

Shelf Life for Essential Oils

by David Stewart, Ph.D., R.A.

People who use adulterated or synthetic oils worry about shelf life. Some British references on aromatherapy say one should throw away their oils every six months and purchase a fresh quantity. Such advice may be valid for certain carrier blend oils, but is not valid for pure unadulterated aromatic oils that are the products of distillation.

In order to discuss shelf life, you need to distinguish between various classes of scented oils. There are four types of fragrant oils to consider:

- (1) Essential oils (distilled).
- (2) Expressed oils (usually citrus);
- (3) Absolutes (solvent extractions); and
- (4) Carrier Blend Oils (essential oils in a fatty base).

The shelf lives of these four classes of aromatic oils are different. While expressed, absolute, and carrier blend oils contain large molecules along with their small aromatic ones, pure essential oils obtained entirely by distillation contain only small molecules.

Large molecules tend to be less stable than small ones. Shelf life addresses the question of chemical stability. Aromatic oils are mixtures of many compounds. If a mixture of compounds remains stable, that is, if it does not decompose or change its chemistry over a long period of time in storage, we say it has a long shelf life.

If you are using pure distilled therapeutic grade essential oils, as described in Chapter One of this book, then you don't have to worry about shelf life. Essential oils have been found in Egyptian tombs that were still aromatic and effective—their therapeutic properties intact—even after thousands of years. These oils were in moderately cool, dark places tightly sealed from exposure to air and the elements. That is all they required to maintain their potency. No one knows what their true shelf life may be. All we know is that it is measured in millennia, not months.

As for the British oils, there is a so called aromatherapy grade of oil that is actually only 1-5% essential oil dissolved in a fatty base oil. The large molecules of fatty vegetable oils are not as stable as the tiny ones that comprise essential oils. Fatty oils also contain proteins, polypeptides, and amino acids—unstable compounds not found in essential oils. Fatty oils will naturally break down into smaller molecules over time at normal room temperatures. We call this “going rancid.” While large molecules have no smell, the smaller molecules resulting from the decomposition of fatty hydrocarbons do have a smell—an unpleasant one. Hence, an aromatherapy grade oil that is mostly vegetable oil does have a shelf life. Thus, the British texts that recommend pitching your oils every six months have a valid point in reference to “aromatherapy grade” oils.

A number of blends containing pure essential oils used in North America also contain some fatty oil such as olive, sesame seed, or almond. Usually, 80% or more of these blends consist of essential oils. These are not the same as the aromatherapy grade massage oils of England which are mostly fatty, but they do have a shelf life.

Expressed oils, absolutes, and carrier blend oils are sensitive to heat, such as in a car on a hot day. Heat accelerates any chemical reaction and if the large molecules in these oils are prone to gradual decomposition even at normal temperatures, this process will be hastened by heat. You can tell if any damage has been done to your oils by heat by testing the fragrance. If it still smells the same as when you bought it, it is still okay. If not, then damage has occurred. Exposure to heat in excess of 90-120° F can shorten the shelf life of expressed, absolute, and carrier blend oils, but does not shorten the shelf life of true essential oils. (See section on Heat at the beginning of this chapter for a more thorough discussion on the effects of temperature on oils.)

Absolutes, expressed oils, and oil blends that are mostly essential and only partly fatty all have a shelf life. Experience has shown that their shelf lives can be measured in years, unless the oil has been exposed to excessive heat. So if you have any such oils, your nose will know if they go bad. To know if an oil blend contains a fatty carrier oil, read the label. If you want to extend their shelf life, refrigerate them. However, if you are using such oils over periods of time less than a few months, you don't need to go to the trouble of storing them in your refrigerator.

You don't have to refrigerate pure essential oils that are the products of distillation. Refrigeration does not extend their shelf life. A cool environment won't hurt them or help them. They will last indefinitely at normal living temperatures and will remain unaffected and intact even when occasionally exposed to the heat of a hot day in a car, provided you do not open the bottle until it has cooled down to normal temperatures. (More on this in the section on Heat earlier in this chapter.)

If anyone asks you about the shelf life of a pure therapeutic grade essential oil, just say, "5000 years at least."

If they ask you about the shelf life of an oil that has been expressed, solvent extracted, or mixed with a fatty base, just say, "It depends."

NOTE: The article above is an extract from "The Chemistry of Essential Oils Made Simple" by David Stewart, Ph.D. Available from CARE at 800-758-6629 or care@raindropttraining.com or via the internet at <http://www.RaindropTraining.com>