

Module 2



# The Perfume Artisan

ESSENTIAL OILS  
SYNTHETIC AROMACHEMICALS  
CARRIER OILS AND ALCOHOL  
EQUIPMENT USED

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*Module 2*

# **The Perfume Artisan: A Course on Perfume Making From Beginning to the End and Beyond**

In the previous module, we learned a brief history of perfume, terminology associated with perfume making, fragrance families and how we smell scents. Now it's time to gather the essential building blocks for your fragrance creations!

In this module, we'll discover:

- **Essential Oils:** The different extraction methods, popular essential oils used in perfumery, and how to evaluate their quality.
- **Aromachemicals:** Uncover the role of synthetic molecules in modern perfumes and understand the types available.
- **Carrier Oils & Alcohols:** Learn the differences between carrier oils and the type of alcohol essential for perfumery.
- **Tools of the Trade:** Get acquainted with beakers, pipettes, stirrers, bottles, and other tools of the trade.

Are you ready to explore the perfumer's fascinating world of ingredients and tools? Let's dive in!

## ***Module 2: Ingredients and Tools***

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# Module 2: Ingredients and Tools

## ***Essential Oils: Sourcing, Quality, Popular Choices***

### **What are Essential Oils?**

Essential oils are highly concentrated liquids extracted mainly from various parts of plants including: flowers, leaves, bark, roots, seeds and resins. They capture the plant's distinctive scent, flavor and therapeutic properties; basically its "essence".

### ***Extraction Methods:***

#### *Steam Distillation:*

This method is the most widely used extraction method. Steam is used to vaporize aromatic compounds in organic materials at temperatures lower than their normal boiling points. This prevents decomposition or degradation that could occur at higher temperatures.

Only distill one type of plant at a time. Doing multiple plants will yield unusable essential oils.

#### *Equipment Needed:*

- A Still. This can be a pressure cooker, heat resistant flask or heat-resistant pot.
- Heat source: Hot plate a Brunson burner or oven.
- Condenser: Coiled copper or stainless steel tubing.
- A Container. This will hold ice and water to cool down the steam/essential oil mixture.

- A Collection Flask a.k.a. a Separator.
- Clean, purified water.
- Plant material (fresh or dried).

*The Process:*

- You first want to make the condensation tube. This is where the steam will enter from the still and cool down into a liquid with the help of the container full of ice and water. Take the tubing and coil it into the container that will hold the ice and water. You want enough of the tubing to make contact with the water so it cools and condenses it to a liquid, so make sure to coil it several times. When done make sure you have plenty of tubing to connect to the top of your still and enough left to drip into your separator.
- Connect the tubing to the top of your still. Make sure it's an airtight seal.
- Fill the still with clean, purified water. A good rule of thumb is 3 parts water to 1 part plant material.
- Add the plant material to the still. You can pack it in, just leave room at the top so you're not blocking the opening.  
Each plant has its own different way to be harvested and used for distillation to achieve the best outcome. With each plant being unique you will need to do some research on how they need to be harvested. If you decide to buy the material that is ready to go, make sure it's from a reputable nursery. Try to get whole plants where pesticides and herbicides were not used. These contaminants could possibly enter into your essential oil.

- Place your Separator/Collection Flask under the tubing that is coming out of from the ice water container to catch the condensed liquid.
- Start heating the water in the still using the heat source. As the water boils, the steam will rise and carry the volatile oil components from the plant material.
- Steam and plant material will travel together up through the tubing. The tubing cools the vapor as it goes through the ice water causing it to condense back into a liquid.
- The condensed liquid will then collect into the Separator. This process can last between 30 minutes to six hours depending on what and how much you're distilling. Through this process you will want to keep checking your water in the still and the water temperature of the ice water container. You may need to add cooler water from time to time. Do some research to see the estimated times for distilling your selected plants. Distilling for too long can bring some contaminants over.
- Once completed, filter this mixture through a clean and very fine metal filter. Let it sit and let the oil and water separate.
- Collect your oil in a dark glass bottle and store in a cool dark place. They can usually last for a couple of years, but always do some research to see the recommended storage time for your creation.

*Suitable for:*

Most flowers, leaves, some roots, and some resins. Most plant materials benefit as steam is relatively gentle.

*Considerations:*

Some very delicate aromatics might be partially altered by heat. Yield may vary depending on plant matter and equipment efficiency.

### *Expression (Cold Pressing):*

A method used to extract oils, particularly from citrus fruit rinds like oranges, lemons, and bergamot. Peels are mechanically pressed to rupture the oil glands to release the essential oil.

#### *Equipment Needed:*

- Zester, grater or vegetable peeler.
- Mortar and pestle or garlic press.
- Glass jar.
- Fine metal filter.
- A pipette or eye dropper.

#### *The Process:*

This method is mainly a commercial process of extracting essential oil. It consists of placing the raw material under a press or rollers where the oil is forced out from the rinds. The product from this action is essential oil, water and bits of rind. This mixture is put into a centrifuge where it spins the collected liquid to separate the essential oil from everything else.

There are a couple of ways you can do something similar from home. The following two methods will work, but only yield small results.

#### **1. The Garlic Press:**

- Wash the rinds and remove any stickers.

- Use a zester, grater or vegetable peeler and carefully remove the outer part of the rind, the zest. Avoid as much of the white part as possible. It's bitter.
- Place the zest in a garlic press and squeeze out the essential oil into a glass jar. Run it through a fine metal filter first to remove the small bits of rind.
- Since most of us don't have a centrifuge, we can sit the bottle down in a cool, dark area and after a day or two the oil will separate from the water and rise to the top. You can use a pipette or eye dropper to collect the essential oil.

## **2. Mortar and Pestle:**

- Wash the rinds and remove any stickers.
- As before remove the zest from the rind.
- Place the zest in a mortar and crush the zest with the pestle.
- Once you have extracted as much as you can, transfer your liquid in a glass jar after filtering with a fine metal filter.
- Like with the previous method store in a dark, cool place for a day or two and use a pipette or eye dropper to collect the essential oil.

*Suitable for:*

Basically any citrus fruits where the oil is primarily in the rind such as: lemons, oranges, bergamot, limes and grapefruit.



### *Considerations:*

Cold-pressed oils often have a fresher, truer-to-fruit aroma but may be less stable.

### *Enfleurage: (Hot and Cold Methods)*

**Cold enfleurage** is a traditional (older) and delicate method for extracting fragrance from flowers and other botanicals. It uses odorless fats at room temperature to capture the volatile scent molecules.

### *Equipment needed:*

- A large, flat glass tray with sides.
- Fat: Odorless animal fats like lard or tallow were traditionally used. Today, vegetable fats like coconut oil or shea butter are more common.
- Scraper.
- Fine metal filter.
- Perfumer's alcohol.
- Glass bottles: For holding the used fat and alcohol solution.
- Scale (optional): For measuring precise amounts of fat and alcohol.

### *The Process:*

1. Prepare the Glass Tray: Spread a thin, even layer of fat on the bottom of the clean glass dish. You can better do this by gently heating the fat and pouring it in the dish and then let it cool. After cooling you can cut lines

in the fat. This is to give more surface area for the fat to absorb the scent.

2. **Add Flowers:** Make sure the flowers are as dry as possible and clean; without pests or dirt. Gently lay fresh flower petals on top of the fat in a single layer and cover tightly. Store in a cool and dark place.
3. **Rest:** Leave the glass container undisturbed for 1-3 days. The fragrance from the flowers will slowly absorb into the fat.
4. **Replace Flowers:** After the resting period, carefully remove the spent flowers and replace them with fresh ones. Repeat steps 2 through 4 several times (typically 3-4 weeks) until the fat is saturated with fragrance.
5. **Extract the Fat:** Scrape the scented fat from the glass container and place it in the glass bottles.
6. **Alcohol Wash:** Pour perfumer's alcohol into the glass bottles with the fat. The alcohol will dissolve the fragrant oils from the fat. Let the mixture sit for some time in a cool, dark place. A general guideline is to let it sit for about 4-6 weeks. Some let it sit for a couple of months for a richer and stronger scent. Twice a week, shake or stir the contents, but be gentle.  
There is no ideal ratio of fat to perfumer's alcohol. A common starting point is a 1:1 ratio by weight. This means using an equal weight of fat (saturated with fragrance) to perfumer's alcohol. You can adjust the ratio depending on the application, the flowers used and personal preference.
7. **Filter:** When the time comes to start using your creation just filter the alcohol solution from the fat.

*Suitable For:*

- Cold enfleurage is ideal for extracting fragrance from fragile flowers like jasmine, tuberose and violets, which can't withstand the heat of other extraction methods.
- High-Quality Scents: Cold enfleurage produces very pure and concentrated fragrance oil, capturing the delicate nuances of the flowers.

*Considerations:*

- Time-Consuming: Cold enfleurage is a slow and labor-intensive process that can take months to complete.
- Yield: The amount of fragrant oil obtained is relatively low compared to other methods.
- Skill and Experience: While the basic steps are straightforward, achieving consistent and high-quality results requires practice and experience.
- Overall, cold enfleurage is a fascinating traditional technique for perfume making. It's perfect for those who appreciate the delicate nuances of floral scents and are willing to invest the time and effort required for this beautiful craft.

***Hot enfleurage*** is a faster alternative to cold enfleurage for extracting fragrance from botanical materials. It utilizes heat and fat to capture the volatile scent molecules.

*Equipment needed:*

- A double boiler.

- Fat: Odorless fats like pork lard, coconut oil or shea butter.
- Fine metal filter.
- Perfumer's alcohol.
- Scraper.
- Wooden Spatula.
- Glass bottles: For holding the used fat and alcohol solution.
- Thermometer: To monitor the oil temperature.

*The Process:*

- Prepare the Fat: Heat the fat in the double boiler to a temperature between 40°C (104°F) and 60°C (140°F), depending on the plant material (research specific recommendations for your chosen flower).
- Add Flowers: Gently add the fresh flower petals to the heated fat and stir it with the wooden spatula for a few minutes.
- Solidify: Let the mixture cool and solidify. Sit it in a cool, dark place for 24 hours.
- Melt: Gently melt the fat and remove the spent flowers. Replace the flowers with fresh ones and repeat this process again 3 - 4 times until you have saturated the fat with as much fragrance as you want.
- Once you remove the flowers the last time and the fat cools you can scrape the fat into glass bottles. The rest of the process is exactly the same as cold enfleurage.

### *Suitable For:*

- **Sturdier Flowers:** Hot enfleurage is more suitable for flowers that can tolerate some heat, such as mimosa, orange blossom, and some rose varieties.
- **Faster Results:** Compared to cold enfleurage, hot enfleurage offers a quicker method for extracting fragrance.

### *Considerations:*

- **Heat Sensitivity:** While some flowers can handle the heat, delicate florals may lose their fragrance profile when subjected to higher temperatures.
- **Potential for Degradation:** Excessive heat can damage some of the more volatile and delicate scent molecules.
- **Monitoring Needed:** Hot enfleurage requires more attention to maintain the proper temperature range and prevent overheating.

### *Maceration and Infusion:*

These processes are part of the perfume making process that you may want to explore.

*Maceration* is a process where a solid material is sliced, crushed, diced, ground or broken down in some way and soaked in a liquid (solvent) to extract soluble compounds. The material is broken down so more of the surface area of that material is in contact with the solvent. The goal is to transfer the desired fragrance from the solid material into the liquid. Depending on your objectives and the materials you are working with, maceration can involve heat and this can speed up the process.

## Solvents Used:

- **Perfumer's Alcohol:** This is the most common solvent in perfumery. It effectively extracts a wide range of aromatic compounds from plant materials like flowers, leaves and spices.
- **Water:** Used for extracting viscous or gelatinous substances (like flaxseeds and marshmallow root) or for delicate materials where alcohol might be too harsh.
- **Oils:** Oils like fractionated coconut oil or jojoba oil are used to extract specific fragrance compounds. This is common for materials like resins or citrus peels.

The amount of time a mixture needs to set to get the required amount of fragrance imparted into the solvent is very wide ranging. It depends on the solvent used and the material used and your preference to the fragrance concentration.

Daily check on your maceration and take notes through every step. You might even need to remove the material and add fresh material to impart more fragrance.

Here is a very general guideline as far as materials.

Delicate Flowers such as jasmine, rose petals and orange blossom: 1-2 weeks.

Robust Flowers such as chamomile, lavender and marigold: 3-4 weeks.

Herbs such as lavender, mint, basil and rosemary: 2-3 weeks.

Spices such as cinnamon, cloves, cardamom and nutmeg: 4-8 weeks.

Zest such as lemons, limes and oranges: 1-2 weeks.

Resins such as frankincense, myrrh and benzoin: Several months to a year.

*Infusion* is a gentler process of extracting fragrance and aromatic compounds. Whole or slightly broken material is submerged in a solvent over time. The

solvent slowly absorbs the aromatic compounds without the need for breaking down the plant material, creating a concentrated extract.

Infusion differs from maceration through a couple of different ways.

- It primarily uses alcohol as its solvent.
- It uses whole or minimally broken material.
- Primarily done at room temperature. Maceration can include heat to speed up the process, especially when water is involved.
- Infusion generally takes longer than maceration, but it can yield a more nuanced and complex aroma profile.

Another method of obtaining essential oils that is talked a lot about is Solvent Extraction. This is not a good at-home option because you need to know how to handle dangerous chemicals. This is for commercial use only.

The most common way people obtain essential oils is to buy them and the next section is going to offer you some ways on how to get the best options for your money.

### ***Quality in Sourcing Essential Oils:***

**Not all essential oils are created equal:** Retailers that hide information are not reputable. Buy from retailers who prioritize quality and offer detailed information about their essential oils, such as the extraction methods, plant name and part of the plant used, whether herbicides and pesticides were used and batch testing.

**Ethical considerations:** Discuss sourcing from suppliers with sustainable practices and fair treatment of producers, especially for rarer or exotic oils.

## **The types of suppliers are:**

- **Wholesaler Suppliers:** They offer a wide range of essential oils at a cheap price, but in most instances you will need to buy larger quantities.
- **Direct-to-Consumer (DTC) Distilleries:** Some distilleries sell their own essential oils directly to consumers online or at their facilities. This offers the potential for the freshest products and a deeper connection to the source.
- **Retail Suppliers:** They offer a wide range of essential oils at higher prices per bottle. But you can save money by being able to buy one bottle at a time instead of larger quantities.
- **Smaller, Niche Suppliers:** These types of suppliers sell specific types of oils. They are usually more expensive but also more transparent in their labels.

## **Understanding Factors Affecting Quality:**

- **Plant variety and growing conditions:**  
*Variety:* Each plant species and even different varieties within a species produce unique essential oils. For example, lavender oil from *Lavandula angustifolia* will have a different chemical composition and aroma than lavender oil from *Lavandula latifolia*.

*Soil:* The soil composition (nutrients, minerals and pH) directly influences the plant's growth and the quality of its essential oil. For instance, roses grown in rich, well-draining soil tend to produce higher quality oil.

*Climate:* Factors like temperature, sunlight and rainfall all affect a plant's metabolism and the production of essential oils. Citrus fruits



grown in sunny, warm climates generally produce more abundant and vibrant essential oils.

- Part of the plant used:

*Different parts, different oils:* Different parts of a plant may contain different types and concentrations of aromatic compounds.

*Chemical composition:* This variation in plant parts leads to differences in the chemical composition and therapeutic properties of the resulting essential oils. Clove bud oil is known for its warming and analgesic properties, while clove leaf oil is often used for its antiseptic qualities.

- Extraction method and expertise:

*Method matters:* The extraction method significantly affects the quality and composition of the essential oil. Steam distillation is common for many oils, but delicate flowers may require solvent extraction or enfleurage.

*Expertise:* The skill and experience of the distiller play a crucial role. Improper extraction techniques can damage the delicate aromatic compounds, resulting in a lower quality oil.

- Age and storage of the oil:

*Oxidation:* Exposure to air and light can cause essential oils to oxidize, degrading their quality and altering their aroma.

*Storage:* Proper storage in dark glass bottles, away from heat and light, is essential for preserving the quality of essential oils.

*Shelf life:* Some oils, like citrus oils, have a shorter shelf life and may degrade faster than others.

**Adulteration:** This is the process of the product becoming poorer in quality because of added substances. Preservatives and additives are sometimes the way bottlers add volume and shelf life to their products. This is something you want to avoid as much as possible. Look for a label that lists all ingredients and not any proprietary blends.

### ***Popular Choices of Essential Oils in Perfumery:***

#### **Floral:**

- Rose: Rich and classic floral.
- Lavender: Fresh, calming and versatile.
- Jasmine: Intoxicating and sweet floral.
- Ylang Ylang: Exotic and tropical floral.

#### **Citrus:**

- Bergamot: Bright, zesty and is key for colognes.
- Lemon: Fresh and invigorating.
- Sweet Orange: Cheerful and uplifting.

#### **Woody:**

- Sandalwood: Warm, creamy and grounding.
- Cedarwood: Dry and woody.
- Patchouli: Earthy, complex and is great as a base note.

## **Herbaceous/Spicy:**

- Peppermint: Clean and invigorating.
- Rosemary: Herbaceous and camphoraceous.
- Clove: Warm, spicy and powerful.

**Key Takeaway:** Essential oils are the heart of perfumery. Sourcing wisely and understanding their nuances are vital skills for the aspiring perfumer. This will take experience and research. These are natural essential oils, in the next section you will learn about synthetic fragrances and how they are incorporated into modern perfumery.

## ***Synthetic Aromachemicals: Their Role and Options***

**The Backbone of Modern Perfumery:** Synthetic aromachemicals provide the vast majority of scents used in fragrances, cosmetics and household products used today. They offer advantages over natural sources including:

- **Cost-Effectiveness:** Synthetic production is often far cheaper than extracting delicate natural essences.
- **Reliability and Consistency:** Synthetics ensure a stable supply and predictable scent profiles.
- **Creative Range:** Chemists can create entirely new scents or mimic complex natural fragrances that may be rare or difficult to source.

### **Synthetics, Uses and Examples:**

**Aldehydes** – Aldehydes can be both natural and synthetic and some perfumes use both to get the benefits from each side. They have a specific structure that gives them potent smells. Aldehydes are often paired with florals, taking the edge off pure sweetness and adding complexity.

- *C-7 (Heptanal):* Green, fresh and has slightly fruity notes.
- *C-10 (Decanal):* Strong orange peel and citrus notes.
- *C-11 (Undecanal):* Soapy, clean, fatty and floral notes.
- *C-12 MNA (Methyl Nonyl Acetaldehyde):* Soapy, clean, metallic, sometimes described as "cold" notes.
- *Benzaldehyde:* Bitter almond and cherry-like notes.
- *Anisic Aldehyde (Aubepine):* Sweet, powdery and with floral notes.

### **Perfume Example:**

- **Chanel No. 5:** This iconic fragrance is famous for its use of aldehydes, particularly C-10, C-11, and C-12, which contribute to its signature effervescent quality.

**Esters** – Esters can be natural and synthetic as well. Esters are magical compounds that are responsible for the sweet and light smells of florals and fruits that give perfume a delicious touch.

- *Triethyl Citrate:* This ester has a fresh, citrusy aroma with a slightly sweet and tart character. It's often used in citrus and floral fragrances to enhance the brightness and freshness of the composition.
- *Allyl Amyl Glycolate:* This ester has a fruity, pineapple-like aroma with hints of apricot and jasmine. It adds a tropical, sweet note to fruity and floral fragrances.
- *Ethyl Methylphenylglycidate (Strawberry Glycidate):* This ester has a sweet, fruity aroma reminiscent of strawberries. It's commonly used in fruity and gourmand fragrances to add a juicy, berry-like note.
- *Calone:* This aquatic aroma molecule evokes the scent of fresh sea air and melon. It's a popular ingredient in marine and ozonic fragrances, adding a refreshing, invigorating touch.
- *Hedione:* This ester has a fresh, jasmine-like scent with citrusy and floral notes. It's a key ingredient in many floral and green fragrances, adding a delicate, airy quality.

### **Perfume Example:**

- **Giorgio Armani Acqua di Gioia:** This refreshing aquatic floral fragrance features both hedione and calone. Hedione provides a delicate

jasmine-like aroma with hints of citrus, while calone adds a crisp, aquatic note reminiscent of sea air and melon. Together, they create a bright, uplifting scent that evokes the feeling of a sunny day at the beach.

**Nitromusks** – Nitromusks are synthetic chemicals with a strong, musky fragrance that help perfumes smell stronger for longer.

- *Musk Xylene*: The most widely used nitromusk and possesses a strong, powdery, and slightly sweet musky scent.
- *Musk Ketone*: Known for its warm, animalic, and slightly woody musk aroma and often used to add depth and complexity to fragrances.
- *Musk Mosken*: This nitromusk has a clean, smooth, and musky aroma with a slightly woody undertone. It was once popular but is now restricted due to environmental concerns.

### **Perfume Example:**

- **Serge Lutens Muscs Koublaï Khan**: This intense and animalic fragrance is celebrated for its bold musk accord. Musk Ketone is a key player in this blend, contributing a sweet, powdery and slightly animalic character that is characteristic of this particular nitromusk.

**Cyclic Ketones** – are molecules that have a ketone group (C=O) as part of a closed ring structure. To understand this think of a necklace, this represents the ring of atoms in a molecule all looped together. Now think of a shiny charm on the necklace, this is the (C=O) which is the ketone group. This gives the unique smell to the necklace (the ring of atoms). You can have different ketone groups and different sized necklaces to give different scents.

- *Ionones*: These have different fruity and floral styles. They can smell like violets, raspberries, or even woody scents.
- *Muscone*: This large ring ketone possesses a warm, animalic, and slightly sweet musky odor.
- *Velvione*: This synthetic musk has a softer, powdery, and woody scent compared to natural musks. It offers a clean and subtle muskiness that is often used in modern perfumery.
- *Civetone*: Has a strong, musky animal-like smell. Think of it as a wild and adventurous scent.

### **Perfume Example:**

- **M/Mink by Byredo**: This fragrance features civetone prominently, giving it an animalic and musky base. It also incorporates other synthetic musks like Galaxolide for a softer, cleaner musk effect. The combination of these cyclic ketones creates a complex and intriguing scent profile, reminiscent of fur and warm skin.

**Ambers** – Ambers are a complex and fascinating fragrance category. Unlike many other perfume notes, "amber" doesn't refer to a single material from a specific plant or animal source. Instead, it's a broader olfactory profile characterized by warmth, sweetness, and a touch of sensuality.

- *Labdanum*: Is derived from a resin extracted from the rockrose plant. Its scent profiles are rich, leathery, balsamic and honey-like with subtle animalic and smoky nuances. Labdanum is a foundational building block of traditional amber accords. It can be natural or synthetic.

- *Cedramber*: This amber note is derived from cedarwood and has a dry, woody and slightly resinous character. It adds warmth and complexity to fragrances, often complementing floral and spicy notes.
- *Ambroxan*: Is a synthetic molecule derived from clary sage. Its scent profiles are warm, musky and slightly woody with a clean and slightly salty-mineral quality. Ambroxan is widely used in modern ambers, adding complexity and enhancing diffusion.

### **Perfume Example:**

- **Sauvage by Dior**: This fragrance has become incredibly popular in recent years, and Ambroxan plays a significant role in its appeal. In Sauvage, Ambroxan is combined with other fresh and spicy notes to create a clean, modern, and masculine scent.

### **Additional Notes –**

- **Blends are Key**: Perfumers rarely use aromachemicals alone. The art is in their combination.
- **Natural Counterparts**: Many of these synthetic molecules have naturally existing counterparts. Synthetic and natural aromachemicals are often combined for complexity and nuance in perfumery.
- **Vanillin**: Synthetic replacement for expensive vanilla bean extract, found in everything from ice cream to perfume.
- **Novel Molecules**: Entirely new fragrance families created in the lab.



**Sustainability Considerations** – There are several ways aromachemicals are made.

- *Petrochemical Origins:* Many common aromachemicals are derived from fossil fuels, raising concerns about their non-renewable nature and environmental impact during production.
- *Bio-Based Sources:* Researchers are using yeast and bacteria to produce aromachemicals from renewable materials like sugar. These bio-synthetics can mimic natural scents while being more sustainable.
- *Upcycling:* This method uses byproducts from other industries like citrus peels or wood chips to extract valuable fragrance molecules. Further chemical modifications are then done to transform these compounds into new, desirable aromachemicals.

### **Safety Considerations for Synthetics–**

- **Rigorous Regulations:** Organizations like RIFM (Research Institute for Fragrance Materials) and IFRA (International Fragrance Association) set strict usage guidelines for aromachemicals based on extensive safety testing.
- **Controversial Ingredients:** Despite regulations, some consumers remain concerned about potential health effects of synthetic fragrances. Concerns may focus on:
  - \* **Allergens:** A few synthetics can be allergens, although naturally derived ingredients can be as well.
  - \* **Endocrine Disruption:** Some studies suggest potential links between certain synthetics and hormonal disruption, although more research is needed.

\* **Phthalates:** Used in fragrance to help scent last longer. Some phthalates have been linked to potential health concerns, leading to restrictions on their use. Alternatives include natural fixatives or phthalate-free synthetics.

\* **Polycyclic Musks:** Older synthetic musks were found to be bioaccumulative (building up in the environment). Modern musks are designed to be more biodegradable.

**"Clean" Fragrance Movement:** Some brands cater to safety concerns by using limited palettes of synthetics and emphasizing on natural ingredients, but there's no universal definition of "clean" fragrance.

**Important Note:** It's crucial to present all information in a balanced way. Rigorous safety guidelines exist, but consumer concerns and ongoing research drive innovation within the industry.

## ***Carrier Oils and Alcohol: Differences and Best Uses***

### **Carrier Oils –**

- **Base Oils:** also known as carrier oils are neutral oils derived from the fatty parts of plants, typically the seeds, kernels or nuts.
- **Purpose in Aromatherapy:** In aromatherapy, carrier oils serve primarily as a way to dilute potent essential oils. Essential oils are far too concentrated to apply directly to the skin, and carrier oils make them safe to use topically.
- **Properties of Carrier Oils –**
  - \* **Odor:** Most carrier oils have a very faint or neutral scent, so they won't interfere significantly with the aroma of essential oils.
  - \* **Texture:** Carrier oils vary in viscosity (thickness). Some are light and quick-absorbing, while others are richer and have a heavier feel.
  - \* **Skin Nourishment:** Many carrier oils have their own skincare benefits, like softening and moisturizing skin.
  - \* **Shelf-Life:** Carrier oils can go rancid over time, especially if exposed to heat and light. The typical shelf life varies by the type of oil.

### **Examples of Common Carrier Oils –**

- **Jojoba Oil:** Mimics the skin's natural sebum (naturally produced oily and waxy substance secreted by the sebaceous glands within our skin) making it compatible and nourishing. It's nearly odorless, allowing your fragrance to shine through and offers great stability and a long shelf life.

- **Sweet Almond Oil:** A light, easily absorbed oil with a subtly sweet, nutty aroma. It's affordable and widely available and great for those with sensitive skin.
- **Fractionated Coconut Oil:** Odorless, colorless and remains liquid at room temperature. It's non-greasy, extends the longevity of perfumes and has a very long shelf life.
- **Grapeseed Oil:** A very light and virtually odorless option that is fast absorbing and non-greasy. It's affordable and easily found in stores.
- **Apricot Kernel Oil:** A lightweight oil with a delicate, slightly sweet aroma. It's rich in vitamins, good for sensitive skin and absorbs beautifully into the skin. It can be more expensive than the other options.

### **Important Considerations –**

- **Nut Allergies:** Those with nut allergies should be cautious of carrier oils derived from nuts.
- **Skin Type:** Consider your skin type (dry, oily, etc.) when choosing a carrier oil.
- **Quality:** Opt for cold-pressed, unrefined oils for maximum benefit.

### ***Best Uses:***

**Aromatherapy Massage:** Carrier oils are necessary for safe aromatherapy massage. They allow for smooth, comfortable massage strokes and prevent essential oils from being too strong and potentially irritating the skin. You can choose a carrier oil that compliments the purpose of the massage and the individual needs.

**Skincare Rituals:** Add essential oils to a carrier oil for creating a nourishing facial serum or body oil. It can address specific concerns like acne, dryness, or signs of aging with appropriate essential oil and carrier oil combinations.

**Bath Oils:** Infuse your bath with relaxing or invigorating scents.

**Roll-on Perfumes:** Oil-based perfumes have a softer projection than traditional alcohol-based sprays. They double as a moisturizer where you apply the fragrance.

**Localized Spot Treatment:** Apply a diluted essential oil blend topically to target areas like bug bites, minor aches and pains, or blemishes.

**Hair Care:** Blend essential oils with carrier oils for hair treatments addressing scalp issues, dryness, or promoting growth.

## ***Alcohol (Specifically Perfumer's Alcohol)***

### **What is Perfumer's Alcohol?**

Perfumer's alcohol is specifically formulated high-proof ethanol. It's the standard base for most traditional perfumes. It contains additives making it unsuitable for consumption. This is for regulatory purposes.

### **Common Formulas:**

- SDA 40-B: The most common, contains a particularly bitter denaturant.
- Variations exist with slightly different denaturing ingredients.

### **Why it's Ideal for Fragrance:**

- High Solubility: Dissolves a wide range of aromachemicals and essential oils.
- Minimal Odor: Has a faint alcoholic scent that won't overpower the fragrance.

- **Quick Evaporation:** Carries the scent then rapidly evaporates, allowing the fragrance notes to develop on the skin.
- **Preservative:** Alcohol helps to extend the shelf life of a fragrance.
- **Skin-Friendliness (mostly):** Perfumer's alcohol is generally well-tolerated, though some individuals with very sensitive skin may find it drying.

Rubbing alcohol is Isopropyl and has a harsh scent. This kind of alcohol is not suitable to make perfume.

### ***Best Uses:***

**Traditional Perfumes:** The absolute standard base for perfumes in various forms:

- **Eau de Parfum:** Higher concentration of fragrance compared to alcohol.
- **Eau de Toilette:** Lighter concentration, typically for more casual wear.
- **Colognes:** Broad term, often used for more masculine-leaning scents.
- **Perfumer's alcohol** serves as the base for room sprays to help disperse the scent throughout a room.
- **Reed Diffusers:** The alcohol carries the fragrance up the reeds for continuous diffusion.
- **Cleaning Products:** Used in some natural cleaning sprays where its disinfecting properties and ability to carry scents are a plus.

## *Choosing the Right Base -*

<b><u>Feature:</u></b>	<b><u>Carrier Oil</u></b>	<b><u>Perfumer's Alcohol</u></b>
<b>Base Material</b>	Plant-derived oils (seeds, kernels, nuts)	High-proof ethanol, often with denaturants
<b>Purpose in Fragrance</b>	Dilutes essential oils, perfume carrier, skincare benefits	Dissolves fragrance materials, provides lift and projection, acts as preservative
<b>Scent</b>	Usually faint or neutral	Faint alcohol scent, quickly evaporates
<b>Skin Feel</b>	Ranges from light and fast-absorbing to rich and moisturizing	Dries quickly, can be skin drying for some
<b>Evaporation</b>	Slow, stays on the skin	Rapidly evaporates
<b>Scent Strength</b>	Creates subtle, intimate fragrance	Provides stronger projection and sillage (lingering of the perfume in the air).
<b>Shelf Life</b>	Varies by oil, can go rancid	Longer due to preservative qualities
<b>Ideal For</b>	Roll-on perfumes, aromatherapy blends, massage, skincare	Traditional spray perfumes (cologne, Eau de Toilette, etc.), room sprays, reed diffusers
<b>Allergies</b>	Be aware of potential nut allergies with some oils	Generally tolerated, but can be irritating for very sensitive skin

## ***Equipment: Bottles, Beakers, Droppers, etc.***

### **Bottles –**

#### **Storage Bottles:**

- **Material:** Clear or amber borosilicate glass is most common. Amber protects light-sensitive materials. Borosilicate glass can handle heat very well.
- **Size:** Range is from small or even tiny for precious essential oils to larger bottles for carrier oils or bulk blends.
- **Closures:** Ensure bottles have tight-fitting caps or stoppers to minimize evaporation and oxidation.

#### **Perfume Bottles:**

- **Decorative Appeal:** Comes in endless shapes, sizes, and styles, from vintage-inspired to modern.
- **Applicators:** Can be simple stopper types, roll-on bottles, or have spray atomizers.
- **Materials:** Most are glass, but crystal, metal, plastic or even ceramic options exist.

#### **Additional Considerations:**

- **Budget:** Simple storage bottles are budget-friendly, while decorative perfume bottles can range significantly in price.
- **Labeling:** Essential for staying organized! Label each bottle clearly with its contents and date.
- **Repurposing:** Most any container can be reused, just make sure to clean thoroughly.



## Beakers –

- **Role:** Wide-mouthed vessels with a flat bottom for stability. More for mixing, holding liquids, and rough measurements.
- **Sizes:** Available in a wide range from small (25ml) to large (several liters).
- **Materials:** Typically glass (borosilicate is heat-resistant) or chemically inert plastic.
- **Uses in Perfumery:**
  - \* Mixing perfume blends: Especially alcohol and fragrance concentrates before dilution.
  - \* Holding carrier oils or prepared fragrance mixtures before bottling.

## Graduated Cylinders:

- **Role:** Tall, narrow containers with precise volume markings for accurate liquid measurements.
- **Sizes:** A wide range of sizes for different needs.
- **Materials:** Same as beakers – glass or inert plastic.
- **Uses in Perfumery:**
  - \* Measuring perfumer's alcohol for precise dilutions.
  - \* Accurately measuring fragrance oils, especially when following recipes.
  - \* Creating small experimental batches.

## **Beakers & Graduated Cylinders Considerations:**

### **Material:**

- Glass: Classic choice, easy to clean but can break.
- Plastic: More durable but can interact with some chemicals over time.

**Size:** Consider the volume of blends you typically make. Have a few sizes for versatility.

**Graduations:** Choose clear, easy-to-read markings on graduated cylinders.

**Spouts:** Beakers with spouts help with controlled pouring.

### **Additional Notes:**

**Temperature:** If working with heated materials ensure your glassware is heat-resistant.

**Storing Fragrances:** Beakers aren't ideal for long-term fragrance storage – transfer to appropriate bottles to prevent evaporation and light exposure.

## **Droppers –**

**Classic Choice:** Typically consists of a glass tube with a rubber bulb attached at the top. Squeezing and releasing the bulb draws up and dispenses liquids.

**Essential Oil Control:** Ideal for adding essential oils drop by drop, offering a certain amount of precision.

**Bottle Compatibility:** Ensure the dropper's length fits the bottles you use for essential oils and blends. This is if you are buying the dropper and bottle separately.

### **Materials:**

- Glass: Offers chemical resistance, easy to clean, but costs more.
- Plastic: Can interact with some chemicals, sometimes has less graduation marks for precision use, but is cheaper.

## **Pipettes:**

**Common Types:** They are usually disposable plastic pipettes, sometimes graduated to show small volume markings.

**Precision:** Graduated pipettes give more control than the standard drop-by-drop.

**Small Batch Work:** Great for transferring tiny amounts of liquid and making experimental blends. They are perfect for adjusting ratios.

**Fragrance Sampling:** Useful for taking small samples from bottles without introducing contamination.

## **Additional Considerations:**

**Sterility:** Sterilize droppers/pipettes or thorough cleaning between use.

**Essential Oil Thickness:** Some very thick essential oils may need wider-bore droppers for easier flow.

**Labeling:** It's crucial to label them properly to prevent cross-contamination.

## **Blending Tools:**

**Glass Stirring Rods:** For gently mixing blends without introducing air bubbles.

**Small Stainless Steel Spoons:** For scooping out solid fragrance materials like resins.

## **Additional Safety:**

- **Nitrile Gloves:** More robust than latex and protect hands when handling stronger aromatics.
- **Eye protection:** Use goggles or safety glasses for added caution when working with chemicals.

## **Other Tools –**

- **Scale:** This is the most precise way to measure ingredients.
- **Hot Plate/Water Bath:** For gently heating and melting solid materials like fats, butters or creating infused oils. Use with caution and appropriate heat-safe glassware.
- **Filters:** To filter out any unwanted materials.
- **Organza Bags:** Small bags for enclosing botanicals when making infusions, allowing for easy removal.
- **Olfactorium:** A specialized tool with multiple strips for blotting and simultaneously evaluating many scents – useful for serious perfumers developing complex blends.
- **Notebook:** For recording recipes, observations, and inspiration.
- **Reference Books:** Perfumery texts for formulas, material knowledge, and techniques.