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# Artists' Guide to Oil Painting Solvents And Essential Oils

<u>Introduction</u> Today oil painters use turpentine or odorless mineral spirits as oil painting solvents and thinners. However, there are qualitatively superior, healthier, and historically accurate alternatives, namely, *essential oils*.

### I. The most common solvents used today are Turpentine and Odorless Mineral Spirits

# A. Turpentine: WHAT IS IT?

1. Turpentine is made from tree sap that is secreted by conifer trees (like pine, cypress, fir, larch, fir), where the tree sap is distilled to separate the oil from the resin, creating the solvent known as Turpentine. The process to industrially distill the tree sap (and the wood that produces the sap) often uses naptha and chemicals to extract the most solvent possible. Tree sap is an oleo-resin that acts as the tree's natural bug repellant, so it makes sense that the distilled solvent from it would be toxic to breathe.

Because of headaches and health issues related to the use of Turpentine (primarily since the 1950s), the principal substitute has been Odorless Mineral Spirits.

# B. Odorless Mineral Spirits: WHAT IS IT?

1. Odorless Mineral Spirits is made from distilled petroleum, with chemicals added to the petroleum distillate to eliminate the strong odor. This addition does not remove the toxic fumes from the product; rather, it only makes them less detectable to the senses. It is advertised as less toxic than Turpentine because it evaporates more slowly than Turpentine, but essentially it is deodorized distilled industrial gasoline that is toxic to breathe but has a low odor so people do not notice the toxic fumes.

#### II. Essential Oils- HISTORICALLY DOCUMENTED PAINT THINNERS/SOLVENTS

- 1. Essential oils are one of three types of oils, all produced from organic material, which can be classified as: fixed non-drying oils, drying oils, and essential oils. They all mix readily together and thus are soluble in each other. For oil painting we are only concerned with the drying oils and essential oils
  - a. Fixed non-drying oils e.g. olive oil, vegetable oil:
    - i. Produced by pressing fruit, vegetables or plants.

- ii. When these oils come into contact with oxygen, they do not dry into a solid or evaporate, they remain in their liquid state.
- b. Drying oils e.g. linseed (flaxseed), walnut:
  - i. Drying oils are produced by pressing the seeds of fruits, plants.
  - ii. When these oils come into contact with oxygen, they dry and become hard: they change from a liquid state to a solid state.

They are used as the main vehicle mixed with pigment to make oil paints.

- c. Essential oils e.g. Spike Oil, Rosemary Oil:
  - i. Essential oils are produced from flowers and plants through a process of distillation, rather than pressing.

# **DEFINE DISTILLATION**

- Some historic examples are Lavender Spike Oil, which is made from the 'spikes' of a species of lavender flower, and rosemary oil.
- ii. When essential oils come into contact with oxygen, they transform from a liquid state to a gaseous state; in other words, they evaporate like Turpentine and Mineral Spirits.
- iii. This evaporating property is one reason among others that essential oils are successful paint thinners and solvents since the Renaissance.



III. PAINTING WITH ESSENTIAL OILS SUCH AS LIKE LAVENDER SPIKE AND ROSEMARY PROVIDES BETTER CONTROL, ADHESION AND PERMANENCE.

THEY HAVE GOOD EVAPORATING AND ADHESION PROPERTIES WITHOUT THE STREAKINESS OF ABRASIVENESS OF TURPENTINE AND ODORLESS MINERAL SPIRITS WHICH DESTROY THE PAINT'S BODY.

Why are essential oils qualitatively superior to turpentine and odorless mineral spirits as a solvent/paint for oil painting?

- A. The pigment oil bond:
- 1. When turpentine is mixed with paint, the abrasiveness of the turpentine breaks the bond between the pigment and oil.
- a. The result of this breakdown is that the paint becomes streaky, it looks almost watery, drips easily.
- b. This makes adhesion of paint layers difficult, which affects the quality and integrity of the painting.

- 2. Odorless Mineral Spirits is a poor substitute
  - a.It actually is not strong enough to fully dissolve resins and mix with drying oils.
  - b. It is an industrial grade product.
  - c. Leaves petroleum residue after evaporating
  - d. It is streaky and Turpentine
  - e. Not good for paint layer adhesion
- 3. Unlike turpentine and odorless mineral spirits, essential oils like Lavender Spike Oil and Rosemary Oil maintain the bond between pigment and oil, they help in the adhesion of paint to canvas and paint to paint.

A.There are no unwanted side-effects of streakiness when these essential oil mix with paint. In fact, they provide a far superior degree of control for handling the paint that is noticeably different and better than Turpentine or Odorless Mineral Spirits.

- B. Drying time:
- 1. Essential oils such as Lavender Spike Oil and Rosemary Oil have roughly the same drying time as turpentine or oms, so there is no significant difference in this regard in using an essential oil in place of turpentine or oms.
- IV. <u>Turpentine and Odorless Mineral Spirits are industrial materials that emit toxic</u> fumes. Essential Oils are ot only non-toxic to breathe, but are often used to promote health and well being medicinally and in aromatherapy.
- A. There are numerous health hazards connected to turpentine.
  - 1. TOXIC FUMES
  - 2. SKIN INFECTIONS
  - 3. explain, research
- B. Odorless mineral spirits pose as much danger, possibly more, to one's health.
  - 1. They have all the hazards as turpentine, namely: (list the similar hazards)
  - 2. In addition, odorless mineral spirits do not smell but still emit toxic fumes. The additional danger connected to Odorless Mineral Spirits is that people do not realize they are breathing the fumes by smell.
- C. Essential oils possess none of these hazards; in fact, they are, in some ways, beneficial to one's health. AROMATHERAPY
  - 1. (example) Spike Oil- used to relieve headaches, promote well-being and anti-stress
  - 2. (example) Rosemary Oil
  - 3. etc. Other oils

### V. History of "TURPENTINE":

Were pre-20<sup>th</sup> century painters using the same turpentine we have today as their solvent?

Oil of Turpentine and other essential oils (like Lavender Spike Oil and Rosemary) were historically referred to almost interchangeably as oil/spirit/essence or as essential oil since the

14<sup>th</sup> Century. Eastlake's mid-19th century English translation of the original texts from 1300-1850 was taken from french, italian, flemish, german and dutch; including Cennini, Da Vinci, Pacheco (Velazquez's teacher), Rubens, Van Dyck, etc. It is interesting to see the translations. Example: from the 17<sup>th</sup> century Demayerne manuscript discussing Rubens and Van dyck the french word used is "huile de trebenthine" ("oil of turpentine"), but Eastlake actually translates it as "spirit of turpentine". The 3 words oil-spirit-essence being interchangeable makes much sense when you think of distilling plants and flowers as getting the "soul" out of them, as once the plants/flowers are distilled and their "essence/spirit/oil" is removed they wilt like a corpse. It is perhaps a more religious rather than scientific way of thinking, but makes sense. And one of the defining characteristics of all oils is that they all mix together readily. Essential oils mix perfectly with drying oils. Evaporating essential oils are distilled from plants/flowers/leaves, while drying oils are pressed from seeds and they oxidize into a solid film.

In the 19th century new methods to extract tree sap made it more abundant and cheaper to collect and thus produce, and they could distill things on an industrial scale. Spike Oil became less used too, probably for price reasons. By the time Mayer was writing his book in 1940 he was mostly reviewing the then current industrialized art materials, rather than discussing the merits of what would have been considered rare, too expensive and too specialized at the time.

# **CONCLUSION**

Essential Oils, specifically Lavender Spike, is a historically documented non-toxic (to breathe) oil painting solvents that work better than Turpentine and Odorless Mineral Spirits.



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