

Fragrances: White Paper Document

Abstract:

This whitepaper delves into the hidden risks associated with fragranced products, particularly scented candles, and emphasizes the potential health hazards posed by the myriad synthetic chemicals released into the air. The discussion unfolds across two main sections: the detrimental impact of synthetic fragrances on indoor air quality and the health risks associated with the use of mass-produced scented candles. The document further distinguishes between essential oils and fragrance oils, shedding light on their origins, compositions, and implications for health. Additionally, it explores the intrinsic nature of scented candle sand and the conscious choice made by Chameleon Sand Candle to provide exclusively non-scented variants in the interest of consumer safety.

Introduction:

Every 60 seconds, another 20 chemicals are registered for use on the world's largest database: the Chemical Abstract Service. To put that into context, that's over 200,000 new chemicals every week. There are currently over 113 million chemicals registered for use on this database which include both man-made (anthropogenic) and natural sources. Up to 90% of man-made chemicals have never been tested for their impact on human health. WHY? Because the burden of proof is not on industry to prove that their new chemicals are safe, which means researchers, governments and non-governmental agencies can spend years, decades and even generations to prove whether these chemicals are safe or harmful. Sadly the history of medical care is littered with examples of missed opportunities, wasted resources and counter-productive policies due to their inability to act on available evidence at the expense of human lives. Tobacco smoke, asbestos, leaded paint, benzene, polychlorinated biphenyls, pesticides, vinyl chloride, and BPA.. are just some examples where warnings were ignored decades before the emergence of devastating public health issues. (Bijlsma, 2017)

FRAGRANCE

A single 'fragrance' in a product is a mixture of several dozen to several hundred ingredients – and several thousand potential ingredients are used to create fragrance mixtures. A recent analysis of a range of fragranced consumer products found over 150 different volatile organic compounds ('VOCs') emitted from 37 products, with an average of 15 VOCs per product. Nearly one-third of these VOCs can be classified as potentially hazardous chemicals under various laws. (Lunny et al, 2017)

If you are serious about your health, the first thing you should eliminate in your home is perfume, air fresheners and all products that contain artificial fragrances. Many are phthalates which are known to affect fertility and increase the risk of breast cancer. (Bijlsma, 2017)

Most fragrances contain hundreds of ingredients that the manufacturer is not required to disclose due to 'trade secrets'. The concern is that fragrances may contain phthalates that mimic the hormone oestrogen and consequently should be avoided in women because of its link to breast cancer. (Bijlsma, 2017)

Fragrances are not regulated, can contain tons of different chemicals, and most of all contain phthalates (hormone disruptors). A small study from 2014 on scented candles found that certain scented candle products act as potent sources of VOC emission indoors, whether they are lit or unlit. (Jeong-Hyeon, Ki-Hyn et.al, 2014)

Fragranced products are ubiquitous on supermarket shelves and in homes. However, recent research indicates that one-third of Australians report experiencing adverse effects such as respiratory problems, asthma attacks, migraine headaches and dermatological problems as a result of exposure to fragranced consumer products. These effects can be severe, resulting in significant losses in productivity as a result of adverse health effects. This is particularly concerning given that an estimated 98.5 per cent of the Australian population is exposed to fragranced consumer products on at least a weekly basis, either through their own use, others' use or both. Indeed, evidence suggests that more than two-thirds of Australians are unaware that fragranced products can emit hazardous air pollutants. (Lunny et al, 2017)

SCENTED CANDLES

Scented candles are a popular way to create a pleasant ambience at home. Scents such as lavender, jasmine and sandalwood can be relaxing and invigorating. Unfortunately, most mass-produced scented candles can have a negative impact on Indoor Air Quality (IAQ). From the wax to the wick to the fragrance itself, the average scented candle can release harmful chemicals into the air — **even when unlit.**

Another problem with scented candles is that the chemicals they use to create a pleasing aroma are generally far from wholesome. Most scented candles use synthetic fragrances and dyes that give off dangerous VOCs even at room temperature. Commonly emitted VOCs related to the scent in candles include formaldehyde, petroleum distillates, limonene, alcohol, and esters. These harmful chemicals can cause health problems ranging from headaches, dizziness and allergy symptoms to asthma attacks, respiratory tract infections and even cancer. (IQAir)

Exposure to the chemicals found in candles can have a range of negative health effects. The most significant health risks associated with candle use include respiratory problems, allergies and skin irritation, increased cancer risk, and other health risks.

Inhaling the chemicals released by burning candles can cause respiratory problems, including asthma attacks, bronchitis, and other respiratory illnesses. Exposure to VOCs can also cause headaches, dizziness, and other health issues. (California Environmental Protection Agency, 2023)

In addition to respiratory problems, exposure to the chemicals found in candles can also cause allergies and skin irritation. Fragrance oils and other additives in candles can cause allergic reactions in some people and contact with melted wax can cause skin irritation. (Scheman R., 2015)

Long-term exposure to the chemicals found in candles can also increase the risk of cancer. Some of the chemicals found in candles, such as benzene and toluene, are known carcinogens and can increase the risk of developing cancer over time. (Cho SH, et al, 2016)

ESSENTIAL OILS AND FRAGRANCE OILS

What are essential oils?

Essential oils are entirely natural products with natural scents. They are obtained from plant extracts or other natural sources via distillation, a process in which the natural oils are separated from all other matter via heating, or expression, which involves them being pressed out.

Essential oils are considered the ‘essence’ of a natural material; they often contain the strongest impression of a plant’s scent or benefits. These natural substances also contain chemical compounds that can be used to promote wellness benefits.

They have been used to treat physical and mental ailments for thousands of years across many different cultures and are scattered throughout international medical history. (Nikura, 2023)

What are fragrance oils?

Fragrance oils are not natural products. They are artificially created scents designed to either to imitate something you might come across in the real world or to produce a scent experience that you wouldn’t find naturally.

Fragrance oils can be made in labs to have all kinds of scents, from classic scents such as jasmine and sandalwood to totally unique combinations.

They may sometimes contain some natural products – a lavender fragrance oil may contain some lavender essential oil, for example, but they will always have synthetic elements. **There are no such thing as purely natural fragrance oils.** (Nikura, 2023)

How can you tell the difference between essential oil and fragrance oil?

Most reputable companies will make it clear on the label, so the first step is to look for the words ‘essential oil’ or ‘fragrance oil’ on your bottle.

You can also look out for a botanical name – only essential oils will have these. This is because essential oils are distilled from one natural source, like a plant or fruit, whereas fragrance oils have many ingredients, only some of which may be natural.

It may be helpful to look for synthetics or perfume oils in the list of ingredients to spot a fragrance oil. You can generally find these in the Safety Data Sheets linked to the oil.

Fragrance oils are also likely to have more distinctive names - like Frosted Wonderland, for example - that won't necessarily be tied to a botanical. (Nikura, 2023)

What is the main difference between fragrance oil and essential oil?

The key point to remember when distinguishing these two oils is that fragrance oils are not, and will never be, fully natural.

Incorporating any natural use into your products or into your home will always need to be done with the help of an essential oil.

Fragrance oils are ONLY designed to smell nice, and not to have any aromatherapeutic uses. Essential oils, on the other hand, can have a wide range of benefits for body and mind.

However, it is important to always research the essential oil you are planning on using to ensure that it is safe for the intended use. (Nikura, 2023)

SCENTED CANDLE SAND

Candle sand naturally comes in a non-scented form. Many manufacturers opt to include synthetic fragrances (some use premium-grade fragrance oils, which are not natural) to produce scented candle sand.

Unfortunately, specific Candle Making regulations in Australia are far and in between other than what is already set out by the ACCC and the Australian Consumer Law / Trade Practices Act (including but not limited to). In fact, there aren't any specific government schemes for candlemakers.

This lack of transparency complicates the assessment of consumer products, as companies often withhold insights into potential health effects, making it challenging for consumers to make informed decisions.

In acknowledgment of our ethical and moral responsibility to prioritize consumer safety, [Chameleon Sand Candle](#) has intentionally chosen to provide exclusively non-scented candle sand. This decision reflects our dedication to offering products that prioritize safety and well-being for our valued customers.

However, if you desire a particular aroma, you can easily add a few drops of your preferred essential oil to the candle sand.

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09.12.2023

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