

FOREWORD BY William Davis, MD, AUTHOR OF *Wheat Belly*  
INTRODUCTION by Mark Sisson, AUTHOR OF *The Primal Blueprint*

# RICH FOOD POOR FOOD

THE ULTIMATE **GROCERY PURCHASING SYSTEM (GPS)**

Shop Smart, Shop Healthy  
Save Time, Save Money  
Avoid Hype and  
Harmful Ingredients



JAYSON CALTON, PhD AND MIRA CALTON, CN

  
PRIMAL  
BLUEPRINT  
PUBLISHING

## RICH FOOD, POOR FOOD

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**WE DEDICATE THIS BOOK** to the incredible men  
and women who work tirelessly each day, often without  
recognition, to supply us with high-quality Rich Foods,  
and to our readers, who are dedicated to the importance  
of these treasures.





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## Foreword



If you are among the nutritionally inquisitive, enough to pick up this wonderful book written by Mira and Jayson Calton, then you likely already know a few things about proteins, fats, and carbohydrates, the macronutrients in our diet.

But what about *micronutrients*? They may be found in much smaller quantities, thus the “micro-” designation—but don’t let size fool you! Despite being present in milligram or microgram quantities, i.e., *a thousandth or millionth of a gram*, compared with the thousand- or million-fold greater gram quantities of macronutrients, micronutrients are just as necessary to health and life. Micronutrients are a much forgotten component of food, neglected in many discussions of nutrition yet as critical as any macronutrient.

We often talk about cutting or increasing this or that macronutrient, such as cutting carbohydrates or increasing fat. But we virtually never have to talk about cutting our micronutrients, since most of us struggle to even achieve the small but crucial quantities we need! *Rich Food, Poor Food* reminds us that there is an enormously powerful world of micronutrients that exist in parallel to our need for macronutrients. Mind only your macronutrients but neglect your micronutrients, and you may still be disappointed in the weight loss and health effects. Pay attention to the world of micronutrients, and you may be rewarded by the compound benefits of both worlds.

Once you are familiar with the issues raised by the Caltons, you will be talking the language of micronutrients, talking about the healthy and rich sources of selenium, iodine, and phylloquinone in the Rich Foods that you enjoy! The Caltons also discuss the issue closest and dearest to me, the dangers of “healthy whole grains,” discussing how and why wheat—this Poor Food that has come to dominate our modern diets, is in reality the corrupt and destructive product of genetics research that should be eaten by no human.

In *Rich Food, Poor Food*, the Caltons educate, delight, and tantalize readers with their straight-shooting “here are the facts” style. Short of actually showing up at your front door and taking your hand down the aisle of the farmers market or grocery store, the Caltons show you, step by step, inch by inch, and micronutrient by micronutrient, how to best accomplish a healthy diet and lifestyle rich with the health benefits of plentiful micronutrients.

**William Davis, MD**

Author, #1 New York Times Bestseller, *Wheat Belly*



## Acknowledgments



We want to thank Mark Sisson, our publisher, for seeing the true potential of this book and swooping in at the eleventh hour to help guide and direct us to completion. Thank you for bringing your invaluable insight to the table and allowing us the creative license to make this guide come alive. We would also like to thank our first publishers, Francesca and Ellen; without your early vision, *Naked Calories* and *Rich Food, Poor Food* may never have been possible. We can't say enough about how much fun Michele brings to the editing table. She cleans up our words, and in turn, those words have cleaned up her pantry. Apologies to her husband and children, who have watched as the sugar and wheat mysteriously disappeared—you'll thank us one day. To Lisa, you may have come to the game late, but you have hit a home run designing this guide. You added pop to our pronouns and color to our callouts. To our literary agent, Beth, thank you so much for riding this roller coaster with us; the value of your guidance is immeasurable and your blatant honesty refreshing. A special thanks to Bill Davis, MD, for taking the time to write our foreword. We hope our book will add to the incredible work you have already done—helping millions to discover health through the elimination of Poor Foods. To Brad and the entire Primal Team, thank you for viewing with fresh eyes and ideas. To our friends and family, both live and on Facebook, we thank you for your support, suggestions, and words of encouragement. To our ranchers, Kathy and Steve, chef Al Rosas of the Organic Chef Foods, and to everyone at the O'Brien Family Farm, without all of you, our fridge would be bare and our dog would be hungry. Thank you for supplying us with truly Rich Food. And last, but certainly not least, to the many Rich Food manufacturers who got involved with this project—thank you! Together we will continue to change the world.



*“Ever feel like navigating your local supermarket involves a frustrating obstacle course fraught with confusing labels and misleading claims? Rich Food, Poor Food gives you everything you need to know to make smart, nutrient-rich food choices that save you time, money, and your health. Don’t step into another grocery store without it!”*

—JJ Virgin, CNS, CHFI, author of *The Virgin Diet*

*“As a holistic nutritionist, I work with clients every day who are ready to make better food choices, but the grocery store remains a minefield of edible food-like products that leaves them flat-out frustrated. In Rich Food, Poor Food, Mira and Jayson Calton demystify the grocery store aisles by directing you to exactly which products they want you to buy and teach you why those are your best bets. Their GPS (Grocery Purchasing System) is a nearly foolproof way to navigate through any store to find which items will deliver the most nutrient-bang for your buck. If you’re tired of the confusion caused by media hype about the latest ‘health foods,’ grab a copy of this book and hit the stores—you’ll be armed for battle and come out a nutritional winner every time.”*

—Diane Sanfilippo, BS, NC, Certified Nutrition Consultant and author of *Practical Paleo: A Customized Approach to Health and a Whole-Foods Lifestyle*

*“Whenever you go on a trip somewhere unfamiliar in your car, you use a GPS to help guide you. But what about an even more important trip through the grocery store, full of all sorts of strange and odd products blaring a multitude of health claims? Couldn’t you use a GPS to help point you in the right direction for finding the best possible nutrient-dense foods you can possibly find? If you’ve been lost and confused, attempting to circumnavigate around your local grocery store, trying to find the best truly healthy foods for your family to eat, then let this book be an eye-opener about exactly what you are putting in your mouth. Trust me, when you find out how much our food supply has been adulterated, you will be left shocked and stunned. After reading Rich Food, Poor Food, you may never eat anything out of a box ever again!”*

—Jimmy Moore, Livin’ La Vida Low-Carb Blog and Podcast

*“Rich Food, Poor Food will take your awareness for healthy food choices to the next level as Jayson and Mira expose the many hidden ingredients in the foods of today. You’ll feel as though Jayson and Mira are right there with you as they guide you through the grocery store maze. You will learn how to avoid the snares of misleading health claims and toxic ingredients in our foods, and will emerge from reading this book feeling more confident about how to make better food choices. Whether you are a long-time healthy eater or new to thinking critically about optimal nutritional, there is much to gain in reading Rich Food, Poor Food.”*

—Hayley Mason and Bill Staley, bestselling authors of *Make it Paleo*

*“Finally, a book that tells you what you really need to know to make healthy food choices in the real world. An outstanding addition to any library.”*

—Jonny Bowden, PhD, CNS, aka “the Rogue Nutritionist,” author of *The 150 Healthiest Foods* and *The Great Cholesterol Myth*

*“Why has a simple trip to the supermarket become so dangerous? Because the foods you habitually put into your cart now contain more and more questionable ingredients. It’s time we all start reading labels properly! Rich Food, Poor Food is the ultimate shopping guide we have all been looking for. You will become informed in this wonderful and practical resource.”*

—Laurentine ten Bosch, Director and Producer, *Food Matters* and *Hungry For Change*

## Introduction



**O**nce in a blue moon, a book comes along that has the power to start a movement. *Rich Food, Poor Food* is just such a book. You may think that the foods you are buying each week at the grocery store are the “healthiest” options, but what do you really know about BHT, modified cornstarch, partially hydrogenated soybean oil, mono and diglycerides, hydrolyzed corn gluten, autolyzed yeast extract, dextrose, rBGH, or azodicarbonamide—not to mention, GMOs, BPA, BVO, or any of the 150 potentially dangerous and unhealthy Poor Food ingredients the Caltongs expose in this must-have grocery store guide? While this stuff clearly sounds unappetizing and unhealthy, the sad truth is that these items are ubiquitous in our friendly neighborhood grocery stores.

Even well-meaning consumers looking to eat as healthy as possible and avoid these crazy chemical additives often fall prey to misleading advertising and marketing gimmicks. In fact, much of what is presented at the grocery stores, convenience stores, and fast-food joints of the Western world is so far removed from its original state that it can scarcely be called food. “Edible food-like substances” is how author Michael Pollan describes the familiar offerings from our favorite food giants.

If you’re reading this book, you are likely quite far ahead of the pack when it comes to knowledge and interest about healthy eating. You’re likely familiar with the popular adages to avoid foods with stuff you can’t pronounce on the label or to shop the perimeter aisles of the grocery store, where the fresh foods are typically located. You may have even embraced the Primal/Paleo/evolutionary health movement and optimized your diet to be free of naked calories and centered upon the micronutrient-rich plant and animal foods that our ancestors evolved on.

One thing’s for sure: whoever you are and whatever your current level of knowledge and commitment is, there is always room for improvement. While I’ve spent years writing and researching about health and nutrition, I have learned a great deal from my association with the Caltongs and their focus on maximizing micronutrient values (vitamins, minerals, antioxidants, essential amino and fatty acids) and avoiding potentially harmful ingredients. And while there are great many books, websites, and diet gurus out there today dispensing sound (and unsound!) nutritional advice, *Rich Food, Poor Food* is one of the best books I have ever read, taking the idea of food quality to a completely new level and offering quick and easy recipes, money-saving tips, and even exclusive Rich Food coupons just for you. It is a simple, straightforward, logical approach to smart grocery shopping that has the ability to change your life, and forever change the way you shop for food.

Whether you're deep into healthful eating or just grabbed this book to pick up a few shopping tips to help your family, you'll find the material easy to understand, fun to learn, and extremely valuable to your health and well-being. You will no longer be a victim of manipulative marketing messages that entice you to consume something presented as "healthy," "lean," "natural," or the like in the name of health. Each time you visit the grocery store, you'll feel confident and empowered that you are taking control of your health. Instead of succumbing to the blizzard of signs, specials, coupons, and campaigns, you'll feel like the guy or gal with an authentic treasure map, effortlessly navigating the crowded aisles, knowing exactly what you are looking for. You'll expand your shopping scope beyond trudging to the closest supermarket chain, and instead learn how to tap into the ultimate potential of your community to deliver the healthiest and most enjoyable snacks and meals to your home!

By the time you are finished with *Rich Food, Poor Food*, you will have all the knowledge you need to make smart and safe decisions concerning the food you are purchasing for your family. And for all you Primal, Paleo, and wheat-sensitive eaters out there—each and every recommended Rich Food is wheat free. *Rich Food, Poor Food* is the *Eat This, Not That* for health-conscious individuals. Buy it, read it, and join the Rich Food Revolution!

In Good Health,

**Mark Sisson**

Malibu, CA

January 2013

# PART ONE

**Know Before You Go**



## Chapter One

### Your Rich Food Road Trip

Imagine your next visit to the grocery store as an adventurous road trip, on which instead of visiting museums or the largest ball of twine, or navigating highways and back roads, your shopping expedition takes place up and down numerous aisles filled with thousands of products. The mission: to find the freshest, healthiest choices for the foods on your shopping list.

You will pass tempting billboards willing you to go off course in the form of advertisements, sale signs, misleading packaging, and in-aisle displays. The images and slogans on the boxes, bags, and brightly colored bottles pop off the shelves in an attempt to entice you to impulsively add them to your grocery cart. The cartoon characters, strategically placed in a child's line of sight, lower on the shelves, call to the unsuspecting children. Claims of heart health, high omega-3s, low calories, low sodium, diet, and all-natural bait you and cause confusion when trying to determine the most nutritious foods.



Now imagine this same trip to the grocery store using the *Rich Food, Poor Food GPS* (Grocery Purchasing System). We have programmed this GPS to successfully navigate you through the nutritional chaos, guiding you directly to the healthiest, most micronutrient Rich Foods and re-routing you when you run into dangerous, unhealthy Poor Food choices (sometimes taking you somewhere other than your usual grocery store to find Rich Food choices). By using your *Rich Food, Poor Food GPS*, you will no longer be overwhelmed in the grocery store when trying to choose the healthiest options in each aisle or wonder what makes one brand better for you than another. As your GPS guides you through the nearly forty thousand items populating the average supermarket today, it will give you important nutritional information and interesting food facts and teach you how to decipher the often extensive and intimidating lists of ingredients on food packages. Your new knowledge will help you identify which ingredients are dangerous and unhealthy *before* you purchase them.

# The Invention of the Rich Food, Poor Food Grocery Purchasing System

IN OUR FIRST BOOK, *Naked Calories*, we introduced the incredible discovery we made during the Calton Project, our six-year, one hundred-country research expedition in which we studied the dietary and lifestyle habits of remote, semi-remote, and urban peoples around the world. Based on our observations of these different cultures, which include remote groups deep inside the Amazon, rarely visited tribes of Papua New Guinea, and the bustling urban cities of India and China, we were able to make several unique conclusions about the causation of health and disease.

The first and perhaps most important conclusion was that *micronutrient deficiency* is the most widespread and dangerous health condition of the twenty-first century. Micronutrient deficiency is a state in which our bodies do not obtain the minimum daily requirements of essential vitamins, minerals, and fatty acids. Our research proved that due to soil depletion, global food distribution, factory farming, and modern cooking and food processing methods, the world is in the midst of a micronutrient deficiency pandemic. The danger comes from the fact that modern science now points to these same micronutrient deficiencies as contributing factors in many of today's most prevalent health conditions and chronic diseases.

Reversing Mira's advanced osteoporosis by making her once micronutrient-depleted body sufficient in these health-promoting factors inspired our mission to share with the world our realistic and sustainable program for achieving optimal health.

The first part of that mission was achieved when we published *Naked Calories*, which outlined our three-step approach to micronutrient sufficiency and introduced our Rich Food, Poor Food philosophy. The Rich Food, Poor Food philosophy states that regardless of which diet profile one follows (low-fat, low-carb, Primal/Paleo, low-calorie, vegan, vegetarian, etc.), the ultimate goal should be to reach a micronutrient-sufficient state. Consuming as many micronutrient-Rich Foods as possible helps achieve optimal health—preventing disease while naturally increasing youthful energy.

While *Naked Calories* introduced our Rich Food, Poor Food philosophy, many readers suggested that we write a companion food guide to help micronutrient-sufficiency seekers identify Rich Foods as they navigate the supermarket. So, we created this Grocery Purchasing System (GPS) to help identify Rich Foods and avoid Poor Foods in each and every aisle.

In *Rich Food, Poor Food*, we take your food and nutrition knowledge to next level. No longer will the only villains in your foods be Everyday Micronutrient Depleters (EMDs), those stealth thieves we introduced you to in *Naked Calories* that rob you of your essential vitamins, minerals and fatty acids. This indispensable grocery store guide raises the bar on food quality as it teaches you how to quickly identify dangerous food additives, GMOs, and potentially problematic and sinister ingredients.



**RICH FOODS** = natural, unprocessed, or minimally processed foods that are high in micronutrient content to help you increase your micronutrient-sufficiency levels and are low or void of problematic ingredients that can put your health at risk.



**POOR FOODS** = highly processed foods that are low or devoid of micronutrients, decreasing your micronutrient-sufficiency level, and often contain sinister EMDs alongside numerous other problematic ingredients.

We've read the labels, weighed the information, and programmed your Grocery Purchasing System with the locations of our go-to Rich Food choices. Along your journey, the GPS shares money-saving tips, homemade options, methods on how to lock in a food's nutritional value during preservation and preparation, and much more. Regardless of your age, dietary preference, or current health, *Rich Food, Poor Food* turns your grocery store into your micronutrient pharmacy, filling your shopping cart with a natural prescription for better health and longevity.

Don't worry—we're not going to suggest flavorless, difficult-to-find, or too-expensive food specialty items or recommend a boring culinary lifestyle. Quite the contrary! This guide is packed with our Rich Food brand-name picks for snacks, sauces, hot dogs, desserts, and other fun foods.

## How Is the Rich Food, Poor Food GPS Different?

**IN CASE YOU'RE WONDERING** if *Rich Food, Poor Food* is just like those other "food swap" guides, it's not. Nowhere in these pages will we tell you to choose Hostess Twinkies over Ding Dongs like those other guys do. (Breaking News: Hostess announces bankruptcy in late 2012 . . . good riddance!) We aren't going to grade the foods on their calorie, sodium, and fat content alone. We feel we would be doing you a disservice by telling you that there is anything even remotely good in either a Twinkie or a Ding Dong! Their top pick, Twinkies, contains thirty-nine ingredients. That's far too many to be considered a Rich Food option. To add insult to injury, high fructose corn syrup, refined white flour, and trans fats make the top five ingredients. We don't very much care that they are only 150 calories each or that they deliver a mere 4.5 grams of fat. The important question, in our opinion, is: Do they deliver health? To answer this, we would ask ourselves, *Is this "food-like substance" the best snack choice, offering high micronutrient content with few suspect ingredients?* It most certainly is not. And, even if it were, eating low-fat, low-calorie, micronutrient-deficient Twinkies does not necessarily aid in weight loss or weight

maintenance. In fact, in *Naked Calories*, we illustrated how eating a micronutrient-sufficient diet, even if it is considered a higher-fat or higher-calorie food choice, can contribute to greater weight loss and health benefits than eating a micronutrient-deficient, low-calorie, low-fat “food-like” substance.

For the sake of cutting calories and fat, food quality has been ignored, and we are paying the price for this with our health. This GPS guide, unlike others before it, values food quality above all else. What determines food quality? Well, food quality is based on two factors: what the food delivers to your body, and what it leaves out.

First, is the food rich in micronutrients? Meaning, does the food deliver the best quality natural ingredients and is it highest in the essential vitamins, minerals, and fatty acids required daily to obtain and sustain optimal health? Second, your GPS ensures that Poor Food ingredients that

can rob you of your essential micronutrients and be detrimental to your health do not sneak into your cart and end up on your plate. To put it plainly, your GPS directs you to Rich Food choices that put the good things in and leave bad things out.



## Deciphering the Modern Food Package

**THIS IS WHERE IT ALL BEGINS.** As we stated earlier, it is inevitable that you will be bombarded with billboards in the form of food packages and advertisements during your grocery store road trip. Let's face it, modern food packages are an advertising masterpiece. In the very best of cases, they educate you as to the true wholesome goodness of a product. In the very worst of cases, they are designed to deceive you with a flashy promise on the front of the package, distracting your attention from the unhealthy truths hidden on the back of the package on the rarely read ingredient list. As has often been said about the used car market, the supermarket has truly become a “buyer beware” environment. Due to this unfortunate reality, we want to give you the lay of the label, so to speak. A quick lesson in “supermarket smarts” will help you successfully identify foods that are delivering healthy nutrition and steer clear of those foods designed to *sound healthy that are really only deceiving you with advertising jargon*.

## **The Lay of the Label—Beware of the Con Artist**

**TRUE STORY:** We once bought a used vehicle from a man named Cia Kahn (pronounced See A Con). Get it? Not an ideal name for a used car salesman, and one that made us investigate his claims with a fine-tooth comb. Luckily for us, the vehicle we purchased turned out to be everything good old Cia Kahn said it was and more. However, most of the brand names in the grocery store don't conjure up the images of dishonesty like Cia Kahn's name did, begging you to investigate them further. Instead, brand names like Quaker, Healthy Choice, Pepperidge Farms, and Gerber bring to mind things like strong moral character, health, and wholesomeness. Their good names are meant to lull you into a false sense of security. But don't be fooled by these slick corporate identifiers and think that you don't need to investigate their products. By learning the lay of the label, you will easily be able to "see a con" from a mile away! So, let's get started.

### **Divide and Conquer**

The strategic genius of the divide-and-conquer philosophy has stood the test of time, and that is why we are going to use it to conquer today's food package. By understanding each section of your food's packaging, you will be able to masterfully discern whether you are about to buy a Rich Food or a Poor Food. Let's start by dividing the packaged food into three basic parts:

1. The front, or "billboard"
2. The Nutrition Facts, often referred to as "the label"
3. The all-important, but often overlooked, ingredient list

Most of us are more than familiar with the front of the food package. Some of us may read a label now and again. But most of us rarely, if ever, spend time reading ingredient lists. As you will discover, however, the ingredient list is the last bastion of hope for health-conscious consumers trying to uncover the true facts about what is in their food.

To illustrate just how misleading packaging can be, let's use our divide-and-conquer technique to compare two products manufactured by the same company.



## Lay's Classic Potato Chips vs. Baked!

### Lay's Original Potato Crisps

LET'S BEGIN THIS COMPARISON by examining these products exactly the same way the manufacturers design them to be seen: face-first. Whether a box, bag, bottle, tub, or can, the first step is to consider the front of the package for what it really is—a billboard. Take a moment to look at the two images of Lay's potato chips to the right. What difference do you notice first? What is their marketing team trying to convince you of? The most dramatic difference is in the look and texture of the two bags. The Classic Potato Chips are in a shiny bag with bright colors, whereas the baked chips are in a softly textured bag with warmer, muted colors designed to make them look more natural so you feel better about buying them.

The next change was made to the Lay's logo, which, as you can see, was shrunk considerably for the baked version and replaced with a new headline—a huge “Baked!” spanning the width of the bag. This is their way of saying—no, screaming—“Healthy!” or “Not fried!” Additionally, an official-looking seal has been added, touting healthy claims to further imply a healthy message. It appears as though this baked product, unlike the classic Lay's, is now all-natural, with no MSG, no preservatives, and no artificial flavors.

Finally, did you notice that one product is called “chips,” while the other is called “crisps?” At first, we didn't. The graphic designers purposefully placed this barely legible identifier at the bottom left-hand corner of the bag. Sometimes it is the details that are buried in the billboard's flash that become the most important clues.

Forget about whether you like baked crisps or potato chips at all. Just ask yourself these questions: How do you feel when you look at each bag, and what is the message that Lay's has spent millions of dollars to convey? If you answered that the Baked! Lay's Original Potato Crisps are a healthier, smarter snack, you're right! But are you really right? Is the baked crisp really healthier? Are they really a smarter choice than the old fried version of the Lay's Classic? Let's continue our head-to-head comparison by next looking at the label, or Nutrition Facts, on both bags to see what information we gather there.

As you turn the bag around, the cold hard facts stare you in the face: calories, fat, carbohydrate, protein, and numerous micronutrient levels in our foods are revealed. This is where the other “swap” books tell you to focus your attention. *Eat This, Not That*, for instance, alludes to



the idea that everything you need to know in order to make a logical, and seemingly valid, argument in favor of the Baked! Lay's as a better choice than the classic fried version is found here.

The Baked! Lay's total calories have gone from 160 to 120 per serving. That is a 25 percent reduction.



### CHECK ONE.

Sodium has gone from 170 mg to 135 mg—a 21 percent reduction.



### CHECK TWO.

Fat has an enormous reduction of 80 percent—10 grams to 2 grams.



### CHECK THREE.

Even the 1.5 grams of saturated fat in the fried chips has been reduced by 100 percent to 0 grams in the crisps. Yes, sir, you don't have to be a rocket scientist to see that the baked crisps check all the boxes for healthy, smarter snacking—if what we consider healthy is only lower calories, lower sodium, and lower fat.

But don't be sold after inspecting only this portion of the information. There are other numbers in the Nutrition Facts that *Eat This, Not That* doesn't encourage readers to consider. Did you notice that the carbohydrates increased from 15 to 23 grams per serving? Or that the sugar more than doubled? That seems odd, doesn't it? Why didn't they bring that to our attention? For the more than 100 million Americans who are diabetic or pre-diabetic, knowing the sugar content is important! Our point here is that the Nutrition Facts can only tell you one thing: whether the fats, carbohydrates, sugars, and protein levels fit in to your dietary profile. That's it, folks. It reports the numbers—and nothing more.

If you are a low-fat dieter, you can scan the Nutrition Facts for low-fat indicators; alternatively, low-carb dieters can search labels for low-carbohydrate values. While it is still important to read the Nutrition Facts to determine whether a food follows your dietary guidelines, it cannot help you determine if it is a Rich Food or Poor Food.

## Nutrition Facts

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

### Amount Per Serving

Calories	160	Calories from Fat	90
Total Fat	10g	% Daily Value*	16%
Saturated Fat	1.5g		8%
Trans Fat	0g		
Cholesterol	0mg		0%
Sodium	170mg		7%
Potassium	350mg		10%
Total Carbohydrate	15g	% Daily Value*	5%
Dietary Fiber	1g		5%
Sugars less than 1g			
Protein	2g		
Vitamin A	0%	• Vitamin C	10%
Calcium	0%	• Iron	2%
Vitamin E	6%	• Thiamin	4%
Niacin	6%	• Vitamin B6	10%
Magnesium	4%	• Zinc	2%

## Nutrition Facts

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

### Amount Per Serving

Calories	120	Calories from Fat	20
Total Fat	2g	% Daily Value*	3%
Saturated Fat	0g		0%
Trans Fat	0g		
Cholesterol	0mg		0%
Sodium	135mg		6%
Potassium	270mg		8%
Total Carbohydrate	23g	% Daily Value*	8%
Dietary Fiber	2g		7%
Sugars	2g		
Protein	2g		
Vitamin A	0%	• Vitamin C	4%
Calcium	0%	• Iron	2%
Thiamin	6%	• Riboflavin	2%
Niacin	6%	• Vitamin B6	15%
Phosphorus	4%	• Magnesium	4%

## HARD LESSONS LEARNED

**MIRA USED TO FOLLOW A LOW-FAT DIET.** She was programmed to pick up a food, read the nutrition facts, and choose only the foods that were less than 100 calories with no more than 1 gram of fat per serving. To her, that was smart and healthy, because she was told that choosing foods by reading the label was what smart and healthy people do. What she learned was that many of her “smart” foods were full of Naked Calories and were micronutrient-deficient Poor Foods, which eventually led her to develop advanced os-

teoporosis at thirty years of age! Oh, she was thin, all right, but far from healthy.

We are not saying that just because a food is 100 calories or less and 1 gram of fat or less means it is bad for you—there are low-fat Rich Foods and low-fat Poor Foods; low-carbohydrate Rich Foods and low-carbohydrate Poor Foods. We’re saying, take a moment to take the next step and investigate the ingredient list before you assume it’s a smart and healthy choice—because *that’s what smart and healthy people do.*

## The Road Less Traveled

So off we go to inspect the ingredient list—the spot where the rubber hits the road. If you had listened to *Eat This, Not That*, you might never set foot in this direction, even though this is the most important part of the product’s package.

Take a moment to look at the ingredients in the Lay’s classic chips. The classic chips have only three ingredients: potatoes, vegetable oil, and salt. Granted, they are not organic potatoes, organic palm oil, or unrefined salt, which we’d prefer, but on the whole, there are no EMDs, carcinogens, toxic additives, or unpronounceable names. The general rule of thumb, remember, is that the fewer the ingredients, the better the food, so this is a wee bit confusing, as the last we checked, three is a pretty low number where ingredients are concerned.

Now, let’s look at the healthier, smarter baked potato chips—oops, we mean *crisps*. Wow! Really? We expected the Baked! Lay’s potato crisps to be baked slices of potato with less oil and a little less salt—in essence, a lower-fat (healthier and smarter) version of the classic Lay’s potato chip. Boy, did we have egg on our faces. While Lay’s may have started with good intentions,

**Ingredients:** Potatoes, Vegetable Oil (Sunflower, Corn and/or Canola Oil), and Salt.



somewhere, they took a very wrong turn.

Just look at the list of ingredients that make up this “Franken Chip” lab experiment. Dried potatoes (what—like potato flakes or granules?), cornstarch (oh, so now these are corn crisps, too?), sugar (precisely what a healthier, smarter snack should not include), corn oil (this has Genetically Modified Organism—GMO—written all over it), salt (not unrefined salt), soy lecithin (and it’s a soy chip, too—GMO alert!), and corn sugar (aka high fructose corn syrup). We’ll cover these Poor Food ingredients in the next chapter.

**Ingredients:** Dried Potatoes, Cornstarch, Sugar, Corn Oil, Salt, Soy Lecithin, and Corn Sugar. **CONTAINS A SOY INGREDIENT.**



This is no joke. This is the real ingredient list on the baked crisps. This lower-calorie, low-fat snack is *not* a healthier, smarter choice. It is very definitively a Poor Food choice with ingredients that may be linked to cancer, diabetes, high blood pressure, obesity, infertility, compromised immunity, accelerated aging, and numerous other health conditions and diseases. Had you purchased this product only after a review of the Nutrition Facts, you would have opened yourself up to unwanted ingredients.

*When Eat This, Not That* named these potato crisps their go-to chip choice, they boasted, “Baked! Lay’s represents the classic potato chip at its absolute best.” What? Are they serious? These crisps are not even made with real potato slices. Far from the absolute best, the Baked! Lay’s represents to us just how far we have strayed from natural foods and onto a dangerous new path paved with highly processed, manufactured food-like substances.

You can now see that it is only by reading the ingredient list that you can easily differentiate a Rich Food from a Poor Food, even when both the billboard and Nutrition Facts may be trying to deceive you. And while this comparison contest hopefully enlightened you to the nature of misleading packaging, let us also point out that the winner of this battle has no cause for celebration. Any way you slice them (literally), Lay’s potato chips are a Poor Food; they’re empty calories, with infinitesimal micronutrients and numerous health-compromising ingredients. To locate a true Rich Food chip, visit Aisle 8: Snacks.

The Rich Food, Poor Food GPS guides you to the Rich Food choices available in every aisle. We have identified the products with ingredients that support health. On those occasions, however, when the brand we suggest is not available, or you don’t find one of your favorite foods listed in this book, you will have the tools to help you divide and conquer the packaging on your own to determine the best brand for you.

But wait. It is a dangerous world out there. In order to succeed in the stores, you’ll need a quick lesson in GPS Operations.

# THE OWNER'S MANUAL

**N**ow that you know how we identify Rich Foods and divide and conquer food packaging, it is time you become acquainted with the recurring features that will assist you in your shopping experience.



Choosing quality foods can cost a little more because they utilize wholesome, expensive ingredients in lieu of cheap, health-depleting ones. But this GPS not only rewards your health, it rewards your checkbook, too. Our Make Cents tips offer cash-conserving suggestions that will help you lower the tolls on your highway to health.



## Food for *Thought*

safety, nutrition, and nature of food products. Here, your GPS supplies you with some of the fine print that may give you pause the next time you peruse the aisles. Curious about coffee? Wondering about wheat? Food for Thought is information for the most inquisitive of minds.

These fun facts really give you something to think about and help bring to life the truth about the



## No Taste Like *Home*

to finding a Rich Food is fraught with health-violating villains. When this happens, your GPS saves the day and sends you home with a do-it-yourself, homemade solution.

Micronutrient depleters, toxic carcinogens, and sugar substitutes—oh, my! Sometimes the road



## STEER HERE

Want to know which hot dog is a hero? Are you searching for the perfect pasta sauce? No matter which aisle you are shopping in, we have identified our go-to Rich Food choices that put the good things in and leave the bad things out. Put the pedal to the metal and get in the fast lane because it couldn't get any easier than this. This GPS is programmed to direct you to hundreds of our fantastic Rich Food choices that have won our seal of approval. We've named names and programmed the GPS with the products that satisfy our Rich Food rules.



In our Steer Here section, you will find our coupon clipper icons next to some of our Rich Food options. When you see the symbol next to a product's name, there is a money-saving coupon waiting for you in our Rich Food Resource Center on our website, CaltonNutrition.com.

Skip the Sunday papers—manufacturers usually only offer savings on their highly processed foods. Our collection of online coupons makes Rich Foods more affordable—trimming the costs without trimming the quality.

## STEER CLEAR

Put your hands behind your back, and step away from the shopping cart! The foods that make this list are in serious violation of the Rich Food rules. If we were the food police, we would give out major fines to these offenders. They may contain EMDs, food thickeners, artificial colors, or other Poor Food ingredients outlined in the next chapter. However, this “do not buy” list is far from complete. In fact, many other similar pothole products exist. This GPS feature is set to remind you of common problems in this food category, allowing you to become fluent in Poor Food labeling lingo and steer clear of nutrition violators.

We are not attacking manufacturers, nor are we telling you to boycott their products. You will see in these Steer Clear sections that we are pinpointing Poor Food ingredients in products that we consider to be poor choices for reaching micronutrient sufficiency. We would love for manufacturers who make our lists to take these suggestions to heart. You never know—with a few recipe alterations, these products might someday go from Steer Clear to Steer Here.



You may be thinking, *How does this GPS even know what grocery store I shop at or which products they sell?* You got us . . . it doesn't. In fact, we can't guarantee which Steer Here products will be available in your market. However, we have designed a solution called the Checkout Checklist.

If you find that our Steer Here Rich Food choices are not sold in your store, head directly to the Checkout Checklist, where we outline what good things to look for in the product you are considering and what bad things to avoid. The checklist reminds you of what made our Steer Here products so appealing to us and warns you of Poor Food ingredients. Regardless of where you are shopping, following the Checkout Checklist will make for a successful grocery shopping experience. Make sure to write down the name of the product you have selected in the spaces provided to save you time and energy the next time you hit the aisles.



## Alternate Route to *Health*

Even with nearly forty thousand items to choose

from, sometimes the supermarket is woefully deficient in Rich Food options. On these occasions, we will find you an alternate route to health and direct you out of the grocery store to a new location where the Richest Foods can be found. Maybe it is a little extra work or a few extra miles out of your way. Perhaps, at first glance, it may even cost you a bit more. However, we are confident that you will soon recognize that the superiority of these selections is worth every ounce of extra effort. The savvy shopper knows that taking alternate routes every once in a while can save you precious time and money in the long run.

## RICH FOOD POOR FOOD

If you read *Naked*

*Calories*, you may remember these head-to-head analyses of two seemingly similar products. We stack up our Rich Food choice next to a Poor Food option to show you just how far superior they really are. Higher in micronutrients? Lower in added sugars? When you encounter these diagrams, you will have a clear picture as to just how important making these food swaps can be to your health.

Now that you know how to use this book, let's shift gears and get acquainted with the cast of unsavory characters you will encounter along your Rich Food shopping excursion. Meeting this cast will help you demystify many of the terms you will see on the ingredient list. This next chapter will serve as an important reference guide for all the aisles to come because these label losers keep popping up everywhere.

## Chapter 2

# Problematic Personalities

We are about to introduce you to a pack of problematic personalities you will encounter during your grocery store expedition. Don't let these numerous names overwhelm you—your GPS operating system is already programmed to steer clear of these Poor Food perpetrators. Keep this guide handy when you shop to reference an ingredient's rap sheet whenever you are in doubt.

## Everyday Micronutrient Depleters (EMDs)

IN *NAKED CALORIES*, we introduced you to a myriad of micronutrient thieves called Everyday Micronutrient Depleters (EMDs). While we went into each of the five EMDs in detail in *Naked Calories*, here is a quick review. By avoiding these EMDs, you can increase the amount of health-enhancing micronutrients that your food delivers with every delicious bite.





## Travel Time and Storage

### EXPRESS LANE MESSAGE:

The longer or further your food travels to your table, the fewer the micronutrients it delivers. This holds true for all fresh foods—from carrots to chicken, apples to spinach.

### YOUR GPS DIRECTS YOU TO:

Locally grown and raised foods. Local and organic is even better.



## Unnatural Feed and Environment

### EXPRESS LANE MESSAGE:

Animals given feed that is unnatural to their species and/or that live in overcrowded factory farm conditions are less nutritious than those raised on smaller, family-run farms and fed their natural diet.

### YOUR GPS DIRECTS YOU TO:

Grass-fed beef and dairy products, wild-caught fish, pastured chickens and eggs.



## Pasteurization

### EXPRESS LANE MESSAGE:

The pasteurization of dairy reduces micronutrient content while denaturing the proteins

(more on this in the Dairy section). Cold pasteurization, known as irradiation, which typically affects produce, spices, and meats, also diminishes vitamins and minerals while creating dangerous, health-hindering “free radicals” (atoms, molecules, or ions that contain unpaired electrons and crash into each other, multiplying exponentially) that contribute to many degenerative diseases, including heart disease, dementia, cancer, and cataracts.

## YOUR GPS DIRECTS YOU TO:

Unpasteurized (raw) dairy and organic foods.

Note: Seeing *organic* on a label ensures a product has not been irradiated but does not ensure dairy or other products have not been pasteurized.



## Freezing and Canning

### EXPRESS LANE MESSAGE:

Fresh is only more micro-nutrient dense than frozen or canned if it is *very* fresh (local or regional).

### YOUR GPS DIRECTS YOU TO IN ORDER OF PREFERENCE:

Fresh and local; those picked at peak of ripeness for flash-freezing or canning (in BPA-free cans).

## Peeling and Cooking Methods

### EXPRESS LANE MESSAGE:

Leave the skin on organic or well-washed vegetables to maximize micronutrients. Leave foods whole (uncut) until just before serving to reduce oxidation and micronutrient loss. Cook foods minimally, and when possible, avoid reheating meals to prevent a reduction in their vitamin and mineral levels.

### YOUR GPS DIRECTS YOU TO:

Fresh, uncut, uncooked foods. Avoid premade, microwavable, and even grocery store-prepared items.



Your GPS is programmed to direct you to foods that avoid the aforementioned five Everyday Micronutrient Depleters. So, for example, a hot dog made with organic, grass-fed beef and organic spices will rate higher, or will be considered a Richer Food, than a regular beef hot dog with regular spices—even if the regular hot dog is lower in calories, sodium, and fat. That just makes sense, doesn't it? A hot dog made from factory-farmed beef, fed an unnatural, corn-based diet, shot up with antibiotics and hormones, and flavored with irradiated, free radical-filled spices is never going to be as healthy as one made from humanely raised, organic, grass-fed beef, free of hormones and antibiotics, prepared with organic spices without free radicals.

It all comes down to food quality and understanding that choosing foods that are made using high-quality, wholesome, micronutrient-rich ingredients is nature's prescription to optimal health. While that factory-farmed, micronutrient-deficient frank may deliver the antiquated and faulty prescription for health (low calorie, low sodium, and low fat), it does not deliver nature's prescription.

Above and beyond directing you to the products that increase micronutrient content by upping food quality, your GPS avoids additional EMDs. These infamous micronutrient-depleting ingredients are found in a disturbing variety of foods and drinks. They are even found in some foods and drinks labeled "healthy" and "natural." Some of them are added into products, while others are naturally occurring—but either way, they need to be recognized for their micronutrient-robbing effects. Sometimes, these EMDs are found in nutritious fruits and vegetables. It is not our goal to have you remove all of these from your diet, but rather to understand their micronutrient-depleting effects so that you can have a clearer picture of your micronutrient sufficiency level.

## Criminal EMDs Guilty of

### SUGAR

Depleting vitamin C due to competition for cell entry.

Being stripped and refined of all of its own micronutrients; upsetting the mineral relationships in the body.

Causing chromium and copper deficiencies.

Blocking the absorption of calcium and magnesium.

Being more addictive than cocaine (as discussed in *Naked Calories*).

Spiking insulin due to it raising blood sugar. Table sugar measures a 60 on the glycemic index. The glycemic index tell us which foods raise glucose levels fastest and highest on a scale of 0 to 100. Foods with a glycemic load over 55 are considered high. Eating too many foods with high glycemic index levels can lead to insulin resistance and diabetes.

### HIGH FRUCTOSE CORN SYRUP (HFCS)

Soil erosion causing fewer micro-nutrients in our foods.

Depleting chromium, magnesium, zinc, and copper from the body.

Not triggering leptin, which causes overeating.

Causing insulin spike due to its high glycemic index of 73.

### PHYTIC ACID (PHYTATES)

Blocking the absorption of calcium, magnesium, copper, manganese, chromium, iron, zinc, and niacin.

Accelerating the metabolism of vitamin D, thus using your reserves faster.

## Usual Hangouts & Aliases

**FOUND IN:** Sodas, dessert items, candies, frozen fruits and vegetables, sauces, soups, and the vast majority of products in the supermarket. **GMO ALERT!** Fifty-five percent of all sugar in processed foods is from genetically modified beets—see page 27 for details.

**ALIASES INCLUDE:** Agave nectar, brown sugar, cane crystals, cane sugar, caramel, crystalline fructose, dextrose, evaporated cane juice, fructose, fruit juice concentrate, glucose, honey, invert sugar, lactose, maltose, malt syrup, molasses, raw sugar, sucrose, and syrup.

**FOUND IN:** Nearly every aisle in the grocery store. The USDA reports that the average American consumes sixty-three pounds of HFCS a year.

Twenty percent of all calories children consume are from HFCS.

**ALIASES INCLUDE:** Corn sweetener, corn syrup , corn sugar.

**FOUND IN:** Numerous healthy fruits and vegetables, in acceptable amounts, but in excess in nuts, seeds, and grains, especially whole grains (wheat, rice, pasta, corn, cereal, cooking grains).

Criminal EMDs	Guilty of	Usual Hangouts & Aliases
<b>OXALIC ACID (OXALATES)</b>	Binding to calcium, magnesium, and iron, which blocks their absorption.	<b>FOUND IN:</b> Seeds, nuts, spinach, beans, collard greens, potatoes, artichokes, squash, wheat bran, quinoa, beets, and soy products.
<b>CAFFEINE</b>	Slightly reducing calcium levels.	<b>FOUND IN:</b> Coffees and teas, chocolate, hot cocoa, chocolate ice creams, and energy drinks.
<b>ALCOHOL</b>	Inhibiting the breakdown of micro-nutrients by decreasing digestive enzyme secretion when consumed in excess.  Damaging the cells that line the stomach and intestines and disabling transport of some micronutrients into the blood.	<b>FOUND IN:</b> Wine, wine coolers, beer, champagne, hard liquor, hard cider, and grain alcohol.
<b>PHOSPHORIC ACID</b>	Increasing the excretion of calcium and impairing the absorption of both calcium and magnesium.	<b>FOUND IN:</b> Soda, flavored waters, and some foods.
<b>TANNINS</b>	Negatively influencing iron and calcium absorption; some studies indicate magnesium and zinc absorption may also be affected.	<b>FOUND IN:</b> Red wine, tea, berries, fruit juices, spices, and nuts.

### The EMD Rap Sheet

Now that you are aware of these stealth little thieves called EMDs that are lurking in your foods and beverages, it's time we introduce you to a second slew of detrimental deviants usually found hanging out in the general vicinity of the EMDs. Birds of a feather flock together, so when you see one of the following ingredients on a label, you are likely to find others hiding in there as well.

## Sinister Sugar Substitutes

MEET THE SINISTER SUGAR SUBSTITUTES (SSS). Unlike the EMDs, sugar and high fructose corn syrup, the SSS don't rob you of your micronutrients. However, scientific data suggests that they can be just as detrimental to your health. Let's get acquainted with these sweet suspects and find out how they may be blocking your road to optimal health.

### **Sucralose**

**KNOWN ALIASES:** Splenda, Sukrana, SucraPlus, Candys, Cukren, Nevella, and E955 (European Union)

**RECENT SIGHTINGS:** Pepsi ONE, Breyers CarbSmart Ice Cream, Maple Grove Farms, Sugar Free Syrup, Diet Rite Cola, Propel water, Diet V8 Splash

**SUSPECTED OF:** According to a Duke University study, sucralose decreased "good" gut bacteria by 50 percent. Your gut is home to 80 percent of your immune system, and these same bacteria can help fight heart disease, reduce cravings, and, best of all, aid in the absorption of your micronutrients. While it is the least criminal of the sugar substitute squad and deemed safe by the Center for Science in the Public Interest, avoid sucralose whenever possible.

### **Acesulfame Potassium**

**KNOWN ALIASES:** Acesulfame K, Sunett, Sweet One, and E950 (European Union)

**RECENT SIGHTINGS:** Diet Rite Cola, Pepsi Max, Coca-Cola Zero, Fresca, Wrigley's Spearmint gum, some SoBe products, and sugar-free Jell-O

**SUSPECTED OF:** This sweetener rarely works a job alone. You can frequently find it as an ingredient alongside sucralose or aspartame. It is known to increase insulin release and has been linked to thyroid tumors.

### **Aspartame**

**KNOWN ALIASES:** NutraSweet, Equal, AminoSweet, Canderel, Spoonful, Equal-Measure, and E951 (European Union)

**RECENT SIGHTINGS:** Diet Coke, 7up Free, Ocean Spray On the Go Drink Mix, Yoplait Light Fat Free yogurts, Wrigley's Orbit gum (all varieties), and more than six thousand grocery store products

**SUSPECTED OF:** Aspartame accounts for more than 75 percent of all adverse reactions to food additives reported to the FDA and has been well reported to cause neurological symptoms



like dizziness, seizures, depression, breathing difficulties, and weight gain. Some studies have even linked it to cancer, epilepsy, Alzheimer's, and multiple sclerosis. Aspartame contains methanol, which converts to formaldehyde—that's right, the same stuff used to embalm a corpse. This offender should be avoided at all costs.

**GUILTY OF:** Spiking insulin and leptin levels! Remember that insulin is our fat storage hormone. This means that while you may choose this sweetener to lose weight, you may actually pack on the pounds. In *Naked Calories*, we learned that leptin is the hormone that tells your body you are full. Overstimulation of leptin makes your body “deaf” to its message that you are full, which is a dieter’s disaster because your body learns to ignore satiation.



Recent studies have proven that choosing foods and beverages sweetened with sugar substitutes may actually cause you to overeat and gain weight and slow down your metabolism. While these Sinister Sugar Substitutes may lull you in to a false sense of zero-calorie security, your body is less convinced. The sweetness tells your brain that calories and micronutrients are coming in; however, when they don't arrive, your body shouts out for nutrients and sends you on a quest to find more food.

## **Neotame**

**KNOWN ALIASES:** Aspartame with a neo (new) name and a worse attitude; E961 (European Union)

**RECENT SIGHTINGS:** Ultimate Nutrition Protein Isolate Chocolate Cream, SunnyD Tangy Original Punch, Weight Watchers Cherry Cheesecake Nonfat Yogurt, Detour protein bars, Hostess 100-calorie packs

**SUSPECTED OF:** A new-and-improved version of the SSS aspartame, neotame is the fastest-growing sweetener on the market. Why? It's been updated to be sweeter, and it no longer requires specialized warnings on the label. You may wonder how its creator Monsanto altered the potentially neurologically harmful aspartame to make it safe. Well, neotame still contains all the dangerous elements found in aspartame, but it has one added ingredient called 3,3-dimethylbutyraldehyde that makes it safer for those suffering from certain rare health conditions (such as PKU) to consume.

Because it is now safer for this small group of individuals, the government no longer requires this new version of aspartame to be specially labeled. But what is 3,3-dimethylbutyraldehyde?

Believe it or not, your food has been made “safer” by adding an ingredient that is labeled as a highly flammable irritant to skin, eyes, and respiratory system. Is this what you want in your low-calorie diet dessert?

**GUILTY OF:** Hiding the truth! Because of the labeling loophole, you may not even know that you are ingesting this stuff unless you are reading the ingredients carefully. Neotame is also sold under the name Sweetos as a feed additive for cattle to fatten them up. Sweetos can cover up the smell of the rancid foods often fed to factory-farmed cattle. This is just another great reason to choose grass-fed beef.

## Saccharin

**KNOWN ALIASES:** Sweet’N Low, Sugar Twin, and E954 (European Union)

**RECENT SIGHTINGS:** Not used as often as it previously was but still found in many products, including fountain drinks. You can also find it in many over-the-counter medicines, such as Orajel, Scope mouthwash, Mylanta, and Maalox.

**SUSPECTED OF:** This granddaddy of all the sugar substitutes has a spotted past. Due to allegations that it caused cancer, it was previously removed from products. But now, twenty years later, thanks to relaxed vigilance by both government and consumers (original studies were done on animals, not humans), saccharin is free to haunt your grocery store aisles once again. The safety of saccharin is still very much in doubt, so steer clear of this potential carcinogenic criminal.

**GUILTY OF:** Studies by the National Institutes of Health show that rats fed saccharin weighed 20 percent more than rats fed sugar after only five weeks. The sugar substitute did not cause body temperatures to rise, signifying that the body was expending little to no energy (burning calories) to process the foods containing saccharin. Don’t let this sugar substitute sabotage your diet plan.



If sugar is an EMD, and Splenda and Sweet’N Low are suspect, what do we suggest? Skip ahead to Aisle 7: Baking to find out.

## Counterfeit Colors

**WE EAT WITH OUR EYES** as much as we eat with our mouths . . . maybe more. Recent studies have shown that when food manufacturers left foods in their natural (often beige-like) colors instead of coloring them, individuals thought they tasted bland and ate less, even when the

recipes had not been altered. How cheesy are beige Cheetos? Is it okay for a strawberry Popsicle to be white? Color often overrides the other parts of the eaters' experience, increasing their appetites when foods appear more vibrant. This explains the food industry's desire to intensify the colors of our foods. The more visually appealing they are, the more we will crave them. However, this need to mess with Mother Nature carries with it some very unappetizing side effects.



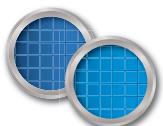
Until the twentieth century, food coloring was obtained from natural sources. People gathered spices, like saffron and turmeric, to add rich hues to their otherwise bland-colored foods. While this method may have been somewhat limiting in shades, at least it was safe. Today, most artificial colors are made from coal tar. Not familiar with this fine product? Coal tar is also used in sealcoating products to preserve and protect the shine of industrial floors. It also appears in head lice shampoos to kill off the small bugs. From your morning yogurt to your child's cupcake sprinkles, most every food manufactured contains coal tar in the form of artificial colors.

According to the FDA, the increase in processed foods has caused a five-fold increase in consumption of artificial dyes since 1955. Three dyes—red #40, yellow #5, and yellow #6—account for 90 percent of all dyes used. While still approved for use in the United States, many other countries have banned these chemical coloring agents. Here are a couple of the worst offenders to watch out for:



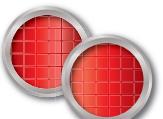
### Citrus Red 2

This product caused bladder tumors in animal studies and is banned for human consumption, except to color the skin of oranges. While it may appear to pose little threat, adding fresh orange zest to a recipe may mix in more than you bargained for.



### Blue #1 (E133) and Blue #2 (E132)

Banned in Norway, Finland, and France, studies have shown them to cause brain cancer and inhibit nerve-cell development. **FOUND IN:** Candy, cereal, soft drinks, sports drinks, and pet food.



### Red #3 (E127) and Red #40 (E129)

While red #3 was banned in 1990 for topical use, it can still be sold on the market in our foods and beverages. That should make us all red in the face. Red #40 may contain the carcinogenic contaminant p-Cresidine and is thought to cause tumors

of the immune system. In the UK, it is not recommended for children, and it is currently banned in many European nations. **FOUND IN:** *Fruit cocktail, maraschino cherries, grenadine, cherry pie mix, ice cream, candy, bakery products, and more.*



### **Yellow #5 (aka Tartazine, E102)**

Banned in Norway and Austria, it contains the cancer-causing compounds benzo-dine and 4-aminobiphenyl. Six of the eleven studies on yellow #5 showed that it caused genotoxicity, a deterioration of the cell's genetic material with potential to mutate healthy DNA. **FOUND IN:** *Gelatin dessert, candy, pet food, and baked goods.*



### **Yellow #6 (E110)**

Banned in Norway and Finland. Due to the same cancer-causing compounds as yellow #5, it causes tumors in the kidneys and adrenal glands of laboratory animals. **FOUND IN:** *American cheese, macaroni and cheese, candy, and carbonated beverages.*



## **Rainbow-Colored Risks**

**ARE YOUR KIDS CRAZY** for colorful foods? Research has associated food dyes with problems in children, including allergies, hyperactivity, learning impairment, irritability, and aggressiveness. A US study published in *Science* found that when children with high scores on a scale measuring hyperactivity consumed a food-dye blend, they performed more poorly on tests that measured their ability to recall images than when given a placebo. A 2007 British study found that within an hour of consuming a mixture of common synthetic dyes, children displayed hyperactive behavior. (These children had not been diagnosed with ADD or ADHD.) The results, published in *The Lancet*, prompted Britain's Food Standards Agency to encourage manufacturers to find alternatives to food dyes. In July 2010, the European Parliament's mandate that foods and beverages containing food dyes must be labeled went into effect for the entire European Union.

Due to the European Union's strong stance against food dyes, many manufacturers have removed them from their products. Nestle, Kraft, Mars, Kellogg's, and even McDonalds all sell their products free of these counterfeit colorings in the EU, proving that there is no need to add these potential poisons into the processed, packaged foods. Until US consumers demand that food manufacturers use natural food dyes, read labels carefully and avoid all products with artificial colors in the ingredient list. We applaud both Trader Joe's and Whole Foods for not allowing any synthetic sinners onto their store shelves.



US ingredients: Red #40, Blue #1.



UK ingredients: Beetroot red, Annatto, Paprika extract.

An example of just how easy it is for Kellogg's to replace the synthetic dyes used in the United States with natural colors for their UK products.

## Criminal Chameleons

THESE NEXT TWO INGREDIENTS are tricky. While you may never see their names on the ingredient list, they are often lurking inside.

### MSG

While you may know to avoid mono sodium glutamate (MSG) in your Chinese food takeout, you may not be aware that this same flavor enhancer is found in *almost all* processed and packaged foods. This first criminal chameleon's most common side effects are changes in blood pressure, joint pain, diarrhea, blurred vision, irregular heartbeat, depression, an inability to talk, anxiety or panic attacks, migraines, and seizures. However, it is classified as an excitotoxin because the G in MSG (which stands for glutamate or glutamic acid) can cross the blood-brain barrier, overexciting the nerves and causing them to malfunction. Drinking alcohol in conjunction with consuming MSG further compromises the blood-brain barrier and makes it much easier for free glutamate to cause its negative effects. As far back as the 1950s, we already knew that a single dose of MSG could destroy the neurons in the inner layer of a rat's retinas and severely damage the hypothalamus of the brain. Here is the kicker: studies show that humans are up to six times more sensitive to the effects of MSG than rats!

Even if you are going to overlook the possible brain damage and the host of other nasty side effects listed above, you still have another reason to avoid MSG. MSG can actually cause you to pack on the pounds. First, it stimulates taste buds, making bland or even spoiled foods more appetizing. Scientists in Spain found that mice injected with MSG increased their food intake by more than 40 percent. MSG also works to induce obesity because it seems to make us leptin resistant. Recall that leptin is the hormone that makes us feel satiated. Why would you ever put down the chips if your brain never gets the message to stop eating them?

The final way MSG works to supersize us is one that may help to explain the rise in the diabetes epidemic. This ingredient causes the pancreas to secrete insulin, which drops your blood sugar and makes you hungrier faster. When the body over-releases insulin, it can lead to insulin resistance, which is the start of type 2 diabetes, heart disease, and many other health problems. MSG-induced obesity is an accepted concept in scientific circles, so much so that when studies require obese animals, the first thing they are fed to fatten them up is MSG.

Processed-food manufacturers just love it when you can't stop with a single serving. This is why MSG is so prevalent in Poor Foods throughout your grocery store. According to Vanderbilt University, when food ingredients are listed as "hydrolyzed," "protein-fortified," "ultra-pasteurized," "fermented," or "enzyme modified," they are often synonymous with MSG, as free glutamic acid is created during processing.

This criminal can be quite a chameleon. We will alert you when mono sodium glutamate may be masquerading under the following aliases: glutamic acid, glutamate, autolyzed yeast, autolyzed yeast protein, yeast extract, textured protein, monopotassium glutamate, calcium glutamate, monoammonium glutamate, magnesium glutamate, sodium caseinate, hydrolyzed corn, yeast food, carrageenan, pectin, soy sauce, natural flavors.\*

\*According to Dr. Cate Shanahan, author of *Deep Nutrition*, 95 percent of all products that boast "natural flavors" contain MSG.



### ***Genetically Modified Organisms (GMOs)***

This second chameleon is no less tricky. In fact, unlike MSG, which will occasionally appear on the ingredient list, GMOs are not listed there. Scientists genetically modify crops in order to improve a plant's resistance to pests, make them heartier to survive changes in weather, increase yield, and reduce maturation time. Genetically modifying food takes place in a laboratory when genes from bacteria, viruses, insects, animals, or even humans are artificially inserted into the DNA of food crops or animals. But the health consequences of mating a tomato with a fish, or any other combination that nature has (in its infinite wisdom) forbidden are largely unknown. In fact, not a single human clinical trial on the effects of GMO crops has ever been published. "The experiments simply haven't been done, and we now have become the guinea pigs," said Canadian geneticist David Suzuki. "Anyone that says, 'Oh, we know that this is perfectly safe,' I say is either unbelievably stupid or deliberately lying."

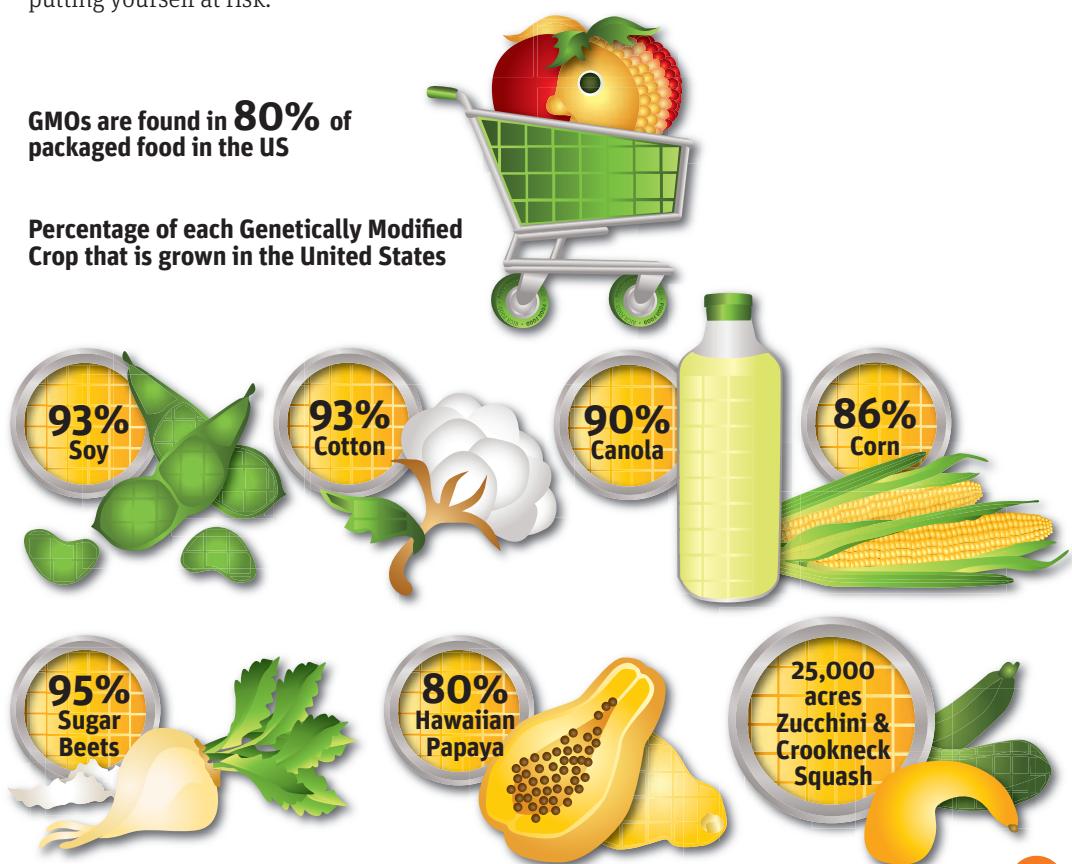
The few animal studies done using GMOs don't look too promising, and scientists worry as to how our bodies will be affected by these unknown mutant genes. Female rats fed GMO soybeans gave birth to stunted



and sterile pups. Monarch butterflies, an endangered species, died by the thousands when their favorite food, milkweed, was dusted with GMO corn pollen. Rats fed GMO potatoes developed liver atrophy, damaged hearts, and compromised white blood cell function after only ten days. In Japan, protein shakes made from genetically modified amino acids could not be recalled fast enough, as these never before tested beverages caused metabolic and mental damage to hundreds of men and women—as well as several deaths. Evidence also suggests that the genetic abnormalities of GMO foods may alter the bacteria in the human gut, thereby exposing people to detrimental effects long after a food has been consumed.



Even with all of these possible negative implications, it may surprise you to see just how prevalent GMOs are in our food supply today. In fact, 80 percent of all packaged processed foods in the grocery store today contain genetically modified ingredients. What's more, the Environmental Working Group reports that while the average American only weighs 179 pounds, he eats a whopping 193 pounds of genetically engineered food a year! This is more than his weight in potentially harmful GMO ingredients annually. Not sure how this affects you? Take a moment to look at the following list of the most common genetically modified foods, and consider how much you are putting yourself at risk.



If ubiquitous GMOs aren't bad enough, more than thirty other crops are currently being tested in field trials, including apples, barley, bell peppers, cabbage, carrots, cauliflower, cherries, chili peppers, coffee, cranberries, cucumber, flax, grapefruit, kiwi, lentils, lettuce, melons, mustard, oats, olives, onions, peanuts, pears, peas, persimmons, pineapple, popcorn, radishes, strawberries, sugar cane, sunflower, sweet potatoes, tomatoes, walnuts, and watercress. An excess of forty countries, including China and Japan, require the labeling of genetically modified foods, yet the United States does not. Here are some tips to help you minimize your exposure to GMOs:

- 1 Buy USDA-certified organic whenever possible.**
- 2 If a product is not organic, look for packages labeled "Non GMO."**
- 3 Choose organic or local, pasture-raised dairy and meat to avoid GMO-filled animal feed.**
- 4 Avoid at-risk ingredients and their derivatives: soy (soybean oil, soy protein, soy lecithin, vegetable oil), corn (corn oil, HFCS, maltodextrin, cornstarch), canola or rapeseed (canola oil), sugar from sugar beets, cotton (cottonseed oil), zucchini, crooked neck squash, Hawaiian papayas, conventional dairy, meat, and farm-raised fish (most conventional factory-farmed animals eat GMO feed).**
- 5 Buy products that are saying no to GMOs. See the Appendix, Say No to GMOs, for a list of companies that keep genetically modified organisms out of their ingredients.**

Note: In our attempt to alert you of possible GMO-sourced ingredients, we have included the letters GMO next to ingredients in our STEER CLEAR selections that we feel have a high likelihood of exposing you to GMOs. We have not, however (as there is no way to know for sure until labeling is required), verified each product individually to be free of GMOs.



Recently (2012), Californians went to the polls to vote on Proposition 37, which would have required manufacturers to label food products that contained GMOs. Unfortunately, perhaps due to illegal advertising on the part of the pro-GMO lobbyists, it failed—leaving hundreds of millions of unaware Americans vulnerable to the negative health effects of GMOs every time they go grocery shopping. This means that, for now, it is up to each and every one of us to be vigilant and read labels carefully to avoid these Poor Food perpetrators. You can fight back by using your purchasing power to send a clear message to the stores and manufacturers that you will not buy products that contain GMOs. Join the Rich Food Revolution and say no to GMOs!

This GPS is programmed to help you avoid EMDs, sidestep the SSS, and circumvent both the counterfeit colors and criminal chameleons. But we're not out of the woods yet. Keep your eyes peeled for a few more unsavory characters just around the bend.

## Chapter 3

### Villainous Variables

Jumping right in, we meet three additional groups of Poor Food perpetrators we call the Banned Bad Boys, Label Losers, and Misleading Misfits. Here again, we've already programmed your GPS to avoid them, so there is no need to memorize the numerous ingredients that you are about to uncover. By chapter's end, you will have discovered more than you ever thought possible about your food and will be ready to put that knowledge into practice.

#### The Banned Bad Boys

WHILE OTHER GOVERNMENTS have read the research and returned guilty verdicts, the United States still allows for the use of the following problematic products. Beware of these bad boys that others have banned!



## Olestra (aka Olean)

It took Procter & Gamble Co. a quarter century and half a billion dollars to develop its Olestra fat substitute, but it didn't take long for many countries, including the UK and Canada, to ban it. This fat substitute causes a dramatic depletion of fat-soluble vitamins and carotenoids. This makes Olestra an actual EMD, robbing us of the vital micronutrients that our foods should be delivering. However, this bad boy takes it to the next level by actually causing severe gastrointestinal disturbances. While adding Olestra to the ingredients may make your chips "light," it may also cause embarrassing bathroom fright. **FOUND IN:** *Ruffles Light, Lay's WOW, and Pringles Fat Free potato chips.*

## Brominated Vegetable Oil (aka BVO)

Did you have a tough workout? Did your son exhaust himself scoring those goals at his soccer game? It may be time to replenish depleted electrolytes with a thirst-quenching Gatorade. Our guess is that you probably won't be doing much of that after we tell you about one of Gatorade's dirty little ingredients—brominated vegetable oil. BVO acts as an emulsifier in soda and sports beverages, preventing the flavoring from separating and floating to the surface.

BVO is an EMD due to its competition with iodine for receptor sites in the body, causing what is called a brominated thyroid. Elevated bromide levels have been implicated in every thyroid disease, from simple hypothyroidism to autoimmune diseases to thyroid cancer. However, simply stripping your body of an essential micro-nutrient that so many people are already deficient in isn't BVO's only sin.

This bad boy is composed mainly of bromine, a poisonous chemical whose vapors are considered both corrosive and toxic. BVO is banned in more than one hundred countries. In the United States, its use is regulated by the FDA to the extent that it is "PERMITTED IN FOOD OR IN CONTACT WITH FOOD ON AN INTERIM BASIS PENDING ADDITIONAL STUDY." It doesn't sound like our government is too sure of its safety, either. This may be because BVO has been linked to major organ system damage, birth defects, growth problems, schizophrenia, and hearing loss. **FOUND IN:** *Mountain Dew, Gatorade, Crush, Sun Drop, Squirt, and Fresca.*



## **Potassium Bromate (aka Bromated Flour)**

Do you notice anything familiar about the name *potassium bromate*? That's right—it is made of the same toxic chemical, bromine, as brominated vegetable oil. This hazardous flour-bulking EMD strengthens dough, decreasing the time needed for baking and thereby reducing costs. This product is harmful because it may cause kidney or nervous system disorders and gastrointestinal discomfort. Additionally, it may be carcinogenic.

The good news is that American bread manufacturers tell us that it disappears from the product during baking and deem that potassium bromate is safe as there is only *negligible residue*. However, the pastry chefs in Paris disagree. In fact, government regulatory bodies in Europe, Canada, China, and many other regions have banned the use of this additive. In California, if potassium bromate has been added, a product must carry a warning label. While the FDA has not banned the use of bromated flour, they do urge bakers to voluntarily leave it out. **FOUND IN:** *Baja Burrito Wraps, Jason Bread Crumbs, Mastroianni Bros. Rolls, and New York brand flatbreads and bagel chips.*

## **Azodicarbonamide**

This chemical, whose name just rolls right off the tongue, is banned in Australia, the UK, and most European countries. In Singapore, you can get up to fifteen years in prison and penalized nearly half a million dollars in fines for using it as an ingredient. But here, in the good old US of A, we use this chemical that is primarily used in foamed plastics (think yoga mats and sneaker soles) to bleach flour. In other countries, they have to wait a whole week for flour to naturally whiten. Not here! Instead, we add this asthma-causing allergen to numerous grocery store ingredient lists. Examine the labels closely on breads and baked goods before putting them in your cart. **FOUND IN:** *Stroehmann's Breads, Betty Crocker Suddenly Salads, Country Hearth Breads, Hungry Man Dinners, and Entenmann's Baked Goods.*

## **The Butylated Brothers—Butylated Hydroxyanisole or E320 (BHA) and Butylated Hydroxytoluene or E321 (BHT)**

Manufactured from petroleum (yummy!), these waxy solids act as preservatives to prevent food from becoming rancid and developing objectionable odors. The National Institutes of Health reports that BHA is reasonably anticipated to be a human carcinogen based on evidence of carcinogenicity in rats. The state of California lists this ingredient as a carcinogen. Banned in England, many other European countries, and Japan, BHA and BHT can be found in butter, meats, breakfast cereals, chewing gum, dehydrated potatoes, and beer sold in the United States. **FOUND IN:** *Post, Kellogg's, and Quaker Cereals; Chex Mix; Diamond nuts; and Wrigley's, Trident, Bazooka, and Bubble Yum gums.*



## Food for *Thought*

In a 2006 study, the essential oils from natural rosemary and sage performed better at preventing oxidative decay and loss in meat than a combination of BHA and BHT. Perhaps manufacturers should be adding in organic herbs and spices instead of carcinogens to improve the shelf life of their products.

### ***Banned for the Bovines***

Recombinant bovine growth hormone (rBGH) and recombinant bovine somatotropin (rBST) are time-saving, production-boosting miracles to steer clear of. Dairy farmers in the United States commonly inject cows with genetically engineered bovine (cow) growth hormones, sold under the trade name Posilac, in order to boost milk production by about 10 percent. However, several regions, including Australia, New Zealand, Canada, Japan, and the European Union, have banned rbGH and rBST because of their dangerous impacts on both human and bovine health.

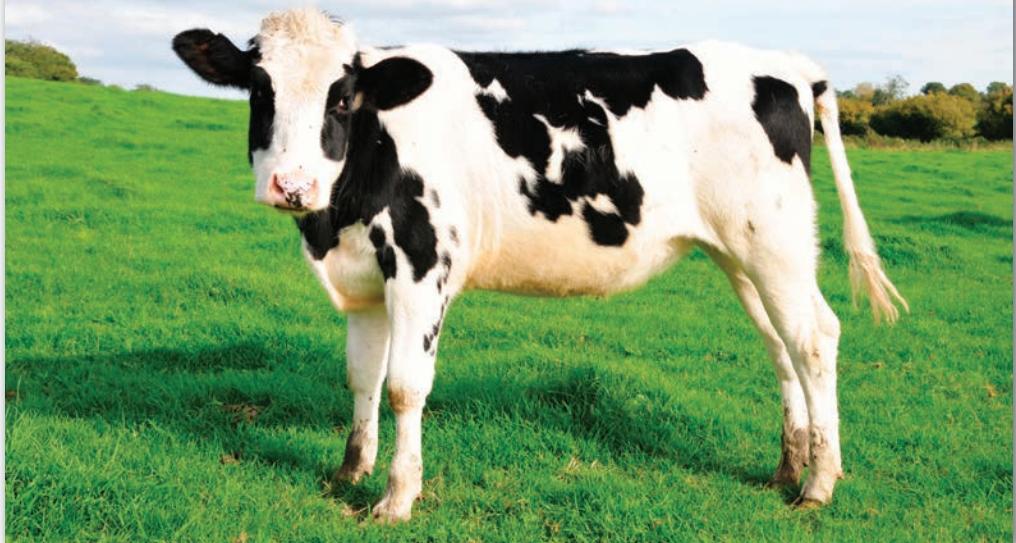
Cows treated with these synthetic hormones often become lame, infertile, and suffer from inflamed and infected breasts (udders). Humans fare no better. The unnatural milk is supercharged with IGF-1 (insulin growth factor -1). This nearly 70 percent increase in IGF-1 is readily absorbed through the gut and has been linked to breast, colon, and prostate cancers. Buying organic milk, and milk labeled rBGH/rBST-free, is your best bet for avoiding cows treated with these controversial chemicals.

**The following national brands are produced without rBGH:**

- Alta Dena
- Belgioioso Cheese Inc.
- Ben & Jerry's Ice Cream
- Brown Cow Farm
- Crowley Cheese of Vermont
- Franklin County Cheese
- Grafton Village Cheese
- Great Hill Dairy
- Lifetime Dairy
- Nancy's Natural Dairy
- Roth Kase USA
- Walmart store brand
- Yoplait

### **Label Losers**

**WHILE THESE INGREDIENTS** have not been banned, your GPS has been programmed to avoid these violators as well. Some act as EMDs and others bring with them some unwanted health risks. Minimizing their presence in your cart will maximize the quality of your food.



### ***Ammonium Sulfate***

Most commonly used as a fertilizer to nourish the garden, it is also used to nourish yeast to turn bread a “healthy” brown color. This dough conditioner may cause mouth ulcers, nausea, and kidney and liver problems.

### ***Benzoates: Sodium Benzoate/Potassium Benzoate***

These preservatives extend shelf life by preventing the growth of microorganisms in acidic foods like fruit juices and soda. While they seem to be safe for some, they cause allergic reactions, hives, and asthma in others. The real problem is that when benzoates come in contact with vitamin C (ascorbic acid), they form a known carcinogen called benzene. While the risk may be small, why take it at all?

### ***BPA, Bisphenol-A***

While you will never find BPA as a listed food ingredient, this toxic troublemaker must be avoided. BPA is a synthetic estrogen that has been used to package consumer goods since the 1950s. It can be found in reusable drink containers, DVDs, cell phones, eyeglass lenses, and automobile parts. In the grocery store, you are most likely to come in contact with it in polycarbonate plastics used for water bottles and in the lining of food cans. It is even in the thermal paper used for cash register receipts. The BPA used in containers can seep into your food and beverages. BPA is especially good at leaching into canned foods that are acidic, salty, or fatty, such as coconut milk, tomatoes, canned fish, soup, and vegetables. A Center for Disease Control report found BPA in the urine of 93 percent of adults.

According to the Environmental Working Group, “Trace BPA exposure has been shown to disrupt the endocrine system and trigger a wide variety of disorders, including chromosomal and reproductive system abnormalities, impaired brain and neurological functions, cancer, cardiovascular system damage, adult-onset diabetes, early puberty, obesity, and resistance to chemotherapy.”

The Food and Drug Administration is concerned and is taking steps to reduce human exposure to BPA in the food supply, so much so that it has banned BPA use in infant bottles. However, until it is removed from all plastics, here are some tips to help you minimize your exposure:

- 1 Look for products labeled BPA-free\*.**
- 2 Choose glass, porcelain, or stainless steel containers over aluminum or plastic bottles, cans, and containers.**
- 3 Don't choose plastic bottles that have the numbers 3 or 7 recycling symbols on the bottom. Number 6 is dangerous as well, but for different reasons.**
- 4 Never microwave in plastic containers.**
- 5 Never wash or reuse plastic containers not labeled as BPA free (e.g., ribbed bottles or water containers).**
- 6 Reduce your use of canned goods unless they are labeled BPA free.\***



\*Many companies are slowly removing the BPA lining from their cans. Some companies don't use BPA lining but do not label their cans to identify which cans are safe. Therefore, identifying BPA-free canned and bottled products is difficult. Your best bet, and the only true way to be sure, is to call the manufacturer and ask. Here in *Rich Food, Poor Food*, we have made it easy and asked them for you. You can be assured that every canned item in this book has been identified by its manufacturer as BPA free.



A possible carcinogen. Found in bottles and clear food packaging, number 3 plastics may release toxins into your food and drinks. The risk is heightened when these containers are put through the dishwasher, heated up, or frozen. Flexible plastics may contain BPA as well.



Number 6 plastics are what we call Styrofoam and release toxins into our food when heated up.



Found in baby bottles, water bottles, and food containers, number 7 containers can leach bisphenol A—a hormone disrupter that can lead to neural and behavioral problems in children. BPA is a synthetic hormone that can stimulate premature puberty and even lead to breast development in males. BPA has also been linked to prostate cancer.

## Caramel Coloring

This brown coloring agent contains the contaminants 2-methylimidazole and 4-methylimidazole. It can be found in baked goods, pre-cooked meats, soy and Worcestershire sauces, chocolate-flavored products, and beer, but the worst offender of all is cola. This criminal coloring agent is linked to lung, liver, and thyroid cancer.

## Carageenan

This thickening, emulsifying, and stabilizing ingredient started out as red seaweed and can be found in numerous milk beverages, deli meats, and pizza crusts. This gooey additive (often used to de-ice airplanes) has been shown to cause ulcerations and malignancies in the gastrointestinal tract. If that doesn't make you uneasy, then perhaps knowing that it may also contain MSG (see mono sodium glutamate in Chapter 2) may be enough to keep this creep out of the cart.

## **Ethylenediaminetetraacetic Acid (aka Disodium EDTA)**

This synthetic chemical most commonly used for medicinal purposes chelates (binds) to metals in the body to draw them out. While this may be a great medical treatment for heavy metal poisoning, imagine how disturbing it can be to the essential minerals your body needs to function properly. Commonly added to preserve color and flavor in processed foods, this ingredient works as an EMD, depleting your body of vitamin C, magnesium, iron, calcium, zinc, and potassium.

## **Guar Gum**

Similar in function to carrageenan, this emulsifier/thickener made from ground guar beans is used in various products, such as beverages, soups, cottage cheese, and some frozen desserts. Due to guar gum's high levels of soluble fiber, it actually acts as an EMD, significantly reducing the absorption of the carotenoids beta-carotene, lycopene, and lutein.

## **Pectin**

This gelling agent is extracted from citrus fruits and used to thicken jams, jellies, fruit juices, milk drinks, canned frosting, and yogurt. Unlike some of the others on this list, pectin is not toxic or carcinogenic. However, much like guar gum, this gooey fiber acts as an EMD, pulling out important micronutrients (beta-carotene, lycopene, and lutein.) Bottom line: you get much less nutrition than you bargained for.



## **Sodium Nitrite**

While this synthetic ingredient does brighten your bacon and preserve your pastrami, when you see sodium nitrite on an ingredient list, it should raise a caution flag in your mind. However, it may not for the reason you once believed. There has long been debate about the safety of sodium nitrite. You probably have been told that eating foods that contain nitrites will cause cancer. However, did you know that your body converts the naturally occurring *nitrates* found in fruits, vegetables, and grains into *nitrites*? In fact, nearly 93 percent of all the nitrates consumed come from non-meat sources! Even celery juice or powder, which often replace the synthetic nitrites in packaged cured meats, has nitrates.

Regardless of the source, when sodium nitrate is consumed, it is converted to sodium nitrite. When these nitrites combine with amines, which are naturally present in meat, N-nitroso compounds, or nitrosamines, are formed. These compounds were once considered carcinogenic because several decades ago, researchers saw a link to cancer in lab rats. That started a media fren-

zy, which somehow became an urban myth or pseudo-science. It turns out there is no real proof of this connection . . . they were wrong. Indeed, the National Academy of Sciences, the National Research Council, and even the American Cancer Society all agree that there's no cancer risk from consuming sodium nitrite.

Then why did we say that you should be cautious when you see synthetic sodium nitrite? Well, as it turns out, the synthetic sodium nitrite, used to cure meats, may not be that healthy for us for a different reason. According to the Food Chemical Codex (3rd edition, National Academy of Sciences), industrial sodium nitrite (synthetic) is allowed to contain residual heavy metals—arsenic and lead. Thus, our choice to dodge nitrites, in favor of their celery and sea salt natural alternatives, is due not to the media-driven myth of cancer-causing nitrosamines but due to the scientifically documented heavy metal mix-ins.

## ***Partially Hydrogenated Vegetable Oil and Partially Hydrogenated Soybean Oil***

When vegetable oil and hydrogen are combined through a process called hydrogenation, it creates a product with greater stability that is less likely to spoil. It also creates something that, according to Harvard School of Public Health, causes about fifty thousand premature heart attack deaths annually—trans fat. Beware of this hydrogen bomb ingredient in commercial crackers, cookies, cakes, doughnuts, frozen dinners, and French fries. Shortenings and margarines can be also high in trans fat. This dangerous ingredient has been shown to raise LDL cholesterol and lower HDL cholesterol, increasing the risk of cardiovascular disease and heart attack by 50 percent! Trans fats also increase the risk for cancer, especially breast cancer; obesity; birth defects; insulin resistance; diabetes; depression; asthma; cell damage; and osteoporosis. Even though the National Academy of Science's Institute of Medicine made its recommendation to the FDA way back in 2002 stating that no amount of trans fat in the diet is safe, this Poor Food ingredient is still allowed in our food as long as manufacturers list the amount of trans fats on the Nutrition Facts label.

But don't be fooled. Many of the processed foods in the grocery store that claim 0 g of this deadly ingredient on the Nutrition Facts still contain trans fats. How? The FDA allows food manufacturers to take advantage of a labeling loophole and list 0 g trans fat on the Nutrition Facts if their food has less than .5 g of trans fat per serving. However, if you see the Poor Food ingredients partially-hydrogenated oil, hydrogenated oil, or shortening on the ingredient list, you can be sure that trans fats are still lurking in your food. Even seemingly innocent products like Girl Scout cookies, sold to millions by unsuspecting, smiling children, may still contain this Franken-fat.

## ***Monoglyceride and Diglyceride***

These food additives are labeled as emulsifiers because they allow fats and waters to mix smoothly, which extends the shelf life of processed foods. They are created when hydrogen gas passes through heated hardened palm oil. Sound familiar? They are created much in the same way as our trans fats

are created by partially hydrogenating vegetable oil. However, the difference is that partially hydrogenated oil is classified as a lipid (fat), which means that the trans fat must be labeled on a product's package. Even though mono and diglycerides may contain trans-fatty acids, they do not fall under these FDA labeling requirements because they are labeled as emulsifiers, not lipids. This semantics loophole allows food that contains those same trans-fatty acids that have been associated with heart disease, stroke, obesity, and diabetes to be marketed as possessing "0 percent trans fat."



All trans fats are bad, right? Wrong! Did you know that CLA (conjugated linoleic acid)—a natural fat found in grass-fed meat and dairy, pastured eggs, and kangaroo meat—is also a trans fat? CLA has been shown to have numerous health benefits, including fat-burning and anti-cancer properties. It is the synthetically produced trans-fatty acids in partially hydrogenated vegetable oils and mono and diglycerides that are bad. This is just another dangerous example of misinformation that can occur when we try to put the science of nutrition into a neat little box.

### **Sulfites (Sodium Sulfite, Sulfur Dioxide, Sodium Bisulfite, Calcium Sulphite)**

Individuals who suffer from asthma and allergies are warned to steer clear of sulfites, as they can cause anaphylactic shock and have even caused death. However, that's not the only trick up sulfite's sleeve. It also acts as an EMD—destroying thiamin (vitamin B1), a micronutrient needed for mental clarity and heart health. While sulfites are banned in fruits and vegetables, they can still be found in potatoes, shrimp, and wine and beer.

Now, let's redirect our focus from the product's ingredient list to the front of the package or billboard. Here we will find all sorts of claims that act as misleading misfits.

### **Misleading Misfits**

**THESE MISLEADING MISFITS** may just take you on a trip to the land of broken promises, but it isn't necessarily their fault. The following words and phrases are sanctioned by the FDA and have very specific definitions. The problem comes when we think they mean something other than what they really mean. Less-than-honest food manufacturers often use these enticing words and phrases as billboard bullies—conning you into buying something you really don't want. It's time to unmask these misfits to learn their true identities.



## **“Natural” and “Fresh”**

In the supermarket arena, the word *natural* is the darling of the day. It turns out the word really hits the sweet spot with consumers, even outselling labeled “certified organic” products by more than 2 to 1. Because of this, food companies are rebranding everything to be “natural.” So what does *natural* mean? According to the FDA and USDA’s Food Safety and Inspection Service (FSIS), products advertised as “natural” should not contain any synthetic or artificial ingredients, and in the case of meat products must be minimally processed. However, they

can still contain decidedly unnatural and health-compromising ingredients, such as high fructose corn syrup (HFCS), partially hydrogenated vegetable oil, and modified food starch. Products labeled as “natural” can be produced using hormones, pesticides, antibiotics, chemical fertilizers, genetic engineering, and, yes, sewage sludge! More than fifty million tons of treated sewage sludge removed from drains of homes, business, and industry are spread on farmlands in North Carolina alone every year. More than sixty thousand toxic substances and chemical compounds can be found in the sewage sludge that is being used to fertilize our foods!

*Fresh* is another word that may not mean what you think. While the FDA demands that “fresh” food is in a raw state and has not been frozen or subjected to any form of thermal processing or preservation, it does allow for all of the following unappealing processes to take place: waxing or coating, post-harvest pesticides, a mild chlorine or acid wash, or ionizing radiation (irradiation), not to exceed the maximum dose of 1 kiloGray, the equivalent of thirty-three million chest X-rays. Do you see how a diet of natural, fresh foods may still be damaging to your health?

## **“Made With” or “Contains”**

When you see claims that begin with *made with* or *contains*, it is a good indicator that the manufacturer is trying to bait you into thinking a product is healthier than it is. It is likely that you are buying a product that *contains* or is *made with* more Poor Food ingredients than you bargained for. For example, a Rich Food indicator would be terminology like *100 percent real fruit juice* or *made from only 100 percent real fruit juice*. Can you see the difference? Saying *made with* or *contains* real fruit juice is like claiming *low mileage* on a 1969 Chevy. Low compared with what? Other 1969 Chevys? Saying that the car has forty thousand miles, however, is specific and tells the buyer exactly what he is getting.

Everyone knows that adding real fruit to your diet is a great way to increase health through micronutrient sufficiency. Misleading manufacturers use the phrase *made with real fruit* to increase the chances that consumers looking for healthy products will mistakenly purchase their Poor Food knockoffs. While the billboards claim *real fruit inside*, too often this fruit comes in the form of natural colorings, like beet juice or fruit concentrates, which are really just the pure sugars that supply no health benefits at all. Beware of these claims, and buy whole fruits instead!

## **“Healthy”**

So, what does the FDA think is healthy? You may be surprised to discover that it may not fit into your dietary profile at all. This is because the term *healthy* only relates to the Nutrition Facts on the packaging—that same part of the package that almost tricked us into buying the Baked! Lays. The FDA deems foods that have limited fat, cholesterol, and sodium as healthy, and much like the other swap books, those in packaging power do not consider overall carbohydrate count in this equation. There are many different dietary philosophies that would be left out in the cold using this restrictive definition.

Additionally, these healthy foods can stir anything they want into the list of ingredients and still maintain their “healthy” status. So, a healthy low-fat, low-sodium fruit cup will meet the requirements, even if MSG has been added to the GMO fruit in a BPA can. Not sure about you, but the word *healthy* seems to be losing the appeal it once had. Make sure to read the ingredient list and use your GPS to find truly healthy Rich Foods.

## **Organic**

**ORGANIC IS ANOTHER WORD** you find on many labels that does have a very specific meaning. Here again, though, manufacturers have ways of manipulating the meaning. According to the *USDA Organic Production and Handling Standards*, the term *organic* requires that a food be free of potentially harmful or toxic pesticides, herbicides, chemical fertilizers, sewage sludge, artificial hormones (including recombinant bovine growth hormone—rBGH and rBST), antibiotics, and genetically modified organisms (GMOs). They also demand that food has not been processed using irradiation, chemical food additives, or industrial solvents. Products made with 95 to 100 percent certified organic foods can proudly display the USDA Organic seal on their packages.

Then you have the conniving callout that claims it is *made with* organic products. What does this mean? Remember, *made with* also means that some of it is *made without*. When you see *made with* on a label referring to organics, the USDA regulates this to mean that 70 percent of a product is certified organic. This leaves you 30 percent exposed. Still not so awful. But then there are the misleading manufacturers that use one or two organic ingredients so the word *organic* pops out when you read the list of ingredients. Just because one or two ingredients are organic does not mean that the rest of the ingredients are. You may drop it into your cart if you aren’t paying close attention.

On the whole, any step toward organic is good, but you don't want to pay top dollar for a product that just contains a small amount of organic ingredients when, for the same price, you could have purchased a USDA certified organic product that carries the seal.

Whew! Now that you have learned the lay of the label as well as the numerous EMDs, mischievous mix-ins, villainous variables, and label losers to avoid, you are ready to grab yourself a cart and begin your grocery shopping.

## Let the Adventure Begin!

**IT'S TIME TO TURN IN YOUR LEARNER'S PERMIT** because you've just earned your Rich Food license to shop. Like any new driver, you are bound to hit a few rough patches. However, you now have all the information you need to successfully navigate your grocery store adventure. We guarantee it will be a shopping trip unlike any before! Aisle after aisle, you won't look at food the same way again. Oh, and even though you have the basics down, we will be there with you in each department—from the dairy section to the beverage aisle—to offer you more information and tips for finding the healthiest, most micronutrient-rich foods possible for you and your family.

Most first-time Rich Food shoppers come back as if they had just gone on an African safari. They enthusiastically talk of how they hunted down the Rich Foods and spotted plenty of Poor Foods along the way. Your shopping safari will take you on a guided tour *around* your supermarket—literally. We begin by navigating you along the perimeter of the store. And for good reason—almost all the *real* foods are located there. The interior aisles are like food deserts when it comes to micronutrient values, so we want you to start each shopping trip by filling up as much of your cart as you can with the real, micronutrient-packed Rich Foods along the perimeter of the market. As you learn to emphasize the perimeter, it will become second nature to avoid the highly processed, boxed, bagged, bottled, and canned foods filling the interior shelves.

Additionally, we should warn you that the likelihood of your *first* Rich Food shopping adventure being a quick one is slim to none. Most first-time Rich Food shoppers spend more time than usual identifying the Rich Food choices available in their grocery store, so schedule time for this adventure. A tight schedule, a hungry belly, or a cart full of restless kids will not make for an enjoyable or productive experience. If you are crunched for time, you may choose to tackle only one or two aisles per visit. Rest assured, once you have located your Rich Foods, the time you usually spend shopping will be cut in half, because your research and due diligence will have paid off. So jump to it. Happy shopping!

