td>
<td>Calories from Fat 0</td>
</tr>
<tr>
<td>Total Fat 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Saturated Fat 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Trans Fat 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Cholesterol 0mg</td>
<td>0%</td>
</tr>
<tr>
<td>Sodium 200mg</td>
<td>8%</td>
</tr>
<tr>
<td>Total Carbohydrate 17g</td>
<td>6%</td>
</tr>
<tr>
<td>Dietary Fiber 1g</td>
<td>4%</td>
</tr>
<tr>
<td>Sugars 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Protein 2g</td>
<td>0%</td>
</tr>
</tbody>
</table>

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

<table>
<thead>
<tr>
<th>Calories</th>
<th>Total Fat</th>
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<th>Cholesterol</th>
<th>Sodium</th>
<th>Total Carbohydrate</th>
<th>Dietary Fiber</th>
<th>Sugars</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000</td>
<td>8g</td>
<td>2g</td>
<td>0g</td>
<td>0mg</td>
<td>2,000mg</td>
<td>30g</td>
<td>25g</td>
<td>0g</td>
<td>0g</td>
</tr>
<tr>
<td>2,500</td>
<td>10g</td>
<td>3g</td>
<td>0g</td>
<td>0mg</td>
<td>2,500mg</td>
<td>37g</td>
<td>30g</td>
<td>0g</td>
<td>0g</td>
</tr>
</tbody>
</table>

**Ingredients:** Potatoes, Olestra, Salt, alpha-Tocopheryl Acetate (Vitamin E)*, Vitamin A Palmitate*, Tocopherols (to protect flavor), Vitamin K*, and Vitamin D*.

*Dietarily insignificant.
Olestra is a type of fat substitute that appears on food labels as an ingredient.
GRN No. 583 - Esterified propoxylated glycerol

- Non-absorbable fat substitute
- Originally developed in the 1990’s
- Will be hydrogenated “if necessary”
GRN No. 583 - Esterified propoxylated glycerol

- Non-absorbable fat substitute
- Originally developed in the 1990’s
- Will be hydrogenated “if necessary”

Nov 12, 2015  FDA has no questions
“Occasional separation of the test material from stool bulk has been observed at the highest levels of EPG exposure (up to 150 g/day), but the incidence of loose stool and other gastrointestinal symptoms declines with decreasing dietary concentrations. For example, human volunteers receiving 25 or 40 g/day of a lower-melting (99.3 °F) semi-solid variant of the core EPG version in food items (spread and baked goods) for eight weeks, reported gastrointestinal adverse events (gas, soft stool, oily spotting, etc.) more frequently than subjects receiving margarine alone. However, at 10 g/day, the only statistically significant difference from the control (margarine) group was oily spotting”

“If the safety of EPGs is generally recognized by qualified experts, it would exempt EPGs from the definition of a food additive, and therefore from premarket approval requirements”
GRN No. 640

Substance:  Esterified propoxylated glycerol

Intended Use:  For use as a fat replacer at levels up to 38 percent by weight in baked goods and baking mixes, frozen dairy desserts and mixes, grain products and pasta, gravies and sauces, nuts and nut products, and soft candy.

Basis:  Scientific procedures

Notifier:  Choco Finesse, LLC
12403 W. 101 Terrace, Lenexa, KS 66215
5019 N. Meridian Street, Indianapolis, IN 46208

Date of filing:  Apr 8, 2016

GRAS Notice (releasable information):  640 (in PDF) (23.6 MB)

Date of closure / FDA's Letter:  Pending
GRN No. 640
Substance: Esterified propoxylated glycerol
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12403 W. 101 Terrace, Lenexa, KS 662155019 N. Meridian Street, Indianapolis, IN 46208
Date of filing: Apr 8, 2016
GRAS Notice (releasable information): 640
Date of closure / FDA's Letter: Sep 21, 2016
FDA has no questions
Sweeteners
Artificial sweeteners induce glucose intolerance by altering the gut microbiota

Non-caloric artificial sweeteners (NAS) are among the most widely used food additives worldwide, regularly consumed by lean and obese individuals alike. NAS consumption is considered safe and beneficial owing to their low caloric content, yet supporting scientific data remain sparse and controversial. Here we demonstrate that consumption of commonly used NAS formulations drives the development of glucose intolerance through induction of compositional and functional alterations to the intestinal microbiota. These NAS-mediated deleterious metabolic effects are abrogated by antibiotic treatment, and are fully transferrable to germ-free mice upon faecal transplantation of microbiota configurations from NAS-consuming mice, or of microbiota anaerobically incubated in the presence of NAS. We identify NAS-altered microbial metabolic pathways that are linked to host susceptibility to metabolic disease, and demonstrate similar NAS-induced dysbiosis and glucose intolerance in healthy human subjects. Collectively, our results link NAS consumption, dysbiosis and metabolic abnormalities, thereby calling for a reassessment of massive NAS usage.

Disruption in the gut microbiota is now recognized as an active contributor towards the development of obesity and insulin resistance. This review considers one class of dietary additives known to influence the gut microbiota that may predispose susceptible individuals to insulin resistance - the regular, long-term consumption of low-dose, low calorie sweeteners. While the data are controversial, mounting evidence suggests that low calorie sweeteners should not be dismissed as inert in the gut environment. Sucralose, aspartame and saccharin, all widely used to reduce energy content in foods and beverages to promote satiety and encourage weight loss, have been shown to disrupt the balance and diversity of gut microbiota. Fecal transplant experiments, wherein microbiota from low calorie sweetener consuming hosts are transferred into germ-free mice, show that this disruption is transferable and results in impaired glucose tolerance, a well-known risk factor towards the development of a number of metabolic disease states. As our understanding of the importance of the gut microbiota in metabolic health continues to grow, it will be increasingly important to consider the impact of all dietary components, including low calorie sweeteners, on gut microbiota and metabolic health.
Sugar Alcohols

- chemically altered carbohydrates
- fewer calories than sugar
- low glycemic impact
- may cause gastric symptoms such as gas, bloating, distention, or have a laxative effect

arabitol
erythritol
ethyl maltol
glycerol
isomalt
lacitol
malitol
mannitol
sorbitol
xylitol
Fructose induces the inflammatory molecule ICAM-1 in endothelial cells

Epidemiologic studies have linked fructose intake with the metabolic syndrome, and it was recently reported that fructose induces an inflammatory response in the rat kidney. Here, we examined whether fructose directly stimulates endothelial inflammatory processes by upregulating the inflammatory molecule intercellular adhesion molecule-1 (ICAM-1). When human aortic endothelial cells were stimulated with physiologic concentrations of fructose, ICAM-1 mRNA and protein expression increased in a time- and dosage-dependent manner, which was independent of NF-kappaB activation. Fructose reduced endothelial nitric oxide (NO) levels and caused a transient reduction in endothelial NO synthase expression. Furthermore, fructose resulted in decreased intracellular ATP... Consistent with the in vitro studies, dietary intake of fructose at physiologic dosages increased both serum ICAM-1 concentration and endothelial ICAM-1 expression in the rat kidney. These data suggest that fructose induces inflammatory changes in vascular cells at physiologic concentrations.

Gums and Starches
• Used as a thickening agent
• Frequently used to replace gluten
• Many food gums are high in fiber
• May cause bloating, gas, or diarrhea
  • extreme cases may include bowel obstruction
• Found in a wide variety of foods
  • May also be used in some medications
Acacia Gum – sourced from the sap of the acacia tree, sometimes referred to as Arabic Gum
Gellan Gum – sourced from fermented corn or soy
Fenugreek Gum – sourced from the seeds of the fenugreek plant (which is a legume)
Guar gum - sourced from a bean plant
Karaya Gum – sourced from the sap of a tree found in India
Konjac Gum (aka Glucomannan) – sourced from a yam-like tuber (Amorphophallus). Commonly used for shirataki noodles, a low carb “diet” food
Locust Bean Gum – sourced from carob beans, sometimes referred to as Carob Bean Gum
Xanthan gum - sourced from fermented corn or soy
Tara Gum

• Sourced from seeds of the Tara tree
• Created via bacterial fermentation
• Breyers uses it as a fat replacer
• No tests have been done on human consumption and safety
“When consumers expressed concern over the texture of our products, we responded. By adding a natural gum to Breyers All Natural Vanilla ice cream, we’ve helped to protect the product’s texture while staying true to our all-natural commitment. We use tara gum from natural plant sources to help Breyers ice cream stay creamier and more enjoyable for longer periods of time.

Because ice cream is temperature-sensitive, this addition has further allowed us to ensure the ice cream’s quality throughout its distribution. As you can imagine, ice cream’s taste and texture can be unfavorably affected if exposed to temperature fluctuations during shipping or storage. Our customers describe the problem as ice cream with a “gritty” or “grainy” texture. In fact, growing distribution and increased handling of our ice cream in the marketplace has indeed resulted in greater chances for temperature abuse and heightened potential for texture problems.”
Carrageenan

- Found in dairy products, alternative dairy, coconut waters, frozen confections, lunchmeat, baby formula, gel caps, juices, candy bars
- Pulls a lot of water into the intestine (similar to laxatives)
- Not drinking enough fluid with this product can lead to bowel and/or esophageal obstruction
- Linked to gastrointestinal inflammation
- Studies show links to higher rates of colon cancer (in lab animals)
- May be listed as “sea vegetable extract”
- November 2016 National Organic Standards Board (NOSB) finally removed from National List for use in organic products
365 (Whole Foods)  
Activia  
Aidells  
Almond Breeze  
Amy’s  
Applegate  
Archer Farms (Target)  
Avalon Dairy  
Ben and Jerry’s  
Big Y Foods  
Blue Bell  
Blue Bonnet  
Blue Bunny  
Bolthouse  
Borden  
Breyer’s  
Brown Cow  
Butterball  
Byrne Dairy  
Cabot  
Carnation  
Cedarlane  
Central Market (HEB)  
Coconut Dream  
Cold Stone Creamery  
Columbus Naturals  
Dairy Gold  
Daiya  
Dannon  
Dean’s  
Dr. Ohhira  
Earth’s Own  
EAS  
Edy’s  
Enjoy Life  
Fit & Active (Aldi)  
Follow Your Heart  
Friendly Farms (Aldi)  
Friendly’s  
Gardenburger  
Garellick Farms  
General Mills  
Great Value (Walmart)  
Happy Farms (Aldi)  
Harris Teeter  
Herbalife  
Hood  
Horizon, Sprouts  
Hormel  
International Delight  
Kirkland (Costco)  
Knudsen’s  
Kraft  
Lactaid  
Land O’Lakes  
Lucerne  
Marzetti’s  
Meijer  
Muscle Milk  
Nature’s Place (Hannaford)  
Nature’s Promise (Giant)  
Nestle  
Nordic Naturals  
O Organics (Safeway)  
Odwalla  
Organic Meadow  
Oscar Meyer  
Ovaltine  
Pacific Foods  
Pediasure  
Promised Land  
Publix  
Reddi-Whip  
Rice Dream  
Schwan’s  
ShopRite  
Silk  
Simple Truth Organic (Kroger)  
So Delicious  
So Nice  
Solgar  
Soy Dream  
Starbucks  
Stonyfield  
Stouffer’s  
Tofutti  
Trader Joe’s  
Turkey Hill  
Udo’s  
Vitasoy  
Wegman’s  
Yoplait  
Young Living  
Yves Veggie Cuisine  
Zico
Modified Food Starch

- Primarily sourced from corn
- Can also be sourced from wheat, potato, or tapioca
- Calorically dense ingredient
- Gluten contamination highly probable
- Functions as a stabilizer, thickening agent, and/or an emulsifier
- Usually treated with sulfuric acid or chlorine
- Frequently composed of approximately 10% maltodextrin
Other Ingredients
The intestinal tract is inhabited by a large and diverse community of microbes collectively referred to as the gut microbiota. While the gut microbiota provides important benefits to its host, especially in metabolism and immune development, disturbance of the microbiota–host relationship is associated with numerous chronic inflammatory diseases, including inflammatory bowel disease and the group of obesity-associated diseases collectively referred to as metabolic syndrome. A primary means by which the intestine is protected from its microbiota is via multi-layered mucus structures that cover the intestinal surface, thereby allowing the vast majority of gut bacteria to be kept at a safe distance from epithelial cells that line the intestine. Thus, agents that disrupt mucus–bacterial interactions might have the potential to promote diseases associated with gut inflammation. Consequently, it has been hypothesized that emulsifiers, detergent-like molecules that are a ubiquitous component of processed foods and that can increase bacterial translocation across epithelia in vitro, might be promoting the increase in inflammatory bowel disease observed since the mid-twentieth century. Here we report that, in mice, relatively low concentrations of two commonly used emulsifiers, namely carboxymethylcellulose and polysorbate-80, induced low-grade inflammation and obesity/metabolic syndrome in wild-type hosts and promoted robust colitis in mice predisposed to this disorder. Emulsifier-induced metabolic syndrome was associated with microbiota encroachment, altered species composition and increased pro-inflammatory potential. Use of germ-free mice and faecal transplants indicated that such changes in microbiota were necessary and sufficient for both low-grade inflammation and metabolic syndrome. These results support the emerging concept that perturbed host–microbiota interactions resulting in low-grade inflammation can promote adiposity and its associated metabolic effects. Moreover, they suggest that the broad use of emulsifying agents might be contributing to an increased societal incidence of obesity/metabolic syndrome and other chronic inflammatory diseases.
Monosodium glutamate (MSG): a villain and promoter of liver inflammation and dysplasia.

Chronic inflammation is a common theme in a variety of disease pathways, including autoimmune diseases. The pathways of chronic inflammation are well illustrated by nonalcoholic steatohepatitis (NASH), which is of a serious concern due to its increasing prevalence in the westernized world and its direct correlation with lifestyle factors, particularly diet. Importantly, NASH may ultimately lead to the development of hepatocellular carcinoma. We previously reported that injection of monosodium glutamate (MSG) in ICR mice leads to the development of significant inflammation, central obesity, and type 2 diabetes. To directly address the long-term consequences of MSG on inflammation, we have performed serial analysis of MSG-injected mice and focused in particular on liver pathology. By 6 and 12 months of age, all MSG-treated mice developed NAFLD and NASH-like histology, respectively. In particular, the murine steatohepatitis at 12 months was virtually indistinguishable from human NASH. Further, dysplastic nodular lesions were detected in some cases within the fibrotic liver parenchyma. We submit that MSG treatment of mice induces obesity and diabetes with steatosis and steatohepatitis resembling human NAFLD and NASH with pre-neoplastic lesions. These results take on considerable significance in light of the widespread usage of dietary MSG and we suggest that MSG should have its safety profile re-examined and be potentially withdrawn from the food chain.

Note that Glutamic acid from unadulterated protein is not linked to health problems. In order to cause negative reactions it must be from processed or manufactured sources. It can also come from fermented proteins.
Potassium Benzoate

Preservative that may cause intestinal pain, gas, bloating or ingestion

It has been reported that some of the food additives may cause sensitization, inflammation of tissues, and potentially risk factors in the development of several chronic diseases. Thus, we hypothesized that expressions of common inflammatory molecules – known to be involved in the development of various inflammatory conditions and cancers – are affected by these food additives. We investigated the effects of commonly used food preservatives and artificial food colorants... This study suggests that some of the food preservatives and colorants can contribute to the activation of inflammatory pathways.
“Levels of insulin-like growth factor-1 (IGF-1) are substantially elevated and more bioactive in the milk of cows hyperstimulated with the biosynthetic bovine growth hormones rBGH, and are further increased by pasteurization. IGF-1 is absorbed from the gastrointestinal tract, as evidenced by marked growth-promoting effects even in short-term tests in mature rats, and absorption is likely to be still higher in infants. Converging lines of evidence incriminate IGF-1 in rBGH milk as a potential risk factor for both breast and gastrointestinal cancers.”

Antibiotics

Responsible for antibiotic resistant disease


Leads to increased difficulty treating food poisoning

Impact of Antimicrobials Use In Chickens on Emergence of Drug Resistant Campylobacter Organisms in Humans. Barbour, etc al. IAJAA, Vol 2, No 4, 2012

Disrupts resident microbiota, increases mucosal carbohydrates leading to expansion of S. typhimurium) and C. difficile

Ingredient Sensitivity
## ADDITIVES/PRESERVATIVES (45 ITEMS)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Preservative</th>
<th>Preservative</th>
<th>Preservative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acesulfame</td>
<td>Gum, Agar</td>
<td>Nitrates/Nitrites</td>
<td>Sodium Benzoate</td>
</tr>
<tr>
<td>Agave Nectar</td>
<td>Gum, Carrageenan</td>
<td>Pinene</td>
<td>Sodium Erythrobate</td>
</tr>
<tr>
<td>Aspartame</td>
<td>Gum, Guar</td>
<td>Polyethylene Glycol</td>
<td>Sodium Propionate</td>
</tr>
<tr>
<td>BHA</td>
<td>Gum, Karaya</td>
<td>Polysorbate 20</td>
<td>Sulfite/Metabisulfite</td>
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<tr>
<td>BHT</td>
<td>Gum, Locust Bean</td>
<td>Polysorbate 60</td>
<td>Sodium Fluoride</td>
</tr>
<tr>
<td>Caffeine</td>
<td>Gum, Tragacanth</td>
<td>Polysorbate 80</td>
<td>Sorbitol</td>
</tr>
<tr>
<td>Calcium Propionate</td>
<td>Gum, Xanthan</td>
<td>Potassium Bromate</td>
<td>Splenda (Sucralose)</td>
</tr>
<tr>
<td>Camphor</td>
<td>Magnesium Stearate</td>
<td>Potassium Sorbate</td>
<td>Stevia</td>
</tr>
<tr>
<td>Diacetyl</td>
<td>Mannitol</td>
<td>Propyl Gallate</td>
<td>Xylitol</td>
</tr>
<tr>
<td>EDTA</td>
<td>Menthol</td>
<td>Propyl Paraben</td>
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</tr>
<tr>
<td>Glycerin, Vegetable</td>
<td>Methyl Paraben</td>
<td>Saccharine</td>
<td></td>
</tr>
<tr>
<td>Gum, Acacia/Arabic</td>
<td>MSG (Monosodium Glutamate)</td>
<td>Sodium Alginate</td>
<td></td>
</tr>
</tbody>
</table>

## F, D & C COLOR ADDITIVES (20 ITEMS)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Color</th>
<th>Color</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annatto</td>
<td>Carmoisine</td>
<td>FD&amp;C Green #3</td>
<td>FD&amp;C Red #3</td>
</tr>
<tr>
<td>FD&amp;C Blue #1</td>
<td>D&amp;C Green #5</td>
<td>D&amp;C Orange #4</td>
<td>FD&amp;C Red #40</td>
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<tr>
<td>FD&amp;C Blue #2</td>
<td>D&amp;C Orange #5</td>
<td>Ponceau 2R</td>
<td>D&amp;C Yellow #10</td>
</tr>
<tr>
<td>Brilliant Black</td>
<td>D&amp;C Red #33</td>
<td>Ponceau 4R</td>
<td>FD&amp;C Yellow #5</td>
</tr>
<tr>
<td>Carmine/Cochineal</td>
<td>D&amp;C Violet #2</td>
<td>FD&amp;C Red #2</td>
<td>FD&amp;C Yellow #6</td>
</tr>
</tbody>
</table>
IF FOOD PRODUCTS WERE HONESTLY LABELED...

image used with permission of Mike Adams and NaturalNews.com
Client Education

- Label reading classes
- In home pantry makeover
- Grocery tours
- Cooking classes
Giveaway

http://theingredientguru.com/specialoffer

Top 10 Client Resources List
  Pantry Provision List
  Edible Packing Report
  Food New You Can Use
Resources

email mira@TheIngredientGuru.com for practitioner discount
Stay Connected

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twitter: http://twitter.com/MiraDessy