

# The Truth About Paraffin

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Paraffin is everywhere these days. It's used as an insulator in our electronics, as a medicinal laxative, and as a thickener in paintballs. It prevents rust, enhances the performance of our sporting equipment, and sets the mood when burned in a lamp or a candle. Paraffin is in our cosmetics and toiletries, our fertilizer, our chewing gum, and even in the food we eat since we use it to grease baking tins and as a lubricant for the electronic mixing process. Many stores also use it to add a fresh and shiny glow to their apples and other produce. The list goes on and on. So what is this miraculous-seeming substance with so many vital uses?

Identified in 1830 by Carl Reichenbach, paraffin is basically a bunch of hydrocarbons in solid form. It's the tail-end remnant of the petroleum refining process, the leftover sludge bleached & scented so it no longer smells of the crude oil that gave it birth. Some paraffin appears in liquid form as kerosene, also known as jet fuel. What about gasoline and diesel fuel, which are also closely related? Paraffin is comprised of many of the same compounds, including known carcinogens.

We try so hard to eliminate these petroleum products from our eco-sensible lifestyles, but we often overlook paraffin. It's truly nasty stuff, and most of us are breathing it every time we light a candle. We're also eating it with many of our meals and snacks, especially in

processed foods. Fortunately, our bodies don't absorb the paraffin we eat. It passes cleanly through our digestive tracts, theoretically taking its carcinogens as it goes. Our lungs are not as forgiving, however.

The American Lung Association (ALA) lists candles as one of the worst indoor air pollutants. We burn over \$5 billion (yes, Billion) dollars worth of candles each year, 95% of which are still made of paraffin. Each paraffin candle releases a tiny amount of toxic hydrocarbons into the air, joining its gazillions of polluting brethren. No wonder the ALA's warnings are so strong. No wonder people with asthma and other respiratory issues can't breathe in the presence of a lit candle. It's easy to replace paraffin candles, though, by purchasing ones made from alternative waxes.

While candles and other fuel-based lights have been around since mankind first mastered the use of fire, our candle-making materials have changed since those first crude lamps in some distant cave. Tallow and fish oils are no longer in use due primarily to their noxious odors. Bayberry carries a pleasant natural scent and is a pretty green color, although these candles are cost-prohibitive to produce in large quantities. Beeswax has likely been used for millennia and is still in widespread use today. Some candle makers work with palm oil and other less common fuels, and new eco-friendly sources will



surely be developed in the future. Although a wide variety of waxes are readily available in today's marketplace, the fastest growing source of wax is now the humble soybean.

Soy wax, developed in the early 1990s by candle maker Michael Richards, is made of hydrogenated soybean oil. It burns clean with no soot emissions to blacken our walls or lungs<sup>1</sup>, plus it's non-toxic, biodegradable and renewable. Since soy wax melts at a lower temperature than paraffin, it holds its scent over time and

burns up to 40% longer. Spills even clean up with hot soapy water! Best of all, many people with respiratory challenges find soy candles, especially the unscented ones, do not interfere with their breathing at all. Be very careful about which soy candles you buy, though, because they're not all created equal.

If a label says the candle "contains soy" or doesn't say anything at all about ingredients, it probably contains paraffin. Some manufacturers add paraffin to their soy so the wax will be suitable for pillars and other molded shapes (pure soy requires a container). If clear labeling is not present, a soy candle can also be identified by the opacity of its wax; paraffin wax appears shinier and less opaque.



Many companies offer a variety of true soy waxes, and a growing number of home-based entrepreneurs are taking advantage of the massive growth potential in this industry. They provide an amazing variety of beautiful hand-poured soy candles. Thanks to the power of the internet, small businesses can now reach the world, which means we, as shoppers, have plenty of options.

The most affordable and enjoyable way to acquire soy candles is to make them yourself. Kits with supplies and instructions are readily available, and some areas have folks who teach soy candle making classes or host soy candle parties. Some call this project/hobby/business "soy candle therapy" for the stress release it provides. Kids love to make candles as a family or group project (remember: easy clean-up!); and just about everyone appreciates a gift made

by hand. Imagine selling soy candles at fundraisers for schools and charitable organizations instead of selling junk food or some other paraffin product. We really can change the world one soy candle at a time!



Once we replace our old candles, how else can we eliminate paraffin from our lives? Certainly we can forego processed and mass-produced foods and avoid or petition stores that wax their produce. We can take time to research and purchase everyday products like gum and cosmetics made with alternative ingredients. New hydrocarbon-free technologies are being developed all the time and we can pay attention. We can still have our beauty treatments, too, by using alternatives like soy, which is also a good source of Vitamin E for the skin.

We're in a hydrocarbon bind of our own making right now, but the possibilities for our future are virtually limitless. Believe in our eventual success and take action to make a difference. Switch to natural vegetable soy and light up the world one candle at a time, *without* paraffin!

<sup>1</sup> Rezaei, K., T. Wang, and L.A. Johnson. Hydrogenated vegetable oils as candle wax. *J. Am. Oil Chem. Soc.* 79: 1241-1247 (2002).



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