

The logo for ZYTO, featuring the brand name in a clean, white, sans-serif font with a trademark symbol. The background of the entire image is a composite of natural elements: a teal sky, a large light-colored rock, green moss, and a glass dropper with a single drop of oil hanging from its tip. A white diagonal shape is overlaid on the left side, and a blue triangle is in the bottom right corner.

ZYTO™

# How to Use Essential Oils Safely

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Essential oils offer a wide range of potential benefits and can be used in a variety of ways. They can be diffused, applied topically, and may be able to be taken internally depending on the oil (although there is some debate about the safety of this method).

In this guide, we'll explain the safety precautions of each of these application methods, discuss the potential side effects of essential oils, and share tips for storing your oils safely.

## Inhaling essential oils

Perhaps the most popular way of using essential oils is inhaling them. This can be done either by using a diffuser or inhaling the oil directly from the bottle or from an inhaler tube, cotton round, or tissue. Diffusion and direct inhalation are effective ways to use essential oils because when inhaled, they travel quickly to the brain via the olfactory nerves. From here they can impact various areas of the brain including the amygdala, which is known as the emotional center of the brain.<sup>1</sup>

Essential oils that are inhaled not only impact the mind, but the physical body as well. When inhaled, some essential oil molecules travel to the lungs and respiratory pathways. Some molecules reach the bloodstream via the alveoli as well. And in fact, inhalation is the fastest method of introducing essential oil molecules into the bloodstream.<sup>2</sup>



Along with impacting the body internally, another potential benefit of diffusing essential oils is that they can purify the surrounding air. Some essential oils have antiviral and antibacterial properties, so diffusing them can neutralize these and other airborne pathogens.<sup>3,4</sup>

Inhaling essential oils is generally safe for most people. Some people, however, may find that inhaling essential oils irritates their airways and causes headaches. Other groups such as pregnant women and young children may not tolerate inhalation well. So to prevent toxicity, make sure to follow these guidelines for safely diffusing and inhaling essential oils:

- Make sure that the essential oil is properly diluted in water when using a diffuser. (Use only a few drops and no more than 5 or 6 drops at the most.)
- Use only an ultrasonic or nebulizing diffuser, and clean it regularly.
- Diffuse only in well-ventilated areas.
- Diffuse only for short periods of time—around 10 to 15 minutes.
- Turn the diffuser off if you feel any airway irritation or get a headache.
- Avoid diffusing oils in the same area where pets and young children are, as they are much more sensitive to essential oils.
- Only inhale for a few seconds when inhaling directly from the bottle or personal diffuser.
- Talk with your healthcare provider before using essential oils if you are pregnant.



# Topical use of essential oils

Another way to use essential oils is to apply them to the skin. Essential oil molecules are absorbed through the skin and enter the bloodstream. Absorption is affected by many factors such as the rate of circulation, the surface area of application, and permeability of the skin.<sup>5</sup> Essential oils applied to areas where the skin is thinner such as the palms of the hand and feet or behind the ears will be absorbed more easily than oils applied to areas where the skin is thicker such as the legs, arms, and belly.

A common way to use essential oils is to apply them to the area where you are feeling discomfort. If you are having back pain, for example, applying the essential oil directly to the back can be more beneficial than applying it elsewhere or simply inhaling it. However, you should avoid applying essential oils to the eyes, inner ears, inside the nose, and any other areas that have sensitive skin.



As with inhaling, precautions must be taken when applying essential oils to the skin. Essential oils that are classified as hot oils, such as cinnamon, oregano, and clove, must be diluted with a carrier oil to prevent discomfort as well as skin damage. Photosensitive oils such as citrus oils and angelica should be diluted too, and you should also avoid going out in the sun for 12 hours after applying them.

Many experts recommend that all essential oils, not just hot oils and photosensitive oils, be diluted in a carrier oil such as fractionated coconut or jojoba oil. Combining a carrier oil with an essential oil not only makes the oil less toxic on the skin, but is also believed to increase absorption.<sup>6</sup>

After applying an essential oil, you should avoid touching your eyes or other sensitive areas. To avoid potential irritation on yourself or others, washing your hands after applying an oil is a good practice to follow.

## The Patch test

Worried about essential oils irritating your skin? Try the skin patch test first:

- 1 Place 1-2 drops of a diluted skin-safe essential oil on your back or inner forearm.
- 2 Apply a bandage and avoid getting the area wet.
- 3 If you feel any irritation or negative reaction, remove the bandage and wash the area with mild soap and water.
- 4 If no irritation occurs after 48 hours, the essential oil is okay for you to use on your skin in diluted form.
- 5 Use this test before using a skin-safe essential oil for the first time.

Remember that performing the skin test with no negative reactions does not guarantee that you will not develop a sensitization or allergy to an essential oil over time.

## How to use a carrier oil

Essential oils, especially hot oils and photosensitive oils, should be heavily diluted in a carrier oil before application. According to the American College of Healthcare Sciences, an oil should be diluted at 2% when used in a whole-body lotion or oil, and 4% for using on local areas. This means that for every drop of essential oil, you would add either 50 or 25 drops of carrier oil (about  $\frac{1}{2}$  or  $\frac{1}{4}$  teaspoon).



Additionally, a dilution of just .5% essential oil to carrier oil may be used for children, the elderly, expectant mothers, and those with sensitive skin. This means that for every drop of oil, you would add 200 drops of carrier oil (about 2 teaspoons). Essential oil use with young children, babies, and expectant mothers is not generally recommended by the ACHS—even at these high dilution levels. However, a registered aromatherapist can determine if essential oils are safe to use for those in these groups on a case-by-case basis.<sup>7</sup>

Essential oils can also be added to bathwater. However, they should be properly diluted before adding. Jojoba or fractionated coconut oils are the best vegetable oils to use in water and can be added in a 4% dilution. For better dispersion, however, you can combine 5-20 drops of essential oils with an equal amount of Polysorbate 20 or Polysorbate 80 in a 1:1 ratio, or mix 5-20 drops with 2 tablespoons of Natrasorb powder.<sup>8</sup>

## Types of carrier oils

Carrier oils not only make essential oils much safer to use, but can also offer additional benefits such as skin moisturization, wound healing, and wrinkle reduction. Popular carrier oils include:

- Evening primrose oil
- Rosehip oil
- Grapeseed oil
- Jojoba oil
- Coconut oil
- Fractionated coconut oil





# Internal use of essential oils

Many tout the benefits of putting a drop of an essential oil in water or other beverage and drinking it regularly, using it as an ingredient for cooking, or consuming it in capsule form. But how safe is it to take essential oils internally?

The first thing to know is that certain oils, such as cypress and cedarwood, should never be consumed internally under any circumstance. Other essential oils such as basil and lemon may be considered safe for internal use.<sup>9</sup> Of these essential oils, only high-quality, well-tested essential oils should be consumed. However, you should use these oils sparingly and with caution.

Ingested essential oils, even though they may be labeled as safe to consume, can cause irritation to the mucous membranes and GI tract—especially if they are consumed straight from the bottle or added to water. If you are interested in taking essential oils internally, the safest method is to consume them in enteric-coated capsules so they don't irritate the mucous membranes or GI tract. Usually, these capsules contain small amounts of an essential oil mixed with a carrier oil for additional protection. It's important to know, however, that even essential oils in capsule form may cause undesirable side effects.

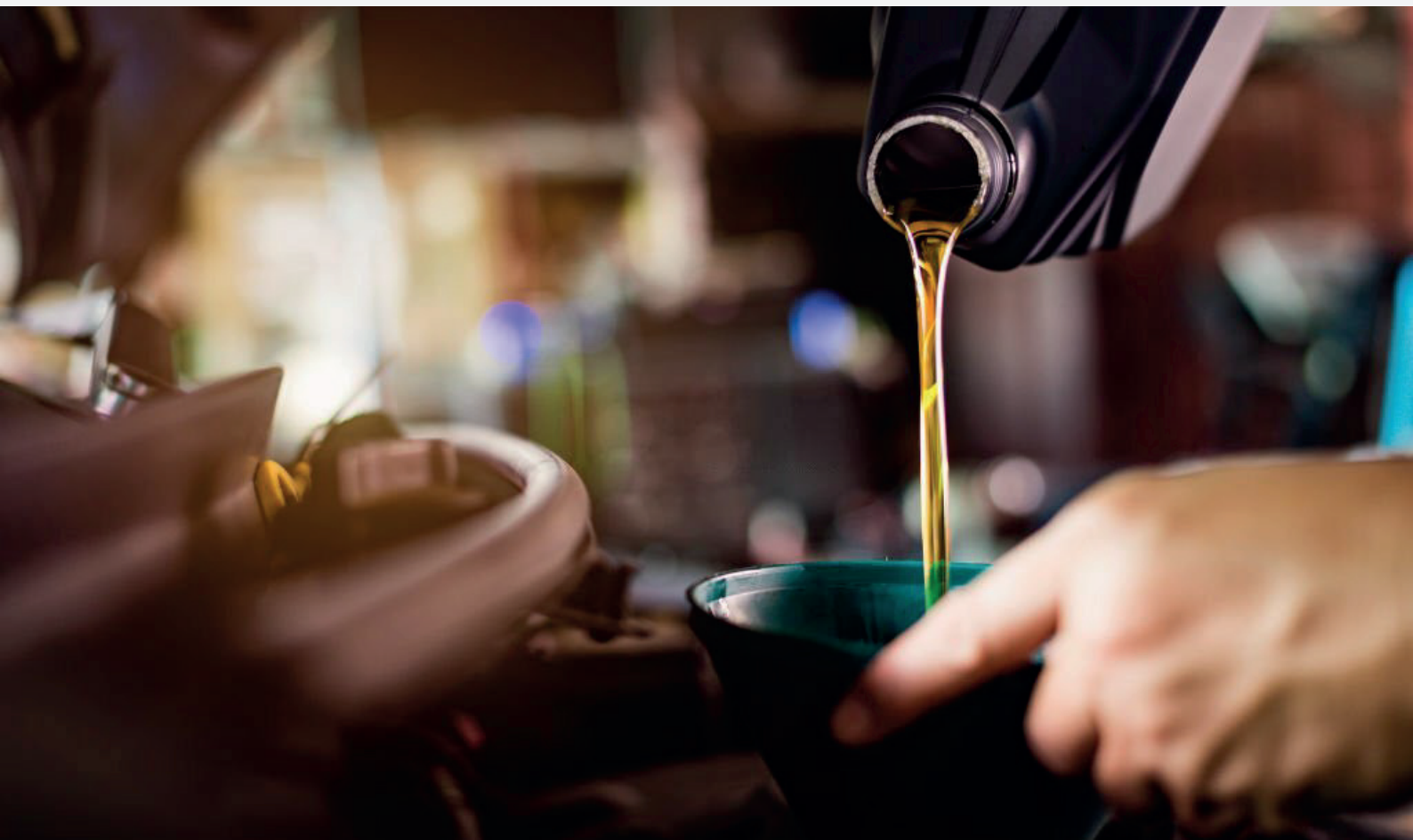


Using essential oils internally may not be right for you if you are concerned about the potential side effects or are taking certain medications. Some experts recommend not using essential oils internally under any circumstance. But if you are interested in using essential oils internally, make sure to talk to a qualified health professional and only consume them under their guidance.

## Cooking with essential oils

Similar to taking essential oils internally, the same precautions should be taken when adding essential oils to foods. Namely, the essential oil should always be diluted with a carrier oil when you use it in your cooking. Again, be aware that essential oils in your food can also irritate the mucous membranes or GI tract—and may cause other side effects as well.

If you are concerned about potential side effects, opt for using natural herbs and spices rather than their essential oil counterparts.



# Potential side effects of essential oils

Essential oils are widely used and can potentially offer many benefits for health and wellness. However, these oils may cause unpleasant side effects for certain individuals and are toxic to everyone in high doses. Common signs of acute toxicity from essential oils include:

- Headache
- Dizziness
- Altered mental state
- Irritation, itching, or swelling of skin
- Excessive secretory function (saliva, sweat, mucus, etc.)
- Muscle weakness
- Shortness of breath
- Coughing
- Stomach discomfort
- Mucous membrane irritation



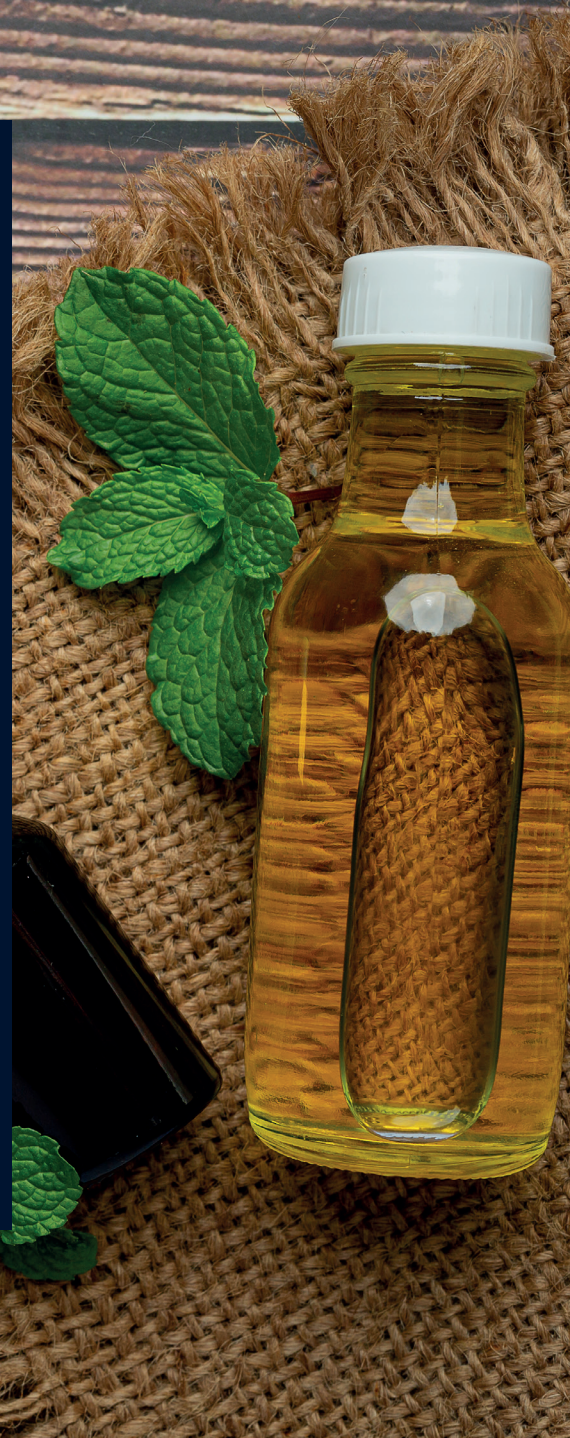
Though less common, especially if you are taking the proper precautions, overexposure to essential oils may lead to more serious reactions such as vomiting, CNS depression, hyperpigmentation of the skin, hallucinations, vertigo, respiratory acidosis, aspiration, and seizure.<sup>10</sup>

# Treating essential oil toxicity

Follow these recommendations if you experience an adverse skin, eye, inhalation, or internal reaction to an essential oil.

- Skin – Wash the skin gently with mild soap and water for several minutes. An oral antihistamine may also help reduce itching.
- Eye – Flush the eye out with water for several minutes. If you are wearing contacts, remove them after the first few minutes and continue flushing the eye. Make sure to open and close your eyelids to help flush out the oil.
- Ingestion – Rinse the mouth out with water. If convulsing occurs, the person should be laid on their side with the head lower than the body.
- Inhalation – Get immediate exposure to fresh air.

If serious symptoms persist, contact your local emergency services.<sup>11</sup>



# Storing your essential oils

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Essential oils break down and spoil more quickly under certain conditions. Make sure to follow these tips to store your oils safely so you can preserve them for as long as possible:



- Keep your oils away from heat and light. Storing them in a box is also a good idea.
- To reduce oxidization from exposure to oxygen, minimize the amount of time the cap is off the essential oil bottle.
- Ensure that the cap is sealed tightly after use.
- Consider putting your essential oils into smaller bottles so you are not exposing the entire supply each time you open a bottle.
- Essential oils should always be stored in dark glass containers.
- Keep your oils out of the reach of children.

Although you may be able to extend the shelf life of an essential oil through proper storage, you should throw out any oil that is past its expiration date to be safe. If your oil doesn't have an expiration date, a general rule is to throw it away if it's more than 3 years old. Certain oils like citrus oils, however, may go bad after 1-2 years. On the other hand, oils such as cypress, cedarwood, clove, geranium, peppermint, wintergreen, and ylang ylang can last 4-5 years, while oils such as patchouli, sandalwood, and vetiver can last for up to 7 or 8 years.<sup>12</sup>

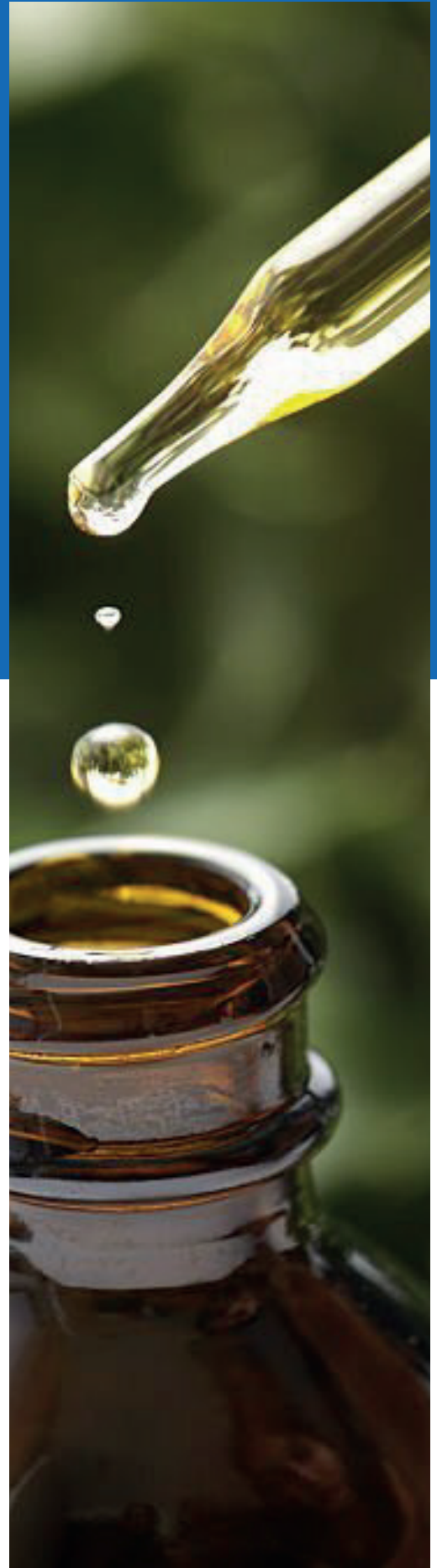
In some cases, an oil may go bad before its expiration date. You can tell if an oil has gone bad if its smell has changed, if the oil is thicker than it was before, or if the color of the oil has changed.

## Disposing of essential oils

When it comes time to dispose of an essential oil, never pour it down the drain or into the toilet as this can clog your pipes and damage the environment. Tossing essential oils in the garbage can also be problematic as most of them are flammable. However, you can neutralize essential oils with baking soda or a clumping cat litter. After the oil has absorbed and evaporated, you can then safely dispose of the baking soda/litter in the garbage.

# Make sure to follow safe use guidelines

Because of the potential for toxicity from over-exposure, it's important to follow the guidelines outlined in this guide such as using only small amounts of oils, diluting them properly, and keeping them away from pets, pregnant women, and young children. Additionally, you should avoid using photosensitive oils if you are planning to be out in the sun. These include citrus oils such as lemon, lime, orange, grapefruit, and bergamot.



In addition to higher-risk groups, those who are taking medications should consult with a health professional before using essential oils. Certain essential oils may interact negatively with cancer treatments, diabetic medications, sedatives, anticoagulants, antidepressants, and other medications.<sup>13</sup>

## Learn more

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Want to learn how to choose the best essential oils for you? Check out our [Essential Oil Selection Guide](#).



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