MamaZ's KITCHEN MAKEOVER

Your Guide to a **HEALTHY, HAPPY HOME**

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Kitchen Makeover Guide

by Dr. Eric & Sabrina Ann Zielinski

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Table of Contents

Click on Title to Go to Chapter

Introduction

We aren't lying when we say that the kitchen is one of our favorite places. In fact, it's the Heart of our Home and we that hope you make it the heart of YOUR home as well! This is why we began our Toxic-Free Healthy Home Makeover Video Tour here.

When your kitchen is safe, healthy, and non-toxic, it creates a foothold for the rest of your home. However, this isn't the case for most people. From the millions of invisible particles in the air, to how we prepare our food, to the frequencies that are being emitted by our appliances, the kitchen presents some unique obstacles in creating a healthy environment.

These chapters that follow will challenge, enlighten, and guide you to overcome these obstacles.

We ask that you embrace this journey with us with an open mind. We ask that you be willing to question what you've been told. Truth is, you've been misled by an industry that claims to have your best interests at heart, but really don't. You've been misled to believe that certain (many actually) chemicals are safe for you and your family. And you've been misled by manufactures to believe that the conveniences they offer don't come at a cost. Trust us, that's a lie. Convenience ALWAYS come at a cost and we'll explain why.

So, consider Section 1 the "Why" and Sections 2 & 3 the "How." In Section 1, we will walk you through why commonplace items in the kitchen (like plastic, microwaves and air fresheners) are harmful. We will cover the research explaining why this is so you don't think we're making this stuff up (we're not, by the way!), and then we will give you step-by-step practical advice on how to rid your kitchen of disease-causing toxins.

The Checklists & Guides & Printables that we have created for you will help cut through the overwhelmed feeling, explore the recipes to replace your current toxic products, and give you the freedom to start with confidence. We know that you'll be able to improve your family's life by implementing these techniques, because they are the very same ones that we have used over the years!

It is, as always, our hope and prayer that you will transform yourselves and walk in the abundant live God has for you.

Dr. Z & Mama Z

P.S. To see the products that we recommend so you can give your kitchen toxic-free transformation, click **HERE**.

Section 1

Hidden Dangers (The Problem)

Chapter 1
Hidden Dangers with Synthetic Fragrances

One of the first things you do when you step into your home after a busy day running errands, is take a deep breath. Heave a big sigh of relief and relaxation. But what if that "ocean breeze" or "linen fresh" scent you are inhaling from your fragrant home decor is actually hurting you! Science is just beginning to scratch the surface of how artificial fragrances are destroying our health and indoor air quality.

More and more unscented, fragrance free, and free and clear products are commercially available as the public becomes increasingly aware of skin irritations and allergy symptoms associated with highly scented personal care and cleaning products. However, the problem goes deeper than the minor inconveniences on most consumers' minds.

The lack of oversight in the US fragrance industry leaves the public open to massive exposures to a barrage of potentially deadly chemicals. We are surrounded by household cleaners, laundry products, air fresheners, sunscreen, shampoo, soap, body wash, deodorant, body lotion, makeup, facial cream, skin toner, serums, exfoliating scrubs, and perfumes—all with unnamed artificial fragrance blends.

Around 4,000 fragrance ingredients are disclosed on the International Fragrance Association (IFRA) transparency list, and many of them are known to cause serious health problems such as cancer, respiratory difficulty, and hormone imbalances. This means that the word "fragrance" on a label can be any one of or a combination of over 4,000 ingredients!

Something else that causes concern is the concentration of artificial fragrances in enclosed spaces with inadequate ventilation, including most vehicles and offices, and many homes; modern homes are designed to be as airtight as possible. They are designed for comfort, cost-effectiveness and convenience, not health and wellness. This may save on our utility bills, but it exacerbates the issue of indoor air pollution from artificial fragrances (as well as other sources).

No Labeling Required

Unfortunately, due to a legal escape clause, manufacturers are not required to individually list the ingredients they include in their fragrance blends. Originally, this law was meant to allow perfume manufacturers to protect their proprietary blends as trade secrets. Thus, the ingredients in a fragrance blend are protected from the normal ingredient declaration requirement under the Fair Packaging and Labeling Act (FPLA). In fact, the FDA is not charged with regulating labeling at all—only with overseeing the chemicals that go into the products.

Fragrance free products cannot contain any artificial fragrances or fragrance masking ingredients. However, they may contain ingredients, such as essential oil blends, that impart or mask a fragrance, and they may contain ingredients listed by IFRA as fragrance ingredients if the manufacturer claims they were included for a purpose other than fragrance. One example of this practice is including the very carcinogenic phthalates as a fixative, thus bypassing the need to admit there are synthetic fragrances in the product or to list phthalate as an ingredient.

Unscented products do not elicit any discernible scent; however, this in no (technical) way means that it does not have synthetic fragrance ingredients. In fact, a product labeled "unscented" usually has at least one synthetic fragrance added to mask the unpleasant odors of the active ingredients, surfactants, or cleansers.

Watch out for any product with the following words on the ingredient label:

- fragrance
- perfume
- parfum
- essential oil blend
- aroma
- flavor
- unscented (usually)

In fact, by using any of these words in the ingredient list, the manufacturer is boldly proclaiming that they refuse to disclose the actual ingredients to consumers whose health is at stake.

What are they made of?

Fragrance blends may contain solvents, stabilizers, UV-absorbers, preservatives, and dyes as well as any chemical that imparts or hides a scent, including:

- carcinogens
- respiratory irritants
- endocrine disruptors
- neurotoxins
- allergens
- environmental toxins

What can they do to me?

Synthetic chemicals on the fragrance list have been shown to wreak havoc on the human body. Any of the following health problems may be a result of exposure to artificial fragrances.

Allergies & Allergy Symptoms

Many people are allergic to specific fragrances, and a few people with multiple chemical sensitivities (MCS) react very badly to nearly any synthetic fragrance. This may be as minor as coughing, sneezing, and inflamed eyes or as severe as anaphylactic shock. In any case, these symptoms are meant to tell you that your body is trying to expel and reject the substance, and bigger internal damage is afoot.

Asthma

Synthetic fragrance overload is implicated in many if not most instances of childhood asthma and in adult recurrence of childhood asthma.

Cancer

Many fragrance ingredients in popular use are listed by the World Health Organization's (WHO) International Agency for Research on Cancer (IARC) and other authorities as known or probable human carcinogens. Our society must question why we are willing to literally torture and kill ourselves for the sake of pleasantly-scented body care and cleaning products. This is not a new question—some of the ingredients such as formaldehyde have been known carcinogens for decades.

Contact Dermatitis

Possibly the most common complaint caused by artificial fragrances, acute or chronic skin irritation is not as minor is it may seem. Inflamed skin becomes more porous, and it allows product to penetrate in far greater quantities and with far greater speed than healthy skin. Human skin is not like living plastic wrap which nicely separates each ingredient; it is more like living fabric, allowing fragrance ingredients to absorb into the skin layers themselves and to penetrate through the skin into the subcutaneous fatty layer and the blood stream, and thus to circulate throughout the body.

Depression

Especially in people who are highly sensitive to scents, these chemical blends can alter brain chemistry, resulting in increased incidence of depression and/ or panic attacks.

Migraines & Headaches

A very frequent presenting symptom of neurology patients is persistent migraines or cluster headaches with no known cause. Many doctors actually track the particular scents, and scented products that are most likely to cause problems for their patients. Plug-in style air fresheners often top the lists, with fabric softeners, laundry scent crystals, and specific perfumes or colognes not far behind.

Nervous System Disorders

Some fragrance-related illnesses are quite serious; in addition to cancer, some fragrance ingredients are capable of causing neurological damage. Examples of neurological disorders include brain damage, some autoimmune disorders, multiple sclerosis, Alzheimer's disease, and seizure disorders. Clearly for this type of damage to occur, the exposure would have to be excessive, and/ or long-term.

Respiratory Disorders

Acute breathing difficulty is not uncommon upon exposure to synthetic fragrances even in minute quantities, and they can also cause long-term respiratory harm. At high exposures, some can cause respiratory failure, that is death by asphyxiation. The material safety data sheets (MSDS) of many fragrance ingredients recommend use of a respirator when handling the chemical because the manufacturers are well aware of the pulmonary risks. Our pursuit of unnatural odors is literally strangling us.

Vertigo, Dizziness & Nausea

These symptoms are early warning signs of chemical overload that is harming the nervous system.

Evidence of Harm

Phthalates. Due to the ubiquitous presence of phthalates, including use in fragrances and fragrance-free products everywhere, most people are far more exposed to phthalates than they think, and children's exposure may be 20 times the safe limit. Phthalate overexposure in American children begins long before their first use of scented baby soap. Maternal phthalate levels late in pregnancy have emasculating effects on otherwise healthy newborn boys including irreversible reduction of genital growth and development, diminished levels of male hormones during adolescence, and impaired sexual function during adulthood, and all of these effects are more severe for boys and men exposed to phthalates in the womb than those exposed during childhood or adulthood.

There is evidence of reduced IQ among 7-year-old children whose mothers were exposed to phthalates during pregnancy, even when the levels were within safe limits. Most scented baby care products, including baby wash, shampoo, lotion, diaper cream, and powder, raise the infant's urinary level of phthalates. They are linked to hormone imbalance, reduce sperm counts, reproductive and genital malformation, breast cancer, liver cancer, diabetes, obesity, autism, ADHD, and neurological disorders. Phthalates are found in almost all body care products (around 75% that list "fragrance" as an ingredient), and many household cleaners, including some unscented and fragrance free products.

Acetaldehyde. Acetaldehyde is used so frequently in the fragrance industry that perfumers describe its distinctive fragrance notes as "aldehydic" in their marketing copy. Unfortunately, numerous agencies have listed it as carcinogenic, meaning there is compelling evidence that it's use may cause cancer. It is responsible for significant damage to the kidneys, lungs, nervous system, and reproductive system.

Benzene. (annulene; benzol; benzole; benzolene; bicarburet of hydrogen) Benzene and its many relatives have long been known to cause leukemia and other cancers. It is derived from toluene, another known carcinogen. It is a respiratory, developmental, reproductive, and environmental toxin, yet it is among the most common fragrance ingredients used.

Formaldehyde. Formaldehyde has long been recognized as a human carcinogen. This is the same toxic chemical used to preserve frogs in biology class and to keep cadavers from decaying for scientific experiments.

Synthetic musk. (tonalide; galaxolide; musk ketone; musk xylene) Synthetic musk causes cancer, is linked to increased rate of breast cancer, and is a known endocrine disruptor. One form of synthetic musk is detected in the blood of at least 95% of women who seek specialized care for endocrine dysfunction. Synthetic versions of musk accumulate in human tissues, and are found in human breast milk, body fat, and umbilical cord blood.

Dichloromethane. (methylene chloride) Dichloromethane is listed as potentially carcinogenic by the IARC and the NTP. It is also implicated in breast cancer, and it is one of only 11 ingredients considered so toxic that it is prohibited by the FDA. Almost unbelievably, it is still used in fragrance blends.

Styrene. (ethenylbenzene; vinylbenzene; vinylbenzol; styrolene; styrol; styrole; styropol; styropor; styron; cinnamene; cinnamol; phenethylene; phenylethylene; phenylethene) Styrene is shown to cause lymphoma, leukemia, and other cancers. It damages the central nervous system, red blood cells, and the liver.

1,4-Dioxane. 1,4-Dioxane is usually present as a contaminant or byproduct of other components, so it is rarely listed on ingredient labels. However, it is highly toxic, is associated with birth defects, and is listed as a known or possible carcinogen by most authorities.

Lovely, Viable Alternatives

By now, you may be concerned about ever again using anything that smells nice, and rightfully so. Here are some safe, effective alternatives to all the toxins and carcinogens in synthetic fragrances.

1. Dilute essential oils in a spray bottle of water for room spray; add to natural lotions, soaps, and body care products; or add to a diffuser (use care with products for infants or leave out the fragrance all together).
2. Homemade potpourri—add your favorite dried flowers or herbs to a warming pot or try sachets or decorative bowls around your home.
3. Plant herbs such as mint, rosemary, and lemon balm in kitchen windows to freshen the air and provide culinary herbs for your meals. They also help keep stray insects out.
4. Consult a watchdog group like the Environmental Working Group (EWG) for recommendations on safe, green versions of your usual products.
5. Don't be a victim of greenwashing! Synthetic chemical fragrances are frequently detected in products claiming to use only natural fragrances, so read labels carefully and do your homework.

It's so easy to get tricked by the pleasant scent we've been trained to look for in our laundry, cleaners, and other household items. But more often than not, these fragrances are harmful and aren't what we need in our homes for us or our family. God says He breathed into us the breath of life. The last thing we want is to be breathing death into our homes with dangerous chemicals and fragrances. Living the abundant life can be as simple as making a switch to God-given fragrances from natural sources.

Chapter 2
Cleaning Up Your Cleaners

Commercially available cleaning products make our busy lives easier and more convenient, but at what cost to our health and the environment? The fact is, the chemicals in cleaning products are woefully under-regulated, meaning poisons and toxins including known carcinogens are used in most homes at least weekly.

The number of chemicals in each bottle as well as the number of cleaners used in the average household is rapidly increasing.

The FDA's hands are basically tied by the wording of certain laws, so they cannot keep consumers safe from harmful chemicals in household cleaners, but at least one state has passed a remarkably progressive law to protect consumers. Last year, California signed the Cleaning Product Right to Know Act of 2017 into law, requiring all of the ingredients of cleaning products to be listed on the manufacturer website by 2020, and to be listed on the labels by 2021. Manufacturers can still protect their trade secrets, but only if the ingredients have not been found to cause harm to humans or to the environment.

Below we look at some of the most popular cleaning products, including the effects of their harmful ingredients and what you can do to stay healthy while keeping your home sparkling clean.

Dishwashing Liquid

Almost all commercial dishwashing liquid contains petroleum distillates and synthetic colors. Many also contain formaldehyde, 1,4-dioxane and ethylene oxide, which are listed as known or potential carcinogens by most authorities, including the World Health Organization (WHO) International Agency for Research on Cancer (IARC), the California Environmental Protection Agency (CalEPA) and the National Toxicology Program (NTP). The exposure level from dishwashing detergents is extremely high—the product is used daily, the toxic chemicals are absorbed transdermally through your skin when you wash dishes, which is usually at high heat, increasing skin penetration, as well as via residues on the dishes from which we eat and drink at every meal, not to mention the fumes you breathe while washing dishes.

Safer alternatives to toxic dishwashing liquid include sal soap or safer prepared dish liquids. Safety watchdog groups such as the Environmental Working Group (EWG) publish recommendations and safety scorecards to give consumers an accurate picture of what is really in cleaning products.

Automatic Dishwasher Detergent

Dishwasher detergent contains carcinogenic phosphates which are inhaled when the hot water aerosolizes the detergent and the steam is vented into your home. It also contains dry, concentrated chlorine bleach.Chlorine exposure is especially dangerous because there are so many sources of exposure—dish cleaners, bathroom cleaners, bathing water, drinking water, laundry products, and swimming pools. The effects of chlorine exposure do not dissipate quickly; one study found that the effects on chlorine on the lungs were unchanged even after 6 hours spent in fresh air. Regular exposure to low doses of chlorine, such as occasional use of cleaning products, causes cardiopulmonary injury, chronic allergic inflammation, and airway dysfunction.

Safer alternatives to automatic dishwasher detergent are usually prepared detergents with better, safer ingredients, but many people also make homemade powders or pods with ingredients like citric acid, washing soda, baking soda, borax, and salt.

Disinfectant spray

Aerosol disinfecting spray isone of the most-used most-toxic cleaning chemicals, and one of the greatest dangers compared to effectiveness. The fact is, the pesticides in these sprays only kill germs they come into direct contact with, so each droplet would need to contact each germ for any degree of effectiveness in disinfecting the air, despite convincing marketing campaigns. In addition, the airborne toxins are freely inhaled by people, and they are very harmful to the lungs. Pesticides create resistant superbugs—anything that poisons 99.9% of the germs, for example, leaves 0.01% of those that can survive the poison to reproduce, resulting in resistant strains of superbugs that are extremely difficult to stop.

Alternative disinfectant spray options are easy to make with safer ingredients such as alcohol, glycerin, and essential oils.

Multipurpose Surface Cleaner Spray

Many all-purpose surface cleaners contain ethanolamines such as DEA, MEA, or TEA as foaming agents. Not only does the California EPA list ethanolamines as a known carcinogen, they react with common preservatives to form nitrosamines, another chemical that is listed as a potential carcinogen by both the IARC and the NTP.

Safe alternatives to multipurpose cleaner.Instead of buying toxic spray cleaners, just add castile soap or oil soap to vinegar and essential oils in a spray bottle of water. You could keep it even more simple and use water with disinfecting essential oils for a no-rinse cleaner.

Window Cleaner

Window and glass cleaner usually contains a slew of toxic ingredients such as 2-butoxyethanol, which is mutagenic and is toxic to blood, kidneys, liver, and the central nervous system. Glass cleaner also contains ammonia which is notorious for irritating the lungs and airways and releases acutely toxic chloramine gas if combined with bleach products or any cleaner that contains chlorine.

Safe window cleaner alternatives.Many people claim that plain water is as effective as glass cleaner, but perhaps they don't have young children and greasy fingerprints? In any case, adding a cup of vinegar or 2 tablespoons of lemon juice to a spray bottle of water works wonders (even one toddler-prints).

Jet Mop Liquid

A couple main ingredients of automatic jet mop cleaning liquid are didecyl dimethyl ammonium chloride, which is corrosive and can cause irreversible eye damage and skin burns, and chlorhexidine acetate, which causes acute inflammation to lungs, skin, and eyes, and may be fatal if inhaled at high concentrations. Repeated contact, such as mopping your floor with this chemical on a regular basis, produces target organ damage. In addition, several ingredients are toxic to aquatic life.

Safest alternatives to automatic jet mop cleaning liquid include homemade cleaning solutions with safe, effective ingredients such as vinegar, baking soda, castile soap, sal soap, and essential oils.

Bleach

Chlorine bleach is one of the most ubiquitous deep cleaning chemicals used—many people feel they simply cannot truly deep clean without using a bleach solution. It is used for everything from disinfecting countertops to whitening cloth diapers. Exposure to chlorine bleach is nearly constant in our world unless you actively try to avoid it. Chlorine bleach exposure causes lasting respiratory harm even after one returns to fresh air, and frequent exposure even to low doses of chlorine, such as regular use as a cleanser and disinfectant, can cause cardiopulmonary injury, chronic allergic inflammation, and airway dysfunction.

Safe alternatives to chlorine bleach are generally divided into two categories, according to the two most common goals of using chlorine bleach. For safer whitening including laundry whitening, hydrogen peroxide is very effective, as is lemon juice in some applications. For disinfecting, solutions of hydrogen peroxide, alcohol, or specific essential oils work just as well as bleach, but without the dangers of resistant superbugs.

Bathroom Cleaner

Most bathroom cleaners contain bleach with all the harmful effects previously listed, pesticides capable of producing resistant superbugs, and phosphates which are recognized as carcinogenic by most authorities.

Safer bathroom cleaner choices for scrubs, can be made by just mixing baking soda or borax with liquid castile soap for an effective, gently foaming soft scrub. If you prefer a spray cleaner for your bathroom, use the same formula as the multipurpose spray adding more essential oils if more disinfecting power is needed.

Scouring Powder

Most scouring powders contain chlorine bleach, which irritates skin and airways and releases hazardous gases when in contact with ammonia or acidic cleaners.

Safe scouring powder alternatives include ingredients like calcium carbonate (chalk powder), baking soda, and borax with or without castile soap. Some commercially available scouring powders are safer than others, so EWG guidelines can be consulted before shopping.

Oven Cleaner

Oven cleaners contain a heavy dose of ammonia which causes lung inflammation and releases deadly chloramine gas when combined with bleach or chlorine products. They are extremely caustic and may burn skin. Breathing the fumes is dangerous, and every reputable brand of oven cleaner contains serious warnings regarding the poisonous fumes.

Alternatives to caustic oven cleaners include using pastes with washing soda or baking soda paste over a longer period of time (usually overnight) or prepared cleaners with safer ingredients.

Multipurpose Concentrate

Concentrated multipurpose cleaners contain ingredients such as 2-butoxyethanol, a mutagenic and blood, kidney, liver, and central nervous system toxin, or hydroxides (potassium hydroxide/ sodium hydroxide/ ammonium hydroxide) which have harmful effects ranging from local inflammation and corrosive burns to destruction of skin on contact and even death, depending on the concentration and exposure time.

Alternatives to multipurpose concentrate include castile soap and oil soap with or without essential oils, peroxide, or vinegar. Several safer prepared cleaning concentrates are available, but check EWG or another watchdog group to verify the safety of ingredients.

Carpet solvent

Contains the toxins, perchloroethylene and ammonium hydroxide. The former is a known carcinogen and can damage the liver, kidneys, and nervous system. The latter is corrosive to the eyes, skin, and respiratory passages.

Safer alternative carpet solvents include prepared citrus solvents (just be careful of greenwashing by double checking the safety of the ingredients). In addition, many carpet stains can be cleaned with simple borax or baking soda and soap solutions.

Furniture Polish

Contains the carcinogen, formaldehyde. This toxic chemical has long been known to cause cancer, yet it is still frequently used as a preservative in cleaners and cosmetics. Alternatives to toxic furniture polish can be made with vinegar, olive oil, oil soap, beeswax, and essential oils. Some people use plain vegetable glycerin on a damp cloth.

The number of toxic and dangerous ingredients in our cleaning products may seem overwhelming, and the toxin load inflicted on our bodies can be devastating. To make improvements, remember to start with small, regular changes that are manageable. If you are a DIYer, try out some simple recipes to replace the most dangerous cleaners. If researching homebrew cleaners is just not you, make use of the informed buying guides available to consumers to buy safe, effective prepared cleaners that won’t harm you or your family.

Chapter 3
EMF & Technology Dangers In Your Home

Aren't Microwave Radiation Dangers a Myth?

Maybe you remember the microwave oven scares from when microwave technology was fairly young, and people mistrusted something so different and new. Our minds have been relatively easy since the dangers of microwaving in plastic containers were proven and addressed. Many of us believe the only microwave danger was shown to be a plastic-related problem—that's why we now have BPA-free plastics, right?

What we know about the potential risks of microwaving food, apart from toxic chemicals leaching from plastic into food, centers around electromagnetic fields. Electromagnetic fields, or EMFs are emitted by many devices including microwaves, and can be harmful. Because the microwaves (not the microwave ovens, but the actual waves) themselves are a form of radiant energy (radiation), the inherent risks must be carefully investigated and considered. We know heating food in plastic is harmful, but what is the risk of EMFs from microwaves?

What we don't know about EMFs can harm us. Consider the fact that when microwave ovens were first available to consumers, they frequently came with a bonus set of BPA-laden, "microwave-safe" dishes! To date, there is no smoking gun showing that microwaving food has directly caused a disease. We do not fully understand all the effects of microwave radiation on human health. We do not know the full extent of the harm that EMFs can cause, either. However, after examining the evidence, you, too may wish to limit your family's exposure to EMFs.

Why is it even important to consider a limit on EMF exposure or microwave use, especially with so little solid proof to go on? One might say, the dearth of solid knowledge in combination with many health implications is precisely the reason for further investigation. We can only make good decisions if we have good information. A technology that touches so many lives at such a basic-needs level—our food preparation—warrants close scrutiny if there is any chance it may cause harm.

What are EMFs?

Electromagnetic fields occur when electric current flows in one direction, and magnetic waves flow at a right angle to the current—the EMF is perpendicular to both. Think of the corner of a cube; each edge represents one of these energy directions. The wider energy field created where these forces collide is where EMFs occur.

EMFs are known to have a powerful influence in many ways. All wireless signals are EMFs of some kind. This is the technology that brings us remote controls, radio, walkie

talkies, cell phone reception, and even Wi-Fi access. EMFs are not an exclusive result of cutting edge technology—household electric wiring, high voltage wires, X-rays, and even visible light all have EMFs as well. According to Maxwell's Law, EMFs can even occur near an electric current, not just in direct contact with the current. To further complicate matters, additional EMFs can be created or an existing EMF can be magnified when in contact with other forms of energy, such as heat or light.

The full impact of EMFs on human health is largely a question mark; however, many studies conclusively verify harm to humans including an increased risk of several forms of cancer. Numerous other studies have attempted to demonstrate any kind of positive impact from low level manmade EMF exposure via various methods with uncertain results. EMFs are considered to be low level if their frequency does not exceed that of visible light and if their radiation is non-ionizing; some examples of low level radiation include visible light, cell phones, Bluetooth devices, microwave ovens, computers, laptops, tablets, and power lines. Microwaves are among the highest frequency EMFs that can still be considered low level.

Because the reported symptoms of EMF overexposure vary so much, it can be a difficult field of study. Further, no reliable threshold has been established regarding how much exposure at what strength is too much. The safety limit now in place was established in 1953—long before the explosion of modern EMF-emitters—by Herman Schwan. This limit was based on the amount of heat the EMF emits, and we now know that heat is the least of our worries; Schwan later went on record to say he had learned more and changed his mind and that this limit was inadequate due to the non-heat effects of EMFs. Further, no test of the EMFs in the atmosphere has been conducted by the US since 1979! A distinction has been made between ionizing and non-ionizing EMFs as well, but this field is still wide open to study.

Understanding EMFs is vitally important because of the unprecedented level of exposure in our technologically advancing world. Since we and our vulnerable, developing children are so constantly barraged with EMFs, and because there is a valid risk of long-term damage, we must continue to investigate the influence and health repercussions of EMFs to ensure basic safety.

What Causes EMFs?

Man-made electromagnetic fields are caused by electronic devices, particularly those that emit certain types of communication waves with an electric current perpendicular to a magnetic field. Microwave ovens emit EMFs as do radio towers, Wi-Fi towers and routers, cell phones, and more common devices like laptops, tablets, and cell phones.

Naturally occurring EMFs exist in the created universe with no human interference. The sun, the earth, the moon and other bodies have their own EMF frequency. The frequency of the Earth is known as Schumann's number or Schumann's resonance and is believed to have a healing and grounding effect on people exposed to manmade

EMFs. Even the human body runs on electrical and magnetic energy as evidenced by the effectiveness of defibrillators that can shock the heart back into its normal rhythm.

Are EMFs Dangerous?

The known symptoms of low level EMF overexposure involve a cluster of symptoms including:

- Fatigue
- Tinnitus
- headaches
- joint pain
- muscle pain
- weakness
- dizziness/ inability to balance
- vision disturbances/ ocular migraines
- difficulty concentrating/ lack of focus
- depression
- hormonal imbalances
- underactive thyroid symptoms
- infertility
- behavior problems in children
- learning/ reading problems
- simulated leptin resistance
- panic attacks
- insomnia/ sleep disturbance
- heart and blood pressure abnormalities, and
- premature aging

Low frequency electromagnetic fields are believed to be less dangerous than high frequency EMFs; however, people chronically exposed to lower frequencies may still experience symptoms or even long-term damage.

High frequency EMFs are thought to be more damaging, but the truth is, the damage may simply be more immediately apparent. If you expose your skin to bright sunlight for too long, you will notice a sunburn fairly soon from the sun's energy. Marie Curie unfortunately discovered the dangers of radiation poisoning soon after experimenting on herself with newly discovered X-ray waves. These are examples of EMF harm, but they are not the only ones.

The cumulative effects of nearly constant low-level EMF exposure are largely unknown. As a society, we are allowing and even embracing this technology in our lives and in our children's spaces without stopping to question the health impact. It is almost as if we've collectively signed on for a massive experiment with no safety parameters nor informed consent because the technology has not existed long enough to have been adequately studied.

It is important to remember that the effects of EMFs are cumulative, meaning that they build up over time, and never decrease without being specifically treated and significantly decreasing new exposure.

What are the Risks of Chronic Low-level EMF Exposure?

Some of known risks of EMF overexposure are identified in the following studies:

- Heart Damage. EMFs alter your ECG readings—that is, they affect the functioning of your heart
- Brain Cancer from Microwaves. There is a 28% higher incidence of brain tumors with exposure to extremely low or low frequency EMFs, specifically microwave EMFs
- Depression & Mental Illness from Microwaves. EMFs including microwaves can cause psychiatric harm including depression
- Malignant Brain Tumors. The World Health Organization has identified EMF radiation as a probable human carcinogen capable of causing glioma (malignant brain tumors), and this National Institute of Health study goes one step further, stating EMFs should be regarded as such.
- Childhood Leukemia/ Blood Cancer. Your child's proximity to electric wiring in the house, high voltage lines outside, or even radio towers can double his or her risk of leukemia and increase the risk of childhood cancer in general.
- Breast Cancer. Household and occupational levels of EMFs are associated with increased occurrence of breast cancer in women.
- Brain Cancer from Cell Phones. It is now definitive. "Heavy" use of cell phones (defined as 30 minutes daily for at least 10 years) results in higher incidence of brain cancer, especially on the preferred side (left or right), especially for people who first used a cell phone before age 20, and the higher the use, the greater the risk.

Can EMFs Be Avoided?

No, you cannot avoid all EMFs. Not only do naturally occurring bodies produce EMFs, but it's no longer feasible to avoid even the man-made EMFs. Even locales as remote as the polar ice caps use EMF-emitting technology to communicate. Most of us are essentially surrounded.

Although, you cannot entirely eliminate EMF exposure, there is a lot that can be done to avoid the most harmful sources and to limit the total cumulative exposure from even low-level sources.

How to Limit EMF Exposure

Strategies to limit EMF exposure while using the internet, computers, and other devices:

When you do this	Try this	Instead of this
Use a laptop	Place it on a table or EMF shield	Not on your lap
Use any computer	Slide it a few inches further away or use an EMF shield	Not right against your body with no shield
Play movies on a tablet for your children in the car	Mount it in a case that hangs between the front seatbacks	Rather than on their laps or attached directly behind you on a seatback
Connect to the internet	Use a LAN (hard wired connection) whenever possible or unplug the router when not in use	Instead of Wi-fi (wireless connection) remaining on at all times
Talk on your cell phone	Try wired headphones or use speakerphone	Not Bluetooth (wireless) ear pieces or holding the phone to your head
Use a computer often (home or work main computer)	Install an EMF shield	Not just an eye fatigue screen
Allow children gaming time	Install on a tv, place the device on a table top, or use an EMF shield	Rather than on handheld devices or laptops on their laps with no shield
Allow children game or computer time	Decide how much time is enough, and stick to it	Instead of frequent, unmonitored use of EMF emitting electronics
Send music or files between devices	Use a hardwired connection, a network connection via LAN internet access, or a fileshare program	Not Bluetooth
Use a microwave	Send children out of the room, and leave the room yourself or step several feet away as soon as it starts	Instead of standing in front of the microwave, and never allow a child near it when in use, especially leaning their heads on the glass, watching

We all love the convenience of microwave cooking. If you're in love with your time-saving, but EMF-emitting microwave, this section is just for you. As a concerned parent, or health-conscious consumer, you may be considering getting rid of the microwave altogether after looking at the research.

Here are specific strategies to ditch your microwave for non-EMF generating food preparation:

Microwave magic	**Safer Alternatives**
Reheating leftovers	Bake at 350°F for 8-15 minutes—the texture is MUCH better. If you need it quicker, consider a toaster oven or saucepan—no preheating!
Heating water or milk for bottles	Most pediatricians agree that running a BPA-free or glass milk container under hot tap water while occasionally inverting it is the safest method to avoid burns (plus it's EMF-free)
Defrosting meat	Place in a sealed waterproof baggie in a sink of cool water—almost as quick as zapping it. Planning to defrost overnight in the fridge is also an option, but if you forget—the sink trick works great!
Waffles and toaster pastry	Toaster or toaster oven
Instant frozen kid-food (burritos, mini pizzas, etc.)	An inexpensive toaster oven makes these treats almost gourmet quality with a lovely crisp texture in just a couple minutes
Small portion cooking	A small saucepan or toaster oven works just as well with no EMFs
Hot comfort food when you're ill or exhausted	During trying times or extended illness, a crock-pot may be your best friend. If you cannot plan ahead since you already feel bad or you feel sick suddenly, many comfort foods heat quickly in a toaster oven (cinnamon toast, frozen foods) or small saucepan (soup, rice, potatoes).
Lunches at work	If you're allowed, donate a toaster oven to the break room; if not, try to plan work lunches that do not require reheating—sandwiches and wraps are a perennial favorite!
Hot tea water/ coffee water/ left-over coffee	Many people buy super-convenient electric kettles for this purpose, but a small saucepan works just as well. An electric coffee pot only used for water (so there is no coffee residue in the tea water) is another popular option long employed by restaurants for tea drinking customers.

How to Mitigate EMF Damage

By this point, you may feel like a walking science fair experiment. No worries—there are ways to correct and heal after EMF exposure, and this will happen more quickly if you also limit exposure as much as possible. If you feel you already have concerning symptoms of EMF overexposure or you know you have been exposed to high levels of EMFs, it's best to consult with a trusted, knowledgeable health care provider.

If you are simply concerned, but do not yet display unusual symptoms, you can try these measures at home.

PINK SALT

Himalayan pink salt can help normalize the ion balance in your body, not only by eating it, but also just by physical contact. A salt soak is very beneficial, even if you only soak your feet. Pink salt slabs are sold to rest your feet on, so you can reap the benefits of salt without soaking—try one under your desk at work. Himalayan salt lamps help balance the ionic levels in your home continuously.

GROUNDING

No, you don't need to send your children to their rooms. Grounding is a method of returning your EMF frequency to the frequency of the natural environment by standing barefoot on the good, clean earth for as little as 20 minutes per day.

MOVING WATER

Bathing in moving water can also encourage your EMF to return to normal, and it does not require a swim. Spending time walking or resting near a natural body of water (i.e. not a dam or swimming pool) with natural movement (rivers, creeks, ocean rather than a pond) has an effect similar to grounding.

BALNEOTHERAPY

Mineral-rich or salt-water not only shows promising medical results for many difficult ailments, but it can also combine the benefits of natural salt therapy with those of moving water. What a great reason to visit your local natural hot springs and reset your electromagnetic field!

UNPLUG

It seems obvious but is often overlooked. Dedicating a week or more to occasionally escape all electronic devices is very good medicine, especially if you choose an escape like camping where you may find: opportunities to get away from most high-level EMFs, plenty of time to go barefoot, and even a creek nearby. This includes simply unplugging your wi-fi router overnight while you're asleep to prevent passive exposure during the nighttime hours.

What Will You Do?

Learning about EMFs is not enough if it only causes worry or anxiety. Now is the time to formulate a plan to limit or avoid the EMFs in your environment and to heal the overload.

Some strategies can be applied right away—today:

- Salt soak
- Grounding
- Keeping devices off laps and on tables

Some take planning, but are achievable this week:

- Buy wired headphones
- Find an EMF shield for your most-used device
- Introduce new time limits for children's electronics if needed
- Switch to microwave-free cooking strategies
- Consider adding a pink salt lamp or slab to your home

It may take more advanced planning and a month or two to implement some changes:

- Plan some unplugged time in nature into your next vacation
- Research your local natural hot springs
- Develop a habit of spending time near natural bodies of water
- Limit your own electronics time as much as possible

Long term goals take time, but are worth the effort:

- Learn where high-EMF towers are (or are planned when considering a home purchase
- Be proactive about EMF safety at your child's school and in your work environment
- Establish regular habits to heal the EMF damage and prevent new exposure

Chapter 4
Unsafe Cookware in the Cupboard

Since the early 1960s, non-stick cookware has been welcomed enthusiastically around the world. In 1964, Mirro Aluminum Company's advertising literally claimed that Teflon was a miracle. The craze started with ads like the one published in Ebony back in August 1964 and Teflon earned the Good Housekeeping seal of approval back in 1964, which is actually quite shocking that it was ever allowed on the market. At the time, no one would have guessed that they were buying toxic cookware!

Why Teflon and PFOA is So Deadly

Polytetrafluoroetheylene (PTFE) and perfluorooctanoic acid (PFOA) are key components used in Teflon's indestructible chemicals that have been linked to several public health risks such as environmental pollution, various birth defects, and of course cancer.

Nearly every American has some level of these dangerous fluorocarbons running through their bloodstream because these chemicals are virtually everywhere!

According to the Environmental Working Group, this is the problem with Teflon include:

1. Long-Term Exposure: When you breathe kitchen air polluted with fumes from overheated Teflon, you're at risk for developing flu-like symptoms (yes, "Teflon flu"). The long-term effects of routine exposure to Teflon fumes, and from Teflon flu itself, have not been adequately studied.
2. Perfluorinated Chemical Family: PFCs have been found in nearly all Americans tested by federal public health officials. Chemicals from this family are associated with smaller birth weight and size in newborn babies, elevated cholesterol, abnormal thyroid hormone levels, liver inflammation and weakened immune defense against disease.
3. Environmental hazards: Manufacturing PFCs and the consumer products that contain them poses great risks to the environment and wildlife. The U.S. Environmental Protection Agency says PFCs present "persistence, bioaccumulation, and toxicity properties to an extraordinary degree."

The Legal Battle Against PFOA

"The EPA Settles PFOA Case Against DuPont for Largest Environmental Administrative Penalty in Agency History." The headlines sent shockwaves throughout the chemical and public health sectors.

DuPont has known about the health dangers of Teflon for many years; fluorocarbon research back in the 1960's made it quite clear that it was deadly. But it wasn't until 40 years (and billions of dollars of revenue) later, that they got called out on the carpet. The Environmental Protection Agency (EPA) finally slapped Dupont's hands with a $16.5 million fine because decades worth of research connecting their cash cow product to health problems had been covered up.

Watchdog organizations like the Environmental Working Group (EWG) weren't impressed. In the words of EWG president Ken Cook:

> *"What's the appropriate fine for a $25 billion company that for decades hid vital health information about a toxic chemical that now contaminates every man, woman and child in the United States? What's the proper dollar penalty for a pollutant that will never break down, and now finds its way into polar bears in the Arctic and human babies in their mothers' wombs? We're pretty sure it's not $16 million, even if that is a record amount under a federal law that everyone acknowledges is extremely weak."*

After just a minor spanking, the multi-billion dollar conglomerate continued to use PFOA in their product up until October 2013. DuPont stood in defiance against years of research, lawsuits, and an ongoing criminal investigation conducted by the Department of Justice that found DuPont guilty of not reporting health problems among Teflon workers. Today, Teflon is no longer directly made from PFOA so most of the heat is off of DuPont and public health authorities have all but given it their golden approval.

In his book, *What Einstein Told His Cook: Kitchen Science Explained*, University of Pittsburgh chemistry professor Robert L. Wolke, Ph.D. insists that as long as non-stick pans are not overheated they are safe.

The Food and Drug Administration (FDA) is also on board. According to Paul Honigfort, Ph.D., a consumer safety officer for the FDA, "What we found was that the manufacturing process used to make those pans drives off the PFOA. The risk to consumers is considered negligible."

Negligible…Really?

Unfortunately, the focus on PFOA has distracted the public health community from the more serious, insidious dangers of Teflon like PTFE.

The “New” Teflon

Teflon can be found in the bloodstream of virtually every American. The fact remains that Teflon is literally everywhere. Advertised to make “your life easier,” Teflon is DuPont’s brand trademark for the material that has historically given this toxic cookware their non-stick coating. However, it is also used in:

- Apparel & Accessories
- Contract & Technical Fabrics
- Home & Garden Products
- Paint Products & Accessories
- Personal Care Products
- Recreational Products
- Transportation Products

Now that DuPont has officially given PFOA the boot, the synthetic polymer that covers aluminum pans is now primary made from polytetrafluoroetheylene (PTFE). But don’t run out and fill your house with non-stick products just yet because PFOA is used to make PTFE.

So what did the EPA’s $16.5 million fine accomplish? In actuality, it was nothing more than a smoke screen and is now a blazing red herring in the face of health-conscious consumers across the globe.

Fluorotelomers, like PTFE, breakdown into PFOA and other similar chemicals within the body and in the environment. The bottom line is that PTFE is bad news and all non-stick toxic cookware should be avoided at all costs.

Healthy Alternatives to Avoid the Teflon Flu

If you still use non-stick pans, you do have several options.
One of the first things you can do is replace your existing set of non-stick pans with these safe alternatives:

- Glass
- Cast Iron
- Ceramic

If money is an issue, and you're stuck using the non-stick stuff, then be sure to follow these Teflon safety guidelines to limit your exposure to the toxins:

- Always keep stovetop temperatures between low and medium.
- Never cook using high heat.
- Never put non-stick pans in the oven over 450 degrees.
- Always use plastic or wood cooking tools to make sure you don't scratch the surface, and cause the chemicals to leach out.
- Never use metal utensils or metal scouring pads when cleaning.
- Never use the self-cleaning function on your oven. It can release toxic fumes from the non-stick interior.
- Always use the exhaust fan over your stove to help clear out airborne toxins.
- You MUST throw your pan away if it has visible scratches on it. You can pick up a cheap set of frying pans for $25 and it'll be worth your time and money to switch them out at least every year.

Why We Use Ceramic Cookware

Ceramic is naturally durable and non-reactive, which means that it won't change the taste of dishes such as tomato sauce that is so common with other cookware. The inorganic, 100% natural materials in ceramic cookware means that there are no dangerous metals or chemicals leaching toxins into your food and air. This durability also means you can use it under high and freezing temperatures alike. You can literally cook a dish under the broiler and put it in the freezer without any issues whatsoever.

Our favorite brand is Xtrema Ceramic Cookware because of these 4 reasons:

1. It is made 100% all ceramic, made from clay, water and various inorganic minerals like Kaolinite, Mullite Petalite, Cordierite and refractory clay that are found in the Earth's crust.
2. Xtrema's ceramic material is 100% safe, non-toxic and contains no metals, lead or cadmium.
3. They use no chemicals and or glues in our Xtrema ceramic cookware.
4. Their ceramic glaze is made up of various metallic oxides and there are no dyes or toxic chemicals in our ceramic non-scratch glaze. This Ceramic glaze is 100% safe and non-toxic and our glaze contains no lead or cadmium.

See additional brands we recommend for your kitchen in our **How to Be Healthy - Kitchen Products Guide Post** on the Dr Eric Z website.

Chapter 5
Bad Plastic, BPA & Beyond

More commonly known as BPA, Bisphenol A is an artificial, carbon-based compound that manufacturers use when creating shatterproof plastics that comes with a host of dangerous BPA side effects.

BPA Side Effects Are Virtually Unavoidable

You probably see BPA mentioned frequently on plastic water bottles and other food and liquid containers. National advertisers have jumped on the "BPA Free" bandwagon since the chemical's known side effects have been heavily promoted in the media. But you may not be aware that BPA is common in many other forms of plastic, including:

- Children's toys
- Compact discs and DVDs
- Medical devices
- Plastic flatware
- PVC pipes
- And dental sealants

More surprisingly, BPA is also found on currencies and thermal cash register receipts all across the globe.

BPA Can Leach Into Our Bodies

BPA is the original compound for polycarbonate plastic. Any BPA that is left behind during the manufacturing process can easily leach into our bodies. And that's the real reason BPA has been in the media so much as of late. Multiple studies have found that this leaching is causing a variety of health concerns.

BPA is nearly impossible to avoid as it is used as a liner in most food and beverage packaging. If you consume a typical American diet rife with processed foods, you are probably overly exposed to BPA, which is a well known hormone disruptor. In fact, 92.6 percent of Americans over the age of six have unhealthy levels of BPA in their urine.

BPA's Connection to Fertility Issues

The role of BPA in infertility is disconcerting. Researchers at the University of Buea, Cameroon have uncovered some particularly disturbing connections between BPA and infertility in a recent and thorough report. The report unveiled the following shocking truths:

- BPA is not only common in most food packaging, it is also an environmental contaminant, making it nearly impossible to avoid.
- The hormone imbalances caused by BPA have a profound effect on the male reproductive system.
- In utero exposure to BPA increases the risk of contamination, as this is a critical stage for embryo development.
- BPA can harm the embryo in a number of ways, including feminization of male fetuses, increased prostate size, shifts in the adult sperm parameters (e.g., semen count, motility, and mass), atrophy of the testes and epididymides and restriction of AGD.
- Adequate embryo thyroid development is impacted by BPA.
- Irregular semen restrictions and elevated levels of blood/urinary BPA were found in men occupationally exposed to BPA.
- Men with high exposure to BPA experience lower sex drives, erectile dysfunction and ejaculation problems.
- BPA alters hormones in adults that have been linked to semen problems by influencing the hypothalamic-pituitary-testicular axis.
- BPA induces oxidative stress in the testis and epididymis, which suggests antioxidant supplementation could help offset some of BPA-induced side effects.

Women experience similar results as well. A 2013 report from Jilin Medical College (China) said, "Long-term exposure of female mammalians to BPA can lead to endocrine disorders, followed by the morphological and functional changes in ovary, uterus, vagina, and oviducts," which have been connected to fertility concerns.

Shockingly, women experience the harmful effects whether they get pregnant naturally or through in vitro fertilization (IVF). In fact, a 2011 study conducted by the University of California, San Francisco reported on the phenomenon when it found that BPA exposure in women hindered oocyte quality during IVF and thwarted implantation and conception.

A Few More Health Risks of BPA

BPA contamination goes beyond pregnancy risks. In fact, BPA has been connected to a variety of health concerns. Two of the more alarming are diabetes and obesity.

- Diabetes: The journal *Acta Diabetologica* published a report that said, "Higher urinary BPA levels are found to be associated with prediabetes independent of traditional diabetes risk factors." The fascinating thing here is that no matter how well you eat and how much you exercise, BPA exposure will affect inflammation, pancreatic β-cell dysfunction, glucose metabolism through insulin resistance, oxidative stress and cellular differentiation.
- Obesity: The Public Library of Science (PLoS) recently ran a report by scientists at the Kaiser Foundation Research Institute who closely monitored BPA levels in the urine of 1,326 school-age children from Shanghai. That research found that children who were overweight or obese had elevated levels of BPA in their urine. The report said the higher BPA level "was associated with more than two-fold increase of having weight >90(th) percentile among girls aged 9-12." We find it intriguing that the same was not found for boys.

It's a Bigger Problem Than Just BPA

Thanks to a fever pitch of concern surrounding this kind of research, in 2012 the FDA finally agreed to enact a ban on the sale of baby bottles containing BPA. However, manufactures who were no longer allowed to use BPA tuned to other chemicals, such as BPS or bisphenol S, which new studies are showing may be worse the BPA.

Now, new studies claim that 80 percent-plus of Americans have detectable levels of BPS in their urine. For instance, a 2013 report by The University of Texas Medical Branch at Galveston said that less than one part per trillion of BPS (that's pretty small) can disrupt your cells' normal functions. This can lead to metabolic disorders like diabetes, asthma, birth defects, cancer and obesity.

The lead author, professor Cheryl Watson, wrote: "[Manufacturers] put 'BPA-free' on the label, which is true. The thing they neglected to tell you is that what they've substituted for BPA has not been tested for the same kinds of problems that BPA has been shown to cause. That's a little bit sneaky."

And similar results have been uncovered by other researchers. "Certain BPA derivatives are being considered as alternatives to BPA. However, certain of these related products display adverse effects that are similar to those of BPA," according to a report in the Reviews of Environmental Contamination and Toxicology.

The issue appears to be widespread. Shockingly, a study that looked at 455 “BPA-Free” plastic products bought at Wal-Mart, Whole Foods, Target, Trader Joe’s, Albertsons, Randall’s and H-E-B, had traces of estrogenic activity, or EA.

The 2011 study, which was reported in the journal Environmental Health Perspectives, was looking specifically to see if products labeled as “BPA-Free” contained chemicals having estrogenic activity. EA has been tied to many serious health concerns at particularly low “nonmolar” levels. This study stated:

“Almost all commercially available plastic products we sampled—independent of the type of resin, product, or retail source—leached chemicals having reliably detectable EA, including those advertised as BPA free. In some cases, BPA-free products released chemicals having more EA than did BPA-containing products.”

Recommendations for Avoiding BPA

When all is said and done, nothing is safer than glass containers when it comes to food and beverage. It is not worth the risk to use plastic, and even some metals have been shown to leach certain chemicals. While glass is not shatterproof, it is much safer and we recommend glass bottles with rubber carries for babies.

Section 2

Making the Switch

(The Solution)

Chapter 6
Where to Buy Essential Oils

The Environmental Working Group (EWG) has evaluated over 10,000 products and have ranked them in an easy-to-understand guide to make sure that people have a resource to keep their families safe. Check it out for yourself. You'll be surprised that even most "all natural" products aren't what they seem to be!

Exposure to these toxins cannot be avoided, unless you make your own homemade cleaners, and using essential oils is key! Before you start, though, you need to know how to find the right companies for your needs!

Knowing where to buy essential oils isn't as simple as it may seem. Like choosing your doctor, you should be careful to not settle for anything but the best. We have done our best to help you navigate these often muddy waters on how to choose the best essential oils brands for you and your family!

You will learn about:

- Choosing the Best Essential Oil Brands
- What Every Blogger, Distributor & Mom needs to Know
- 6 Tips to Discovering the Right Brand for You!
- How to Check for Quality
- Indigenous Sourcing
- Contamination Concerns
- Is Organic Necessary?
- Essential Oils Regulation
- Drug Claims
- Supplement Label and Internal Use
- The Great Aromatherapy Debate
- Tips for Internal Use

Choosing the Best Essential Oil Brand

By far, the #1 most common question we get from the folks who get our weekly newsletter or Follow Us on Facebook is which essential oil brand we recommend.

Interestingly, when choosing where to buy essential oils, fewer people ask for the brands that we recommend (emphasis on the plural), which leads us to believe that most are trying to find the "Holy Grail" when they question me. In fact, snuggled right next to this question, many people also ask us what the "best brand" is. Sadly, this train of thought has gotten a lot of people into trouble because nothing could be further from the truth.

Don't get us wrong, we really can't fault anyone for thinking this. We live in such a capitalist-driven society where we have been trained to believe that the competition is never as good as the "real deal." Not to mention, network marketing companies have done an exceptionally thorough job reshaping the way that people view oils. The "brand wars" have reached a fever pitch at this point, and people will swear on their deathbed that their brand sells the only pure oils on the market and all others are contaminated!

Again, we really can't fault people for thinking this. What else are they to logically think when a cancerous tumor disappears after using frankincense oil or their Lyme disease vanishes after using the protocol a distributor friend of theirs recommends?

Literally, there are no lack of testimonials out there, and we personally know people who swear essential oils saved their lives. I'm not talking about bloggers out there who use their "story" to sell oils. No, I'm talking about real people with real testimonials about real essential oils! This is why it's so important to know where to buy essential oils.

What Every Blogger, Distributor & Mom Needs to Know

First off, as a public health researcher, Dr Z is committed to staying as unbiased as possible so we don't give product recommendations when asked where to buy essential oils.

Not to mention, if we start selling and recommending essential oil brands, the Food and Drug Administration can shut down our website like they have several of our colleagues for making so-called "drug claims." Unlike pharmaceuticals, the manufacturing of EOs and supplements are not monitored by the government. This is why your medical doctor can recommend (and sell) specific drugs.

Things work differently in the natural health world. The only solace we have to continue educating the world about the life-transforming properties of natural therapies like essential oils is the First Amendment at this point. And, to maintain our freedom of speech to discuss what the scientific research has to say about how essential oils affect the body and various disease processes, we need to remain brand neutral about where to buy essential oils.

There are some good Facebook groups, however, that lay it all out there. The purpose of our site is not to dive into where to buy essential oils, but to educate about their uses. Once we start to name brands and recommend where to buy essential oils, we get into the FDA's scope and we want to preserve our freedom of speech. It's a fine line deciding where to buy essential oils.

With that said, let us break it to y'all. When considering where to buy essential oils, just realize that there is no #1 essential oils company. It simply does not, nor will it ever, exist.

Now, don't stone us because we refuse to bow down to the essential oil gods out there. If you've been following our work for a while, we hope that you've come to appreciate that my mission in life is not to give people fish, but to give them the fishing pole that they need to regain control of their health. As a Biblical health educator and natural health researcher, Dr Z. is very passionate about educating people and equipping them to take the information that we teach about the next level of deciding where to buy essential oils.

The take home message about where to buy essential oils all boils down to trust. As you will see below, the entire supplement and essential oil industries are entirely built upon the "honor code." If you have found a company that you can put your faith in because they readily provide you with the information that you're looking for, your body responds well to their products, and you have no reason to believe that they are selling junk, then you found a "keeper."

On the other hand, if you cannot get the information that you want from a company, your body reacts to the oils in an undesirable manner and you develop suspicions because of an increase in negative reports on the Internet, you should probably find a new brand that you can put your faith in.

With that said, let's now tackle the most emotionally-charged and controversial topic in the essential oils industry: where to buy essential oils!

6 Tips to Discovering the Right Brand for YOU and How to Buy Essential Oils

There are several quality, therapeutic grade brands out there and we use several of them. Here's what we do before we start using new essential oils:

1. Ask the company that you're investigating for a report of their sourcing and quality standards (check out the section "How to Check for Quality" below).
2. Contact a friend or family member who uses essential oils that you trust to be conscientious and a thorough researcher – be careful to not let hate speech and multi-level marketing propaganda get in the way of truth. EVERYONE's brand is the best, right? Especially, when they're selling something. :)
3. Contact the company and see if they sell therapeutic grade oils, and ask them for a definition of what "therapeutic grade" means because this is an unregulated term that can be defined in a variety of ways.
4. Check to see if the oils are safe for internal use. Look for the SUPPLEMENT label on the bottle, which is an indication that the company you are interested in sells oils that are generally recognized as safe (GRAS. More on this below.)
5. Try a couple, and test for yourself. Lemon, lavender and peppermint are common, relatively inexpensive and you should get a good gauge to see if this brand is for you or not.
6. Remember, many of the small companies get their oils from the same suppliers. They just private label them.

From what I've been told, the larger companies have unique suppliers, which differentiate their product from their competitor. This doesn't guarantee purity, but it can help put your mind to rest that they (should) be proprietary which should help you decide where to buy essential oils.

Note: For a product to be labeled as an "essential oil supplement," a supplemental fact label is required to be placed on the bottle, even though prior FDA approval is not required to use these labels. Essential oils that are being recommended for ingestion should have the supplemental fact labels on the bottle, however, this is not always the case. As well, the supplement label is not a guarantee of safety or purity as these labels are not regulated unless complaints or injury reports cause the FDA to intervene. (More on this below…).

Where to Buy Essential Oils: Quality Assessment

Before jumping in and buying a bunch of oils from a company, consider asking these questions to help ensure quality:

- Does the company have relations with their distillers?
- Can the company readily supply a batch-specific report (MS/GC) on the oil it sells?
- Can the company readily provide material safety data sheets (MSDS) upon request?
- What is the common name, Latin name (exact genus and species), country of origin, part of plant processed, type of extraction (distillation or expression), and how it was grown (organic, wild-crafted, traditional)?

Also, it is critical to test for your own organo-leptic assessment. “Organo-leptic” meaning the way your body perceives the oil through the six senses: taste, touch, smell, vision, auditory, and intuition.

Where to Buy Essential Oils: Indigenous Sourcing

In our opinion, the most important factor is whether or not the oils are indigenously sourced and organic in nature. Meaning, they are harvested where God planted them, which is why they are referred to as “native” plants. One reason why is because “organic” is not a guarantee of purity (more on that below). The other reason, and even more important, is because non-native plants pale in comparison to native plants when it come to nutrition and chemical constituency. This is something important to consider when deciding where to buy essential oils.

Mama Z’s is a retired PhD agriscientist and spent his career evaluating the chemical compounds in plants. He taught us that native plants always have a better nutritional profile because the soil is naturally designed to feed indigenous plants with what they need most. For example, we live in Atlanta, GA where the growing season lasts nearly 10 months out of the year. It’s warm enough to sustain a fig tree in our backyard, but the taste and vitamin and mineral content of our fig is nothing what it should (and could) be if that same tree were grown in Israel where figs are native. Same for the pineapple, limes and lemons that grow in pots on our deck.

Additionally, there are some other importance differences between indigenous and non-indigenous plants when deciding where to buy essential oils:

NATIVE PLANTS

- Evolved over a long period of time, and best suited to thrive in their native region.
- Adapted to the local weather and geology.

- Can thrive in drought and inclement weather situations.
- Environmentally sustainable for pesticide-free farming because they have developed natural resistance to native predators.
- Has a positive impact on the local environment and ecosystem by forming natural "communities" with other plants.

NON-NATIVE PLANTS

- Unnaturally introduced (deliberately or by accident) into an environment in which they did not evolve.
- Are not well-suited for pesticide-free farming because they are not naturally resistant to native predators.
- Has a negative impact on the local environment and ecosystem because they have a tendency to take over a habitat, require pesticides to thrive, and are not natural food sources for neighboring wildlife.

Bottom line: organic in nature and indigenously sourced are best. This is important to remember when deciding where to buy essential oils.

Contamination Concerns

The fact that people are questioning which brands are best is a good thing. When considering where to buy essential oils, underlying concern and motivating factor is that people want to use unadulterated pure oils, with no contaminants or harmful fillers. We validate this concern 100% and hope that more people will demand pure products in the supplement world so that suppliers step up their game. Remember, it's all about supply-and-demand.

Is Certified Organic Necessary?

In 2014, scientists and essential oil producers met at the International Federation of Essential Oil and Aroma Trades (IF EAT) Conference in Rome, Italy to share their concerns about quality and safety of our global essential oil supply. These are some of the key takeaways as shared by the Founder, President, CEO, and Principal of the American College of Healthcare Sciences (ACHS) Dorene Petersen:

- "Pesticide residue and concern for pesticide levels in essential oils, even in certified organic oils, was the subject of three sessions at IFEAT 2014."
- "It is a regrettable fact that essential oils can contain pesticide residues, even certified organic essential oils."
- "Detecting residue is even more likely if pesticides are administered during cultivation of the plant material."
- "However, passive contamination can also occur even if a farmer does not actively use pesticides."

- "Acts of nature such as a puff of wind or water runoff from a neighboring field, even incorrect storage of an essential oil, can all result in cross contamination."
- "According to the test results conducted by the German Medicines Manufacturers' Association (BAH) Working Group on Contaminants, cold-pressed essential oils from the pericarp of citrus fruits are more likely to contain pesticide residues than steam-distilled citrus because of the hydrophilic, thermostable, and volatile characteristics of pesticides."
- "Most pesticides can easily combine with or dissolve in lipids or fats, facilitating the transition to the oil."

The reality is that it's increasingly becoming more difficult to find truly pure, clean air, food and water because of modern agricultural methods and pollution on a global, massive scale. This is especially true for supplements and essential oils that are labeled "organic."

According to Petersen's report of the IFEAT meeting, it's all not doom-and-gloom.

The European Pharmacopoeia expert group database focused on essential oils from 2006 to 2013, have tested nearly 600 samples for 217 substances representing 28 different oils.

- 314 samples didn't show any residues.
- 275 samples were contaminated with at least one residue.
- 1,150 results were discovered to contain at least one pesticide residue.
- A few of the specific oils they looked at were https://drericz.com/offer-dilution-chart/neroli, rosemary, eucalyptus, caraway, and lavender.
- Of the 65 samples of neroli, 199 positive pesticide findings were discovered, and 77 showed that the pesticides were above the maximum levels.
- 49 samples of rosemary were tested, and 15 revealed more than the maximum level of a citrus peel treatment agent known as biphenyl.
- Interesting, rosemary does not have a peel so the presence of biphenyl can only be explained because it was contaminated by the packaging, the manufacturing equipment or some other man made intervention.
- 36 eucalyptus and 25 caraway samples were tested, and three of each were positive for pesticides,
- 19 lavender samples tested and one was positive.

Bottom line: certified organic is good, but no guarantee for purity. Organic in nature is probably your best bet.

Essential Oil Regulation

At this point, the most natural question you should be asking is, “Who regulates essential oils?”

The easiest answer to this question is, “No one.”

Technically-speaking, they are regulated in a roundabout way, but manufacturers and distributors are not required to obtain FDA approval to sell their products beforehand, so what’s the purpose? “Because dietary supplements are under the “umbrella” of foods, FDA’s Center for Food Safety and Applied Nutrition (CFSAN) is responsible for the agency’s oversight of these products. DSHEA created a new regulatory framework for the safety and labeling of dietary supplements. FDA is not authorized to review dietary supplement products for safety and effectiveness before they are marketed.”

Hence, the reason why you’ll see this disclaimer on essential oil bottles, “*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent disease.”

Unlike drugs, supplements and essential oils are not intended to cure, diagnose, prevent, or treat diseases. That means supplements should not make claims, such as “reduces pain” or “treats heart disease.” Statements like these (i.e. “drug claims”) can only be made for drugs, not essential oils or supplements.

Under the FD&C Act, cosmetic products and ingredients, with the exception of color additives, do not require FDA approval before they go on the market. Drugs, however, must generally either receive premarket approval by the FDA through the New Drug Application (NDA) process or conform to a “monograph” for a particular drug category, as established by FDA’s Over-the-Counter (OTC) Drug Review. These monographs specify conditions whereby OTC drug ingredients are generally recognized as safe and effective, and not misbranded. Certain OTC drugs may remain on the market without an NDA approval until a monograph for its class of drugs is finalized as a regulation.

When choosing where to buy essential oils, it’s important to keep in mind that they are only regulated after they go to market. Even then, in the tangled web of “regulation” there are so many loopholes that there is virtually no system set in place to properly regulate the products being sold. To help make sense of this all, here is a quick summary of the current regulatory system and the principal players:

1. The Dietary Supplement Health and Education Act (DSHEA) of 1994, which amended the Federal Food, Drug, and Cosmetic Act, regulates manufacturers by holding them accountable to what are known as “good manufacturing practices” (i.e., industry quality standards).
2. The Food and Drug Administration (FDA) regulates the label, but only after the product goes to market. (More on this below…).

3. The Federal Trade Commission (FTC) regulates supplement advertising – manufacturers must report truthfully what their products contain and must have proof backing up any claims they make.
4. Dietary Supplement and Nonprescription Drug Consumer Protection Act (DSNDCPA) of 2006 requires "adverse event reporting" – the same system the FDA uses to inform the public about injury reports and unsafe incidents.

Under the DSHEA, the FDA is responsible for uncovering what supplements are "unsafe" before it can remove the products from the marketplace. Essentially, all essential oils and supplements are innocent until proven guilty and the primary way the FDA is aware of a situation necessitating an investigation is at the very hands of the manufacturers and distributors themselves; as they are required to record, investigate and forward all safety concerns and adverse event reports to the FDA.

Drug Claims

In contrast to dietary supplement manufacturers, who are able to utilize structure/function claims, aromatherapy companies who sell essential oils for external use cannot.

Establishing a Product's Intended Use

"A product can be a drug, a cosmetic, or a combination of both… For example, a fragrance marketed for promoting attractiveness is a cosmetic. But a fragrance marketed with certain 'aromatherapy' claims, such as assertions that the scent will help the consumer sleep or quit smoking, meets the definition of a drug because of its intended use. Similarly, a massage oil that is simply intended to lubricate the skin and impart fragrance is a cosmetic, but if the product is intended for a therapeutic use, such as relieving muscle pain, it's a drug."

This is where some brands get in trouble because they, or their distributors, make "drug claims" that are outside the scope of cosmetics.

"The law doesn't require cosmetics to have FDA approval before they go on the market. But the FDA can take action against a cosmetic on the market if we have reliable information showing that it is unsafe when consumers use it according to directions on the label, or in the customary or expected way, or if it is not labeled properly."

The SUPPLEMENT Label and Internal Use

Essentially, if the label says SUPPLEMENT, then yes, it's considered a consumable product. This is critical to keep in minding when considering where to buy essential oils.

As described by the U.S. Food and Drug Administration, "A dietary supplement is a product intended for ingestion that contains a 'dietary ingredient' intended to add further nutritional value to (supplement) the diet. A 'dietary ingredient' may be one, or any combination, of the following substances:

- a vitamin
- a mineral
- an herb or other botanical
- an amino acid
- a dietary substance for use by people to supplement the diet by increasing the total dietary intake
- a concentrate, metabolite, constituent, or extract

Dietary supplements may be found in many forms such as tablets, capsules, softgels, gelcaps, liquids, or powders. Some dietary supplements can help ensure that you get an adequate dietary intake of essential nutrients; others may help you reduce your risk of disease.

Other sources like Jade Shutes from the School for Aromatic Studies explain this further: "Dietary supplements can be created by using both nutritive and non-nutritive ingredients. Essential oils, of course, would be considered non-nutritive dietary supplements. The use of essential oils continues to actually grow within the dietary supplement world. This is the value of GRAS approved essential oils. They have already gone through incredible safety evaluation for internal use. So we see dietary supplement companies utilizing GRAS approved essential oils/co2 extracts."

Remember that essential oils are oftentimes a key component of the supplements that we take, and this is key: Dietary supplement manufacturers are able to utilize structure/function claims whereas traditional aromatherapy companies who sell essential oils for external application cannot.

So, if a company states on the bottle or package that their essential oil product(s) can alter body function (i.e. reduce pain, inflammation, etc.), the FDA requires that these claims be supported by conclusive evidence to prove the supplement truly has the claimed effect. These types of claims on labels must be approved by the FDA within 30 days after its first use. Additionally, the FDA requires that this information be printed on the product label in a clear manner for it to be regulated. Still then, these claims can only be "general structure function" and cannot state the product "cures" or "treats" a disease or illness.

This seems pretty straightforward, but is not a guarantee that products are being regulated. Only products that make claims on them are regulated. So, the natural course of action for a vast majority of supplement and essential oil manufacturers is to simply not make claims on their labels! Then, these same companies can make claims on their website and try to walk this fine line and stay under the FDA's radar. For instance, let's say that:

- Company XYZ states that a product reduces pain and inflammation on their website only.
- Company XYZ does NOT state this on their dietary fact supplement label.
- Subsequently, the label does NOT require FDA approval before it goes to market.
- The supplement label will be regulated by the FDA ONLY if it has been found to be adulterated or responsible of causing harm.
- If dietary supplement claims are made on a supplement label, Company XYZ is then required to have substantiating evidence to back up their claim and get approval within 30 days after its first use.

The bottom line is that according to the law (DSHEA), manufacturers are responsible for ensuring that their products are safe before they are marketed; which is a main factor when considering where to buy essential oils.

The Great Aromatherapy Debate

When choosing where to buy essential oils, it is commonly believed that the bottle should contain a supplement label. To make a brief statement about internal use in the context of the SUPPLEMENT label discussion, the fact remains that there are no scientific, evidence-based, anatomical, physiological or logical reasons to say that essentials oils are unsafe for human consumption.

Paradoxically, aromatherapists are still at odds with each other on this point, which confuses the casual essential oil user all the more. With that said, rest assured that large professional organizations like the National Association for Holistic Aromatherapy (NAHA) support safe, internal use.

In the words of NAHA, "Essential oils may be applied on the skin (dermal application), inhaled, diffused or taken internally. Each of these methods has safety issues which need to be considered." And this makes complete sense to me. Like anything, we can easily overdo it, and we must remember a little goes a long way with regard to essential oils – especially internal use!

The thing that really throws us for a loop regarding people who speak out against internal use is that they are in direct opposition of the several human studies in the scientific literature and completely disregard the Food and Drug Administration. Yes, you read that

correctly! According to the FDA, essential oils are safe for human consumption. For the exhaustive FDA-approved list of Generally Recognized As Safe (GRAS) oils see below.

Note: not all oils that are safe for ingestion are included in the FDA-approved GRAS list. We recommend that we use this list as a base point to start the conversation about what is and what is not safe.

Tips for Internal Use

It is important to realize that people consume essential oils all day without even realizing it. Where do you think your processed foods get their flavor from!

Virtually anything that is naturally flavored most likely contains essential oils. This is what the FDA says in the official document Code of Regulations, Title 21, Volume 6, Animal Food Labeling: Specific Animal Food Labeling Requirements.

FOODS CONTAINING "ARTIFICIAL FLAVORS" AND "SPICES" DO NOT CONTAIN OILS

"(a)(1) The term artificial flavor or artificial flavoring means any substance, the function of which is to impart flavor, which is not derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, fish, poultry, eggs, dairy products, or fermentation products thereof.

(2) The term spice means any aromatic vegetable substance in the whole, broken, or ground form, except for those substances which have been traditionally regarded as foods, such as onions, garlic and celery; whose significant function in food is seasoning rather than nutritional; that is true to name; and from which no portion of any volatile oil or other flavoring principle has been removed.

Allspice, Anise, Basil, Bay leaves, Caraway seed, Cardamon, Celery seed, Chervil, Cinnamon, Cloves, Coriander, Cumin seed, Dill seed, Fennel seed, Fenugreek, Ginger, Horseradish, Mace, Marjoram, Mustard flour, Nutmeg, Oregano, Paprika, Parsley, Pepper, black; Pepper, white; Pepper, red; Rosemary, Saffron, Sage, Savory, Star aniseed, Tarragon, Thyme, Turmeric.

Paprika, turmeric, and saffron or other spices which are also colors, shall be declared as spice and coloring unless declared by their common or usual name."

FOODS CONTAINING "NATURAL FLAVORS" DO CONTAIN OILS

"(3) The term natural flavor or natural flavoring means the essential oil, oleo-resin, essence or extractive, protein hydro-ly-sate, distillate, or any product of roasting, heating or enzy-mol-ysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, seafood, poultry, eggs, dairy products, or fermentation products thereof, whose significant function in food is flavoring rather than nutritional. Natural flavors, include the natural essence or extractives obtained from plants."

By letting common sense be our guide, we propose some tried and true tips on how to take essential oils internally.

- When starting out, stick with those that are GRAS (see below for the FDA-approved list of oils that are Generally Recognized As Safe for internal use).
- Be safe.
- Don't overdo it – limit to 1-2 drops at a time, and be sure to wait at least 4 hours before taking consecutive doses.
- Discontinue use IMMEDIATELY if adverse reactions occur.

Trust me, people don't break out in hives in a "detox" reaction when using essential oils like I've read out there in cyberspace. Pain, irritation, swelling, inflammation, bloating, burning, reflux, and anything else that isn't pleasant is NOT a good sign. This is your body's way of warning you that something harmful is attacking it.

SOME MORE PRACTICAL TIPS:

- Gentle oils like frankincense and lemon can usually be taken directly under the tongue for quick access into the bloodstream.
- More volatile oils like oregano and clove should ALWAYS be diluted with a carrier oil. 1 drop per teaspoon is usually safe for people.
- Putting 1-2 drops in a capsule can help you avoid esophageal irritation.
- Putting 1 drop of a citrus oil in your water is generally safe and quite enjoyable.
- Our family regularly enjoy a drop of lemon/lime + some liquid stevia in sparkling water as our soda pop alternative.
- Include 1 drop of your favorite oils in your food.

Cooking with essential oils is an extremely effective way to enjoy the health benefits as well as the wonderful experience through your taste buds. 1-2 drops of cilantro or coriander with 1-2 drops of lime, for example, goes wonderfully with your homemade guacamole. Dry 1 drop of cumin in your curry next time. Or 1-2 drops of black pepper in virtually anything savory!

FDA Approved GRAS Essential Oils

[Code of Federal Regulations]

TITLE 21–FOOD AND DRUGS

CHAPTER I–FOOD AND DRUG ADMINISTRATION

DEPARTMENT OF HEALTH AND HUMAN SERVICES

SUBCHAPTER B–FOOD FOR HUMAN CONSUMPTION (CONTINUED)

PART 182 — SUBSTANCES GENERALLY RECOGNIZED AS SAFE

Subpart A–General Provisions

Sec. 182.20 Essential oils, oleoresins (solvent-free), and natural extractives (including distillates).

Essential oils, oleoresins (solvent-free), and natural extractives (including distillates) that are generally recognized as safe for their intended use, within the meaning of section 409 of the Act, are as follows:

Common name	**Botanical name of plant source**
Alfalfa	Medicago sativa L.
Allspice	Pimenta officinalis Lindl.
Almond, bitter (free from prussic acid)	Prunus amygdalus Batsch, Prunus armeniaca L., or Prunus persica (L.) Batsch.
Ambrette (seed)	Hibiscus moschatus Moench.
Angelica root	Angelica archangelica L.
Angelica seed	Do.
Angelica stem	Do.
Angostura (cusparia bark)	Galipea officinalis Hancock.
Anise	Pimpinella anisum L.
Asafetida	Ferula assa-foetida L. and related spp. of Ferula.
Balm (lemon balm)	Melissa officinalis L.
Balsam of Peru	Myroxylon pereirae Klotzsch.
Basil	Ocimum basilicum L.
Bay leaves	Laurus nobilis L.
Bay (myrcia oil)	Pimenta racemosa (Mill.) J. W. Moore.
Bergamot (bergamot orange)	Citrus aurantium L. subsp. bergamia Wright et Arn.

Bitter almond (free from prussic acid)	Prunus amygdalus Batsch, Prunus armeniaca L., or Prunus persica (L.) Batsch.
Bois de rose	Aniba rosaeodora Ducke.
Cacao	Theobroma cacao L.
Camomile (chamomile) flowers, Hungarian	Matricaria chamomilla L.
Camomile (chamomile) flowers, Roman or English	Anthemis nobilis L.
Cananga	Cananga odorata Hook. f. and Thoms.
Capsicum	Capsicum frutescens L. and Capsicum annuum L.
Caraway	Carum carvi L.
Cardamom seed (cardamon)	Elettaria cardamomum Maton.
Carob bean	Ceratonia siliqua L.
Carrot	Daucus carota L.
Cascarilla bark	Croton eluteria Benn.
Cassia bark, Chinese	Cinnamomum cassia Blume.
Cassia bark, Padang or Batavia	Cinnamomum burmanni Blume.
Cassia bark, Saigon	Cinnamomum loureirii Nees.
Celery seed	Apium graveolens L.
Cherry, wild, bark	Prunus serotina Ehrh.
Chervil	Anthriscus cerefolium (L.) Hoffm.
Chicory	Cichorium intybus L.
Cinnamon bark, Ceylon	Cinnamomum zeylanicum Nees.
Cinnamon bark, Chinese	Cinnamomum cassia Blume.
Cinnamon bark, Saigon	Cinnamomum loureirii Nees.
Cinnamon leaf, Ceylon	Cinnamomum zeylanicum Nees.
Cinnamon leaf, Chinese	Cinnamomum cassia Blume.
Cinnamon leaf, Saigon	Cinnamomum loureirii Nees.
Citronella	Cymbopogon nardus Rendle.
Citrus peels	Citrus spp.
Clary (clary sage)	Salvia sclarea L.
Clover	Trifolium spp.
Coca (decocainized)	Erythroxylum coca Lam. and other spp. of Erythroxylum.
Coffee	Coffea spp.
Cola nut	Cola acuminata Schott and Endl., and other spp. of Cola.
Coriander	Coriandrum sativum L.
Cumin (cummin)	Cuminum cyminum L.

Curacao orange peel (orange, bitter peel)	Citrus aurantium L.
Cusparia bark	Galipea officinalis Hancock.
Dandelion	Taraxacum officinale Weber and T. laevigatum DC.
Dandelion root	Do.
Dog grass (quackgrass, triticum)	Agropyron repens (L.) Beauv.
Elder flowers	Sambucus canadensis L. and S. nigra I.
Estragole (esdragol, esdragon, tarragon)	Artemisia dracunculus L.
Estragon (tarragon)	Do.
Fennel, sweet	Foeniculum vulgare Mill.
Fenugreek	Trigonella foenum-graecum L.
Galanga (galangal)	Alpinia officinarum Hance.
Geranium	Pelargonium spp.
Geranium, East Indian	Cymbopogon martini Stapf.
Geranium, rose	Pelargonium graveolens L'Her.
Ginger	Zingiber officinale Rosc.
Grapefruit	Citrus paradisi Macf.
Guava	Psidium spp.
Hickory bark	Carya spp.
Horehound (hoarhound)	Marrubium vulgare L.
Hops	Humulus lupulus L.
Horsemint	Monarda punctata L.
Hyssop	Hyssopus officinalis L.
Immortelle	Helichrysum augustifolium DC.
Jasmine	Jasminum officinale L. and other spp. of Jasminum.
Juniper (berries)	Juniperus communis L.
Kola nut	Cola acuminata Schott and Endl., and other spp. of Cola.
Laurel berries	Laurus nobilis L.
Laurel leaves	Laurus spp.
Lavender	Lavandula officinalis Chaix.
Lavender, spike	Lavandula latifolia Vill.
Lavandin	Hybrids between Lavandula officinalis Chaix and Lavandula latifolin Vill.
Lemon	Citrus limon (L.) Burm. f.
Lemon balm (see balm)	
Lemon grass	Cymbopogon citratus DC. and Cymbopogon lexuosus Stapf.

Lemon peel	Citrus limon (L.) Burm. f.
Lime	Citrus aurantifolia Swingle.
Linden flowers	Tilia spp.
Locust bean	Ceratonia siliqua L,
Lupulin	Humulus lupulus L.
Mace	Myristica fragrans Houtt.
Mandarin	Citrus reticulata Blanco.
Marjoram, sweet	Majorana hortensis Moench.
Mate	Ilex paraguariensis St. Hil.
Melissa (see balm)	
Menthol	Mentha spp.
Menthyl acetate	Do.
Molasses (extract)	Saccarum officinarum L.
Mustard	Brassica spp.
Naringin	Citrus paradisi Macf.
Neroli, bigarade	Citrus aurantium L.
Nutmeg	Myristica fragrans Houtt.
Onion	Allium cepa L.
Orange, bitter, flowers	Citrus aurantium L.
Orange, bitter, peel	Do.
Orange leaf	Citrus sinensis (L.) Osbeck.
Orange, sweet	Do.
Orange, sweet, flowers	Do.
Orange, sweet, peel	Do.
Origanum	Origanum spp.
Palmarosa	Cymbopogon martini Stapf.
Paprika	Capsicum annuum L.
Parsley	Petroselinum crispum (Mill.) Mansf.
Pepper, black	Piper nigrum L.
Pepper, white	Do.
Peppermint	Mentha piperita L.
Peruvian balsam	Myroxylon pereirae Klotzsch.
Petitgrain	Citrus aurantium L.
Petitgrain lemon	Citrus limon (L.) Burm. f.
Petitgrain mandarin or tangerine	Citrus reticulata Blanco.
Pimenta	Pimenta officinalis Lindl.
Pimenta leaf	Pimenta officinalis Lindl.
Pipsissewa leaves	Chimaphila umbellata Nutt.
Pomegranate	Punica granatum L.

Prickly ash bark	Xanthoxylum (or Zanthoxylum) Americanum Mill. or Xanthoxylum clava-herculis L.
Rose absolute	Rosa alba L., Rosa centifolia L., Rosa damascena Mill., Rosa gallica L., and vars. of these spp.
Rose (otto of roses, attar of roses)	Do.
Rose buds	Do.
Rose flowers	Do.
Rose fruit (hips)	Do.
Rose geranium	Pelargonium graveolens L'Her.
Rose leaves	Rosa spp.
Rosemary	Rosmarinus officinalis L.
Saffron	Crocus sativus L.
Sage	Salvia officinalis L.
Sage, Greek	Salvia triloba L.
Sage, Spanish	Salvia lavandulaefolia Vahl.
St. John's bread	Ceratonia siliqua L.
Savory, summer	Satureia hortensis L.
Savory, winter	Satureia montana L.
Schinus molle	Schinus molle L.
Sloe berries (blackthorn berries)	Prunus spinosa L.
Spearmint	Mentha spicata L.
Spike lavender	Lavandula latifolia Vill.
Tamarind	Tamarindus indica L.
Tangerine	Citrus reticulata Blanco.
Tarragon	Artemisia dracunculus L.
Tea	Thea sinensis L.
Thyme	Thymus vulgaris L. and Thymus zygis var. gracilis Boiss.
Thyme, white	Do.
Thyme, wild or creeping	Thymus serpyllum L.
Triticum (see dog grass)	
Tuberose	Polianthes tuberosa L.
Turmeric	Curcuma longa L.
Vanilla	Vanilla planifolia Andr. or Vanilla tahitensis J. W. Moore.
Violet flowers	Viola odorata L.
Violet leaves	Do.

Violet leaves absolute	Do.
Wild cherry bark	Prunus serotina Ehrh.
Ylang-ylang	Cananga odorata Hook. f. and Thoms.
Zedoary bark	Curcuma zedoaria Rosc.

[42 FR 14640, Mar. 15, 1977, as amended at 44 FR 3963, Jan. 19, 1979; 47 FR 29953, July 9, 1982; 48 FR 51613, Nov. 10, 1983; 50 FR 21043 and 21044, May 22, 1985]

By reading and studying this information and the listed references, you should be able to decide where to buy essential oils…and the best way to buy essential oils.

Chapter 7
Cooking with Essential Oils

Learn how cooking with essential oils safely (and deliciously!) can help you cook up nutritious concoctions in the kitchen.

What You Will Learn

- Cooking with Essential Oils Ingestion Controversy
- Basics of Cooking with Essential Oils
- Does Cooking Damage Essential Oils?
- Top 10 Essential Oils for Cooking

Combining nutritious foods with flavorful spices and herbs is a time honored tradition and a beautiful picture of God's design for the Abundant Life. The flowers and herbs that grace our gardens are also delicious sources of wellness. Extending this celebration to cooking with essential oils as well widens our appreciation for creation and all of the goodness available at our fingertips.

Cooking with Essential Oils Ingestion Controversy

Admittedly, the ingestion of essential oils is a hot topic with much controversy. What, if any, oils can be ingested and how do we do it? There are plenty of opinions out there, but past precedent alone tells us that cooking with essential oils is nothing new. Essential oils and extracts have been used as flavoring agents for years. It's just too easy to add a drop or two of intensely flavored oil in place of time consuming ingredients with much more volume.

In addition to flavor, cooking with essential oils is regularly tested by researchers for their potential to improve food safety. Antimicrobial oils, the theory goes, may be able to minimize foodborne illness if manufacturers added it to packaging.

So the idea of cooking with essential oils or incorporating them into our kitchen process is nothing new. The important thing is to do it safely, appreciating the differences between a whole herb or spice and its essential oil.

You'll also want to note that not every essential oil is a good choice for cooking. Sometimes cooking with essential oils changes the taste and it doesn't taste quite as yummy as the whole herb.

Sometimes the oil has too much of a certain component, making it less than ideal or even unsafe in high quantities. Fennel is a good example, when a woman ate an "undisclosed amount" of fennel cakes with essential oil in them, she experienced seizures.

Knowing all about the oil you'd like to use – its safety, profile, and precautions – is important. With proper use, dilution, and amounts, we believe cooking with essential oils can be both safe and fun.

Cooking with Essential Oils Basics

Cooking with essential oils actually helps to make cooking much easier and more flavorful. There's always a place for herbs and spices – we need the variety of nutrients they offer! But sometimes, it's just easier to add a drop or two instead of spending time chopping and slicing and preparing. Other times, a yummy essential oil can take the place of a recipe's artificial flavoring ingredient (think "orange extract" or "lemon flavoring" or vanilla).

For the basics of cooking with essential oils, remember to:

- Convert
- Dilute
- Delay

Convert The Amounts When Cooking With Essential Oils

Remember that the essential oil is a concentrated portion of its original source. Just like cinnamon sticks take up more space than cinnamon powder, the essential oil should be used in much smaller quantities than the whole substance.

We don't quite have a hard-and-fast rule for substituting essential oils for whole herbs and spices, but a good rule of thumb is that a drop will replace a teaspoon and that you don't need more than one or two drops for a full recipe.

Dilute Essential Oils for Cooking as Needed

Another thing to remember when cooking with essential oils is that they should still be diluted into a lipid first. This not only keeps us safe, but it helps to ensure the oil (and flavor!) gets dispersed throughout the whole dish. Learn more about the chemistry of dispersing and diluting essential oils here.

For savory recipes, dilute into a bit of olive or coconut oil. Stir, and then add to the recipe.

For sweet recipes, honey or a syrup works well; however, this is better done with non-liquid dishes as neither are sufficient to keep the essential oil safely dispersed in water, tea, etc.

Delay Adding Essential Oils

Finally, for hot recipes, wait until the end of the process before adding the essential oil. These are called “volatile oils” for a reason – they are relatively fragile and will dissipate quickly in high heat!

For stovetop recipes, after the cooking is finished, stir your diluted essential oil into the dish. For baking, you’ll simply expect to lose a bit of the properties in the process. Dilution throughout the recipe will help, and you’ll still be able to enjoy the flavors of cooking with essential oils, no matter what!

Does Cooking With Essential Oils Damage Their Beneficial Properties?

This point is worth expanding a bit more before we move on to the best essential oils for cooking. After all, it’s important to understand why we’re doing it and what the benefits and drawbacks may be.

The two concerns with cooking essential oils seem to be:

1. Alteration of chemical structure
2. Evaporation

Both of these concerns are valid, but that shouldn’t stop us from enjoying the culinary use of cooking with essential oils. Minimize exposure to high heat by adding essential oils last, and minimize evaporation by proper dilution and dispersion throughout the recipe.

While one would think boiling would eliminate the beneficial properties, at least one study found that some properties were better retained during boiling than baking.
Go figure!

Because these oils are going to be ingested and some of the properties are indeed retained, it’s important to get high quality, certified organic oils for the absolute best in safety and flavor.

Finally, remember that cooking with essential oils is largely to enjoy the flavors and fragrance, with a dash of potential health benefits on the side. For direct and potent health effects, other remedies or applications are ideal.

Cooking with Essential Oils: 10 Great Oils to Include in Your Recipes

It doesn't take much essential oil to flavor your dish when using essential oils. Remember you typically need just a drop or two at most. Here are some of the best essential oils for cooking.

1. LAVENDER

As one of the most gentle oils, lavender essential oil is a great oil to start with as you learn to cook with essential oils. Its flavor is delicate and floral, excellent for a variety of culinary options.

Try lavender in dessert recipes like scones or even savory dishes like fish bakes. Just a couple of drops for the whole recipe will add just a touch of that unique floral flavor to take your recipe from bland to gourmet.

Lavender essential oil properties are linked with relaxing, calming, anti-anxiety effects.

2. PEPPERMINT

Cool and refreshing, peppermint essential oil is another easy one to start out with. A drop of peppermint essential oil added to honey turns an ordinary mug of tea into a stimulating, energizing jump start. Peppermint also blends well in lemonade and for the adventurous – go for a lavender, peppermint, lemonade mix! It's yet another case where the big-three essential oils and flavors work together well when cooking with essential oils.

Use peppermint oil in candies and chocolates for your own mint treats. And while it's not actually cooking, don't forget to use peppermint to make your own oral health treatments.

Peppermint essential oil properties are linked to energizing stimulation, relief of aches and pains, and even athletic performance.

3. CITRUS

There's just no way around it – all of the citrus oils are great for cooking! Citrus oils are unique in that they are pressed directly from the peel of the fruit, so while you're getting the oddball composition of roots and leaves and bark with other oils, you are much closer to the familiar fruit in citrus.

That also means they aren't steam distilled – which means they've yet to undergo heat. This makes citrus potentially more sensitive to heat applications. Don't avoid it, really, just be aware of that when you set your expectations.

Use citrus oils properly emulsified in drinks, smoothies (orange-cream, anyone?), and treats. Add to stir-fries and casseroles, one-pot wonders, and even in dips. The sky's the limit with these delicious, fruity oils.

Citrus essential oils are linked to energizing, antimicrobial properties and may even contribute to weight loss efforts.

4. BERGAMOT

While bergamot is technically citrus, it deserves special mention. First, it's not a fruit that we eat so we don't readily relate to the flavor. And second, it is a stand-out anxiety reliever.

Bergamot's flavor is mildly citrus-like. Try bergamot in scone recipes and other treats to take advantage of its excellent pairing with mild flavors.

Bergamot essential oil is a cold-pressed citrus oil that is associated with stress relieving, anti-anxiety benefits.

5. CINNAMON

Now we're stepping into the meat and potatoes (though, I'm not sure I'd use that literally for cinnamon!). Cinnamon essential oil is strong in both flavor and effects. It's more important than ever to dilute properly to protect sensitive membranes, and to only use a drop or two for a recipe.

Cinnamon essential oil works very well in sweet dishes, particularly cinnamon bark oil to replace powdered cinnamon bark. Think cinnamon French toast, you could add a drop into the eggs before dipping the toast into it, or to give an extra cinnamon boost in cinnamon rolls.

Cinnamon essential oil is associated with antimicrobial and antioxidant effects, as well as being a stimulating, energizing oil.

6. CARDAMOM

An excellent pairing with cinnamon oil, cardamom is known as a strong antioxidant with potential digestive benefits. Use cardamom and cinnamon as part of a chai flavor blend or in any spice-flavored dessert or treat.

Cardamom powder is also included in some savory recipes, adding a warm flavor touch to meat dishes and main courses. Adding cardamom essential oil in place of the powder may add digestive benefits to the recipe as well as tons of flavor.

Cardamom essential oil is associated with digestive wellness such as nausea relief, as well as potent antioxidant composition.

7. GINGER

Another digestive substance, ginger root has long been used to relieve nausea and protect the stomach. Ginger essential oil can be used in similar ways, and it is great for cooking. Add ginger to sweet treats like ginger snaps, gingerbread, and spiced drinks, without a doubt. But also try it in sauces for savory dishes like stir fries and marinades. Fresh ginger has to be peeled and grated, so ginger essential oil can be a quick and easy addition when time is short but flavor is needed.

Ginger essential oil is linked to digestive wellness, nausea prevention, and anti-inflammatory benefits.

8. THYME

Typically used in cleaning blends, thyme essential oil is best known for its frontline effects against the microbes that cause illness. But it's also an immune stimulant and part of a flavorful culinary herb.

As a savory flavor, add thyme to main course dishes, especially when meat is involved. The herbaceous flavor blends well into soups, stews, and bakes as well. Add to marinades to add an herbaceous touch without being limited to dry rubs. For a surprising twist, experiment with thyme in desserts and treats to offset the sweetness.

Thyme essential oil is known as an antimicrobial immune stimulant and may help to improve food safety.

9. ANISE

With a licorice flavor, anise essential oil is fun to experiment with as a unique and absolutely delicious addition to nearly any kind of recipe. Anise as a whole herb is used in cookies and treats, mild biscotti, savory marinades, soups, sausages, and various ethnic recipes. Anise is similar to fennel in flavor and digestive benefits. Replace anise in recipes with a drop or two of the essential oil.

But, like fennel, it can be counterproductive and even dangerous if used in excess. Use it cautiously – not daily and not in excess – to enjoy the flavor and digestive benefits of anise essential oil.

Anise essential oil is associated with digestive benefits, as well as the risks associated with estragole content. Use appropriately.

10. CORIANDER/CILANTRO

Coriander is the seed of the plant and cilantro is the leaf of the same – but their flavors and applications are much different. Their essential oils work in a similar way. While the benefits are somewhat similar, the flavors are different and their best uses are different. Use cilantro essential oil where you would use cilantro, in salsas, dips, and savory cuisine. Coriander essential oil works well in sauces, vegetable dishes, pickling, and other savory recipes that use herbs.

Coriander and cilantro essential oils are associated with digestive benefits and antioxidant properties.

Chapter 8
The Healthiest Herbs & Spices

Many people could never imagine food without the flavor that the difference between herbs and spices can provide. Yet, at the same time, we wonder just how many of us truly appreciate the difference between herbs and spices and the life-giving properties within each and every one.

Herbs and spices have outstanding nutritional benefits that enhance foods in so many different ways and people are still finding new mixes and blends have been used for culinary and medicinal purposes since the beginning of time.

Herbs and Spices 101

Although we commonly use the terms interchangeably, herbs are not spices and spices are not herbs; even though the same plant can produce both. Before we dive into some of their medicinal benefits, there are some things that you should know about the differences between herbs and spices. Are you confused? Foy Spicer from the Iowa State University Department of Horticulture gives us some great information:

Some plants are both herbs and spices. The leaves of Coriandrum sativum are the source of cilantro (herb) while coriander (spice) is from the plant's seeds. Dill is another example. The seeds are a spice while dill weed is an herb derived from the plant's stems and leaves.

Key Differences between Herbs and Spices

Herbs are obtained from the leaves of herbaceous (non-woody) plants. They often are used in larger amounts than spices. Herbs are used for savory purposes in cooking and some have medicinal value. They originated in temperate climates such as Italy, France, and England. Herb also is a word used to define any herbaceous plant that dies down at the end of the growing season and may not refer to its culinary value at all.

Spices are obtained from roots, flowers, fruits, seeds or bark. Spices are native to warm tropical climates and can be woody or herbaceous plants. Spices often are more potent and stronger flavored than herbs; as a result they typically are used in smaller amounts. Some spices are used not only to add taste, but also as a preservative.

Commonly Used Herbs:

- Basil
- Chives
- Marjoram
- Mint
- Oregano
- Parsley
- Rosemary
- Sage
- Thyme

Commonly Used Spices:

- Cinnamon (bark)
- Cloves (flower bud)
- Cumin (seed)
- Ginger (root)
- Nutmeg (seed)
- Saffron (stigma, female reproductive part of saffron crocus)
- Vanilla (undeveloped fruit of an orchid)

Now the next time a friend or family member uses “herb” and “spice” interchangeably or incorrectly, you’ll be able to set them straight and solve their confusion about the difference between herbs and spices.

Favorite Beneficial Herbs and Spices

If you had to choose the top 5 most beneficial herbs and spices to keep in your pantry, which ones should you keep in stock? That’s a tough one, but after some careful research, these 5 stand out among the rest:

1. BASIL

Extremely rich in vitamin K and manganese, basil is an Italian staple with over 100 varieties to choose from!

The flavonoids in basil are known to protect our DNA from mutagenesis. They also contain some potent anti-bacterial properties and are essential for heart health.

2. CURRY

It's sought-after in Indian dishes, and you benefit from a large selection of key spices every time you use it! Traditionally, curry is made by combining a variety of spices including caraway, cardamom, chili pepper, cumin, fenugreek, garlic, mustard seed and turmeric. All of these ingredients pack a powerful immunity boost, but the key to this blend is turmeric.

The health properties of curcumin (the main ingredient in turmeric) has been referenced more than 7,300 times in peer-reviewed articles and is the most frequently mentioned medicinal compound in all of science. Many health practitioners claim that the benefits of the main compound in turmeric go well beyond that of some of the most commonly prescribed drugs such as:

- Anti-inflammatory drugs
- Anti-coagulants (Aspirin)
- Anti-depressants (Prozac)
- Arthritis medications
- Chemotherapy
- Cholesterol drugs (Lipitor)
- Diabetes drugs (Metformin)
- Inflammatory bowel disease drugs
- Pain killers Steroids

3. OREGANO

This herb, especially its essential oil, has outstanding healing properties and oregano is a key ingredient in pizza sauce. It contains thymol and carvacol and has anti-bacterial and anti-fungal properties comparable to most drugs, yet without the side effects.

4. PUMPKIN PIE SPICE

This spice is a powerful combination of allspice, cinnamon, clove, ginger and nutmeg. All of these spices are powerful healing ingredients in their own right, but the key to pumpkin pie spice is the effect that these spices have when combined together. As seen in essential oils studies, the chemicals in each ingredient interact with each other in such a way that the blend's antimicrobial properties are significantly enhanced, thus making it a fantastic solution to prevent and treat bacterial infections and various illnesses.

5. THYME

The scientific literature, including 2,600 articles, discusses the key to thyme's health benefits as being the chemical thymol, which is widely known for destroying a variety of cancer cells. Thyme is also eaten to help treat a wide selection of health conditions such as arthritis, bronchitis, diarrhea, sore throat, and even bedwetting.

Proper Storage and Expiration Dates

Storing your herbs and spices correctly help them maintain their flavor, as well as their medicinal benefit. The easiest way to test whether or not your herbs and spices are still potent is to gently shake the container with the cap on. Remove the cap after a moment, and check the container to see if the rich smell of the contents is still present. Here are some tried-and-true tips to keep in mind:

- Whole herbs and spices keep the longest because their flavors have not been exposed to air. Thus, ground herbs and spices have a shorter shelf life.
- Whole spices and herbs will keep between 1 – 2 years.
- Seeds will keep 2 – 3 years, and roots 3 years.
- Ground herbs and spices will keep 1 year, ground roots for 2 years.
- Store herbs and spices in tightly sealed containers in a cool dark place ideally below 70º F. Your pantry or cupboard will work great.
- Glass works best for storage, as it will help preserve more of the essential oil content.
- Protect from moisture by keeping containers closed tightly. Open shaker bottles are a no-no.
- Keep herbs and spices away from direct light to prevent color fading.
- Never store them above your stove or near other heat sources like your dishwasher or microwave.
- Don’t keep them near a dishwasher because of the extra moisture that will cause premature oxidation and spoiling.
- Freezing herbs and spices is only a good idea if you store them in bulk to prolong the shelf life. Only open the package periodically to fill smaller containers that you use on a regular basis because each time you open the package filled with bulk herbs and spices from your freezer, moisture enters the contents and will end up accumulating and ruining the batch.
- Don’t add herbs and spices directly into something you’re cooking because the rising heat and moisture may decrease the strength of the spice or herb remaining in the jar, or may cause it to clump or spoil more quickly. Put herbs or spices in your hand first, then put them in your container of food.

Now you know ALL that you need about the difference between herbs and spices to get started. Try some of these herbs and spices and let us know what you think.

Section 3
Downloads and Printables

Mama Z has been instrumental in making the biggest shifts for our family's toxic-free transformation and these resources will help empower you to the fullest. Print off the pages that you need to help you walk through this transformation process. Whether you're making a switch in synthetic fragrances, or what you use to clean, you'll find exactly what you need below.

Look for essential oil diffuser blends you can use throughout the entire year, DIY cleaner recipes that you make yourself, and a no-microwave survival guide so you can eliminate one of the common sources of unhealthy frequencies in your home. Where will you start? **Join Mama Z's Natural Living Family Facebook Group** and share your transformation journey with us!

Click on Title to go to Printable.

Here's a list of the free printables & downloads to help you makeover your kitchen:

1. **Dirty 10 Chemicals Checklist With Wallet Card** - These common cleaners have toxic chemicals to avoid. Print out this wallet card to take with you when shopping and check labels so you know what to avoid!

2. **Healthy Air & Water Guide** - See our year-round diffuser blend recipe inspirations, as well as tips for creating healthy water for you and your family.

3. **No-Microwave Survival Guide** - Think you can't replace your microwave? Think again. These tips will help you replace your unhealthy habits with tried-and-true alternatives.

4. **Toxic-Free Cleaner Recipes** - Print out and implement these DIY cleaners that are proven in kid-friendly effectiveness without the caustic, toxic chemicals.

5. **Wholetones Review & Tips** - See what we love about Wholetones Healing Frequencies and how we use them throughout the day.

DIRTY 10 CHEMICALS

CLICK HERE for easy access quick links to our always-updated shopping guide and favorite, non-toxic brands.

DIRTY 10 CHEMICALS WALLET CARD

Check Your Labels! Here are **ten toxins** to avoid in your commercial cleaning products.

- Formaldehyde
- 1,4-Dioxane
- Ethylene Oxide
- Phosphate
- Bleach
- Perchloroethylene
- Ammonium Hydroxide
- 2-Butoxyethanol
- Hydroxides
- Any Bacteriacide like Triclosan

DrEricZ.com/Natural-Living

1 Formaldehyde

Often found in **dishwashing liquid, furniture polish, and other cleaners**. Studies since the 1980s have shown that **exposure to formaldehyde causes cancer**, yet we bath our dishes in it and apply it to areas of the home our children touch on a daily basis? Yikes!

2 1,4-Dioxane

This compound is an ether type chemical used often as a solvent in **cleaners, shampoos,** and more. It's even found in drinking water and cosmetics. It's known to be **toxic to the liver and kidneys** as well.

3 Ethylene Oxide

Often found in **dishwashing detergents** because of it's solvent and disinfectant nature, the residues and exposure from breathing the fumes is not something you want in your home. Exposure includes **respiratory and circulatory system abnormalities**, but even lower doses can cause **headache, vomiting, and nausea**.

4 Phosphate

Phosphates are common in **laundry and dishwashing cleaners** but have been proven to have a **harmful effect on the environment**, especially water bodies where the wastewater collects. High phosphates present in food additives have also been shown to have an impact on **lung cancers, kidney and heart function,** and more.

5 Bleach

Chlorine bleach is a corrosive material that **irritates the eyes, skin, and respiratory tract** through contact with the caustic gasses. There are also studies showing the fumes may be **carcinogenic when inhaled,** and that they make allergies worse, especially in children.

6 Perchloroethylene

Sometimes labeled as tetrachloroethylene, this solvent is often found in **carpet cleaners, degreasers, and dry-cleaning solutions**. These highly toxic compounds are known irritants **causing kidney, eye, and neurological issues**. It also shows adverse effects on the liver, immune system, and reproductive systems and has been linked to **cancers such as bladder, lymphoma,** and more.

7 Ammonium Hydroxide

Found in **carpet cleaners, all-purpose cleaners, and mopping solutions**, this is a highly corrosive chemical. It is linked to **respiratory tract irritation** and skin irritation as well as **headaches, vomiting,** and more.

8 2-Butoxyethanol

A petrochemical solvent used in **window cleaners, concentrate all-purpose cleaners,** and more. It is known to cause **damage to organs** because of toxicity and to be a dangerous poison if ingested. More importantly, for growing families, it has links to fertility and **birth defects**.

9 Hydroxides

Potassium hydroxide and sodium hydroxide are often used in multi-purpose cleaners to clean a wide variety of home areas. But they are known to be **damaging to the central nervous system and other sensitive organs,** as well as **local skin irritations.**

10 Antibacterial Chemicals

These chemicals are what make your cleaners say things like "kills 99% of bacteria" and include chemicals like triclosan. These endocrine disruptors help create **superbug strains of bacteria** while simultaneously **destroying your health.**

TOXIC-FREE HEALTHY HOME MAKEOVER
WITH DR. Z AND MAMA Z

HEALTHY AIR & WATER GUIDE

It's crucial to buy quality **air & water purifies** to omit invisible toxins that are being emitted throughout your home.

AIR - Indoor **air pollution** is caused by a combination of particles like pollen, dust, pet dander, mold spores combined with ozone, invisible gases and VOCS are emitted by furniture, carpeting, cleaning and body care products. The problem is that **ordinary air filters** on sale at home improvement stores can't protecting you from the majority of pollutants because they only remove particles.

- The health risks of indoor air pollution are profound.
- That's why we recommend AIR Doctor Pro.
- It's affordable, professional-strength & it works!
- You can **get $300 OFF (50%) by clicking here!**

WATER - If you live in the United States, there is a nearly one-in-four chance your **tap water is unsafe** to drink or has not been properly monitored for contaminants in accordance with federal law. Some of those **contaminants** include: Lead, chromium 6, disinfection byproducts, cancer-causing chemicals, herbicides, pesticides & many other dangerous contaminants.

- Reverse osmosis is one of the best ways to purify water.
- That's why we recommend AquaTru.
- It's affordable, professional-strength & it works!
- You can **get $50 OFF by clicking here**.

TOXIC-FREE HEALTHY HOME MAKEOVER
WITH DR. Z AND MAMA Z

Diffuser Recipes

Diffuser Blends for *Health* and *Wellness*

Addiction/Healthy Cravings

- 2 Drops Black Pepper
- 1 Drop Cinnamon Bark
- 1 Drop Lemon
- 1 Drop Peppermint

Weight Loss

- 2 Drops Grapefruit
- 2 Drops Cypress
- 2 Drops Peppermint

Immune Boosting

- 1 Drop Eucalyptus
- 1 Drop Lemon
- 1 Drop Cinnamon
- 1 Drop Rosemary
- 1 Drop Orange
- 1 Drop Clove

Energy

- 2 Drops Peppermint
- 2 Drops Rosemary
- 2 Drops Eucalpytus

Healthy Digestion

- 1 Drop Caraway
- 1 Drop Fennel
- 1 Drop Ginger
- 1 Drop Lemon
- 1 Drop Tarragon

Detox

- 3 Drops Juniper Berry
- 2 Drops Bay
- 2 Drops Grapefruit

Allergy

- 2 Drops Peppermint
- 2 Drops Lavender
- 2 Drops Lemon

Breathe Deep

- 1 Drop Cardamom
- 1 Drop Peppermint
- 1 Drop Eucalyptus
- 1 Drop Rosemary
- 1 Drop Tea Tree
- 1 Drop Lemon

Libido/Romance

- 2 Drops Frankincense
- 2 Drops Lavender
- 1 Drop Jasmine
- 1 Drop Ylang Ylang
- 1 Drop Rose

Harmony

- 2 Drops Frankincense
- 2 Drops Sandalwood
- 2 Drops Ylang Ylang
- 1 Drop Key Lime

Calm & Collected

- 2 Drops Lavender
- 2 Drops Geranium
- 1 Drop Roman Chamomile
- 1 Drop Clary Sage
- 1 Drop Ylang Ylang

Meditation (Holy Anointing)

- 2 Drops Frankincense
- 1 Drop Cinnamon Bark
- 1 Drop Cassia
- 1 Drop Myrrh

Focus Now

- 2 Drops Frankincense
- 1 Drop Sandalwood
- 1 Drop Cedarwood
- 1 Drop Vetiver

Sleepy Time

- 2 Drops Roman Chamomile
- 2 Drops Vetiver
- 2 Drops Lavender

Joyful

- 2 Drops Grapefruit
- 2 Drops Orange
- 1 Drop Lemon
- 1 Drop Bergamont

Gratitude

- 2 Drops Cinnamon Bark
- 2 Drops Orange
- 1 Drop Peppermint

Purpose

- 2 Drops Orange
- 2 Drops Peppermint
- 2 Drops Ravintsara

Year-Round Diffuser Blend Inspirations

Spring Diffuser Blends

Lullaby & Raindrops

- 2 Drops Juniper Berry
- 2 Drops Cypress
- 2 Drops Frankincense

Clean, Clean, Clean

- 2 Drops Lemon
- 2 Drops Lemon Eucalyptus
- 1 Drop Lemon Tea Tree
- 1 Drop Lemon Basil

Tutti Frutti Candy

- 2 Drops Geranium
- 2 Drops Lemongrass
- 2 Drops Grapefruit

Clothesline Fresh

- 2 Drops Lemongrass
- 2 Drops Cedarwood
- 2 Drops Grapefruit

Happy Gardener

- 1 Drop Basil
- 2 Drops Peppermint
- 2 Drops Lime

Heavenly Scent

- 5 Drops Magnolia
- 2 Drops Key Lime
- 2 Drops Lemon
- 2 Drops Blood Orange

Fall Diffuser Blends

Spiced Apple

- 2 Drops Clove
- 2 Drops Cinnamon Bark
- 2 Drops Ginger

Bright Leaves

- 2 Drops Patchouli
- 1 Drop Nutmeg
- 1 Drop Ginger

Pumpkin Pie

- 2 Drops Orange
- 2 Drops Cassia
- 1 Drop Clove
- 1 Drop Ginger

Spiced Chai

- 3 Drops Cardamom
- 2 Drops Cinnamon
- 1 Drop Ginger
- 1 Drop Clove

Stay Motivated Blend

- 2 Drops Black Pepper
- 1 Drop Sandalwood
- 1 Drop Orange
- 1 Drop Lime

Grounding

- 2 Drops Douglas Fir
- 2 Drops Cedarwood
- 2 Drops Orange

Winter Diffuser Blends

Oh, Christmas Tree!

- 3 Drops Douglas or White Fir
- 2 Drops Cedarwood
- 1 Drop of Juniper Berry

Grandma's Cookies

- 3 Drops Ginger
- 2 Drops Clove
- 1 Drop Cinnamon

By the Fire

- 3 Drops Cardamom
- 1 Drop Orange
- 1 Drop Cinnamon
- 1 Drop Clove

Let it Snow!

- 3 Drops Eucalyptus
- 2 Drops Juniper Berry
- 1 Drop Sage

Kingly Gifts

- 3 Drops Frankincense
- 2 Drops Myrrh
- 1 Drop Sage

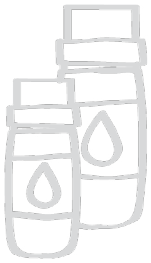
Carols in the Woods

- 1 Drop Sandalwood
- 1 Drop Wedarwood
- 1 Drop Cypress
- 1 Drop Myrrh

Here's the water recipe Mama Z mentions in her video tour. Print out these recipe cards and share one with a friend.

WATER DETOX RECIPE

Ingredients



- 1 Eye Dropper Liquid Stevia
- 1-3 Tbl Bragg's Apple Cider Vinegar to taste
- 10 Drops Lemon Essential Oil
- 10 Drops Grapefruit Essential Oil *
- 1 Gallon drinkable water

Instructions

- Add the stevia, ACV and desired essential oils to the jug.
- Top it all off with your reverse osmosis drinking water.
- Drink 2-3 glasses per day.

*Alternatively you can substitute in lime, orange, or other favorite citrus or floral essential oil.

WATER DETOX RECIPE

Ingredients

- 1 Eye Dropper Liquid Stevia
- 1-3 Tbl Bragg's Apple Cider Vinegar to taste
- 10 Drops Lemon Essential Oil
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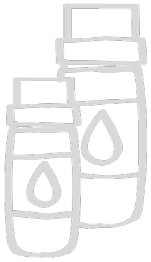

Instructions

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- Drink 2-3 glasses per day.

*Alternatively you can substitute in lime, orange, or other favorite citrus or floral essential oil.

NO-MICROWAVE SURVIVAL GUIDE

One of the most common sources of **EMF transmissions** hidden right in the heart of your home is **the microwave.** For many of us, imagining life without a microwave might seem foreign but it's very doable.

Everything you can use a microwave for, you can do in a healthier, less-toxic way. Use these **Mama Z** tried and tested alternatives to help you ditch one of the hidden dangers in your kitchen.

To Do This	*Use These Safer Alternatives*
Baby Bottle Water/Milk	› Run a **BPA-free plastic** or **glass container** with the milk under hot tap water. **Invert periodically** to heat evenly and safely.
Comfort Food when Ill/Exhausted	› Use small portion cooking recommendations - Cook in the **oven** or **toaster oven.** › Cook and **keep-warm** a larger batch of soup or broth in a **crock pot** where you can **nibble as desired** all day.
Hot Water for Tea/ Coffee/ Reheating Coffee	› An **electric kettle** is perfect for hot water **in an instant.** › **Saucepan on the oven** can be used to boil water. › Dedicate an **electric coffee pot** only used for water, to heat one cup of water at a time as needed. › To keep coffee hot in-the-cup use a **coaster-size hot-plate** to **avoid nuking** your coffee throughout the day.
Instant Frozen Foods	› Kid-Friendly instant meals like **burritos, pizza, etc.** can be made in a **toaster oven.**
Melt Butter	› Place ingredient to be melted in a **glass 2-Cup measuring cup** and set it in the oven during your **preheat cycle** when cooking dinner. › This trick works perfectly for **coconut oil and chocolate** too.
One-Person Meals	› Divide your meals into **single-serving portions** and then cook as needed.

NO-MICROWAVE SURVIVAL GUIDE

Did you know that stone will wick the heat away from frozen meat? That you can use already-boiling water to cook your frozen vegetables? These additional, **tried-and-true techniques** will help prevent you from relying on your microwave and introducing **dangerous EMFs** into your family's environment.

Reheating Leftovers	› Bake at **350°F** for **8-15 minutes**—the texture is MUCH better. › If you need it quicker, consider a **toaster oven or saucepan**—no preheating!
Single Portion Cooking	› Divide your meals into **single-serving portions** and then cook as needed.
Thawing Meat	› **Defrost overnight** in the fridge for the simplest method. › Place frozen meat in a **sealed, waterproof baggie** in a sink of warm water. › Use a **stone counter or cutting block** (granite works too!) to defrost meat faster than using a fridge.
Veggies, Frozen	› Put your veggies in a bowl and then pour boiling water from an **electric kettle** over them. Cover and let it **steep for 5 minutes.**
Veggies, Steaming	› **Get a steamer!** It's a quick and easy way to steam your veggies without a microwave.
Waffles & Toaster Pastry	› Use a **toaster** or **toaster oven.**
Work Meals	› **Donate a toaster oven** to the break room or focus on meals that do not require reheating - sandwiches, salads, wraps and smoothies.

TOXIC-FREE HEALTHY HOME MAKEOVER
WITH DR. Z AND MAMA Z

ALL-PURPOSE KITCHEN SPRAY

Ingredients

- 8 ounces of Water
- 4 ounces of White Vinegar
- 3 ounces of 91% Isopropyl Alcohol
- 1 teaspoon of Dr. Bronner Liquid Castile Soap
- 10 drops of Tea Tree Oil
- 10 drops of Lemon Essential Oil
- 5 drops of Grapefruit Essential Oil
- Glass spray bottle

Instructions

- Add your essential oil to the isopropyl alcohol. Slowly add the vinegar.
- Mix your castile soap into the distilled water and gently add this to the alcohol, essential oil, and vinegar mixture. Mix gently, but well.
- Spray kitchen counters with your homemade cleaner and wipe down.

* Take out the vinegar if you have granite countertops as it can cause etching or pitting. Replace with distilled water. It's recommended to make new cleaner each week if you can. You may be able to get up to a month out of this recipe. Be sure to check your cleaner for bacterial and fungal growth before each use. Keep in cold storage if you can.

KITCHEN SCRUB

Ingredients

- ½ cup baking soda
- 15 drops lemon essential oil
- Glass shaker jar

Instructions

- Mix baking soda and lemon essential oil together and store in a glass container. I like cheese shakers for this because they make it easy to use, but any glass jar will do!

Use as you would a normal cleanser, making a bit of a paste with water and scrubbing with a clean damp cloth. Rinse.

* For a little extra cleaning power, spray the soiled area with white vinegar before sprinkling on the cleanser and add an additional drop of a citrus oil like orange or grapefruit!

HEAVY DUTY CLEANER WITH REUSABLE WIPES

To start you'll need a wide-mouth 1-quart mason jar or other glass container. You'll also need one tee shirt cut into pieces easy to hold in the hand for scrubbing. Great for repurposing a shirt that has holes but you don't want to toss.

Ingredients

- 5 oz rubbing alcohol
- 4 oz water (distilled/purified)
- 3 oz organic, white distilled vinegar
- 12-24 drops essential oils*

Instructions

- Add the essential oils to your rubbing alcohol in a glass bowl and gently mix.
- Add the vinegar, mixing gently, and then add the water.
- Add your tee shirt pieces to the quart jar and pour your cleaning mix on top. You want enough tee shirt pieces in the jar so that they are damp, but not dripping, and the majority of the cleansing mix is absorbed.
- This is perfect to help simplify chores for kids, scrubbing up a quick yucky, or giving a little extra attention to an area that needs a special blessing.
- Toss the shirt wipe into the next load of laundry so it can be reused!

* I love using an immunity blend with equal parts cinnamon, clove, eucalyptus, lemon, orange and rosemary when there's something being passed around the kids' play groups or around the neighborhood. You can also use your favorite citrus oils, tea tree, thyme, or other essential oils as desired.

WHOLETONES HEALING FREQUENCIES MUSIC

Using **sound frequency** to heal the mind and body is becoming a popular topic in the research community. Having been used for thousands of years in the form of ritual chants, this **Christian-based music therapy** has helped thousands of people by addressing the **root cause of disease.**

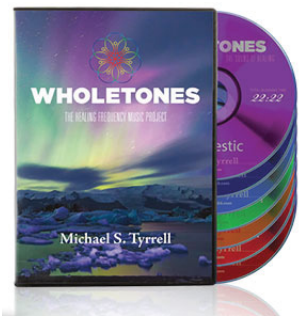
We use **Wholetones** in our home to play **healing frequency music** throughout our home, morning to night. Wholetones music selections come in **seven healing frequencies** - 396Hz, 417 Hz, 444Hz, 528 Hz, 639 Hz, 741 Hz, 852 Hz.

Wholetones Healing Frequencies Music is available in a **7-disc set** (or digital download) with over **2 ½ hours** of healing music.

- **Open Door** (396hz) – 22:22
- **Desert Sojourn** (417hz) – 22:22
- **The Key of David** (444hz) – 22:22
- **Transformation** (528hz) – 22:22
- **The Bridge** (639hz) – 22:22
- **Great Awakening** (741hz) – 22:22
- **The Majestic** (852hz) – 22:22

Wholetones 2 Sleep is also available with a **3-disc set** of tracts specifically designed to **help the body's healing process** during sleep.

- **Brahm's Lullaby** (174hz)
- **Gabriella** (333hz)
- **Suo Gân** (396hz)
- **All The Pretty Horses** (444hz)
- **All Through The Night** (528hz)
- **Angels All Around Us** (963/120hz)



Visit DrEricZ.com/Wholetones and grab your copy today!

DrEricZ.com/Wholetones2Sleep and grab your copy today!

Mama Z prefers to use the **higher frequency songs** when she's got a lot to do or wants to keep her energy up throughout the day. **Dr Z** finds that sometimes the **mid-range frequencies** help him concentrate when he's focusing on mentally-taxing work. Both enjoy the **lower frequencies** to help them sleep at night - one of the most important aspects of **supporting your body's healing process!**

TOXIC-FREE HEALTHY HOME MAKEOVER
WITH DR. Z AND MAMA Z

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Dr. Eric & Sabrina Zielinski have been on a mission to helping people enjoy the abundant life since they first married in 2006.

Combining Dr. Z's 15-year background as a public health researcher and Mama Z's 25-year background as a healthy home and garden guru, they have combined their efforts to create the largest, fastest growing website devoted to Biblical Health on the Internet. With more than 1 million views every month, DrEricZ.com is the #1 online resource to help you and your family experience the abundant life!

Specializing in allergy-friendly recipes, do-it-yourself body care, toxic-free cleaning, organic gardening and proven, practical tips to using essential oils safely & effectively the Z's make natural living easy and cost-effective. They live in Atlanta with their four children.

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