
DELTA
AROMATIC
FINE FRAGRANCES SINCE 1982

DELTA AROMATIC

FINE FRAGRANCES SINCE 1982

# FRAGRANCE PORTFOLIO

**DELTA AROMATIC'S LIBRARY OF STANDARD FRAGRANCES.**

Prepared by Anastasia Schoina (Fragrance Evaluator in Delta Aromatic & Ex. Fragrance Evaluator in IFF)

FOR SPECIFIC PRODUCTS NOT SHOWN IN THE LIBRARY PLEASE ASK FOR SAMPLES & PRICES.

# Table of Contents

# Delta Aromatic Introduction

## WHO WE ARE

Heralding from a country whose ancient civilization were the forefathers of perfume, Delta Aromatic aims to deliver a local, reliable, and friendly experience with multinational standards and capabilities.

We begin our process by cultivating a variety of aromatic herbs and seeds in our 2000-acre plantation in Beni Suef, Egypt. In parallel our sourcing teams acquire positions in from some of the highest quality ingredients world-wide. Then in our state-of-the-art production facility our dedicated team specializes in manufacturing over 2500 distinct fragrances.

Today our memorable scents are used in a myriad of cosmetic, body care, soaps, detergents and chemical products globally. With people all over the world using fragrant products, we hope to enhance the human experience through wonderfully shared sensory experiences.

## OUR STORY

Delta Aromatic International - was established in 1983, by Mr. Omar Abdel Rahim, the present Chairman and CEO. With over of 50 years of experience in the field of essential oils, flavors and fragrances, Mr. Omar Abdel Rahim was the sole agent in Egypt for several international companies (Mero & Boyveau-Grass/ Zimmerman Hobbs- UK/ Henkel Düsseldorf /CPL Aromas UK), until he established Delta Aromatic International.

Delta Aromatic is a producer of ingredients, ingredient systems, and integrated solutions targeting the homecare and personal-care sectors. Delta Aromatic started off as a flavor and fragrance house, in the early 90s they added a color division mainly targeting the food sector and home care sectors. Then in the early 00s, propelled by their flavor penetration in the beverage sector, they started a juice trading operation focused very successfully in the Middle East and Africa regions. A few years later, they grew into compounding their own flavor ingredients with multiple functional ingredients and juices, starting the first Integrated Ingredient System offering in the Middle East and Africa. In 2008 they started a state-of-the-art fruit processing and juice compounding plant to consolidate their penetration in the beverage sector. Then, in 2013, Doehler Group acquired 50% of the Juice and Flavor business of Delta Aromatic, and rebranded the company name to Doehler Egypt S.A.E. In 2015 Delta Aromatic successfully sold its color division to ROHA Dyechem. Doehler Egypt started by transferring a team from Delta Aromatic managed completely autonomously under the leadership of two of Delta Aromatic's managing partners. From 2013 to 2019 Doehler Egypt grew to be the largest and most sophisticated beverage ingredients and R&D hub in the Middle East and Africa, with a sustained CAGR growth north of 45% over 6 years. In 2020, Delta Aromatic exercised its option to sell its remaining 50% stake of Doehler Egypt

successfully. In 2021, after a resounding success story in the past 6 years, great experience in regional growth, and the necessary capital, Delta Aromatic is poised to replicate their same success story in the Home Care and Personal care sectors, with a primary focus on select clients in the Middle East and Africa. Delta Aromatic is currently one of the region's oldest and leading fragrance houses.

## WHAT WE DO – INGREDIENTS

Egypt is one of the richest and most diverse essential oil sourcing areas in the world. Delta Aromatic has been operating in production and the trading of essential oils since the mid80s. More recently in 2002, they have been cultivating various seeds and herbs in their 2000-acre plantation in Beni Suif. They focused in the standardization and trade of citrus oils for the past 8 years in response to the orange fruit boom seen in Egypt. Delta Aromatic is planning to have natural ingredients as one of its main core specialties. It is a promising area for organic growth or acquisition and consolidation of the many small fragmented players.

## WHAT WE DO – INGREDIENT SYSTEMS

Propelled by Delta Aromatic's rich ingredients, coupled with amazing recipes through more than 20 years of R&D, Delta Aromatic is extremely competitive with its current offering of fragrances for the home care and personal care sectors. Currently this business unit represents most of Delta Aromatic's business spanning more than 300 customers in 3 continents. With a capacity of more than 20metric tons a day, Delta Aromatic is always prepared to grow its capacity further as needed in its brand new 10,000m2 facility in E2 compound in 6 October City. Growth into more natural ingredient systems to support its target clients will be a focus of the next few years.

## WHAT WE DO – INTEGRATED INGREDIENT SYSTEMS

In many emerging markets, reliable R&D is scarce and expensive, ingredient availability and production sophistication are also not always easy to find. Our target is to provide solutions that simplify production and effectively outsource R&D burdens. From turn-key, ready to sell products, ready-to-pack bulk products, to functional keys that can transform ingredient poor customer recipes, this business unit aims at empowering emerging market startups and SMEs to deliver cutting-edge products.

## EXPERTISE, TECHNOLOGY & CREATION

With more than 2500 different aroma chemicals and essential oils in its portfolio, Delta Aromatic perfumers have the highest standards and values in mind, creating high quality fragrances for a wide variety of applications (refer to our extensive and unrivaled library of fragrances).

In Delta Aromatic we strive for excellence and believe in offering high-quality fragrances, our clients can afford. Supported by the latest GC/MS (Gas Chromatography/Mass Spectrometry) technology and equipment, run by some of the best chemists in the field, Delta Aromatic is able to offer to its customers the most accurate fragrance imitations of international brands and fragrance houses.

In parallel, our team of perfumers consists of experts with international background but also local Egyptian perfumers, with particular experience and ‘’know-how’’, in the creation of oriental and ancient Egyptian fragrances. The cultural diversity in our team, allowing us to create unique solutions that redefine what is possible. We create products that consumers know and love.

## WHY WORK WITH US

Delta Aromatic believes that corporate excellence can be achieved with entrepreneurial spirit, and believes in leaving an impact and creating a sustainable environment for now and for tomorrow.

- We are Home Grown, and appreciate regional tastes and requirements
- We are focused and dedicated to our customers
- We are flexible and agile, to meet new demands
- We are inspired by excellence, precision, and creativity
- We respect integrity, fairness and transparency

**We invite you to try scents that ignite your senses…**

# General Information

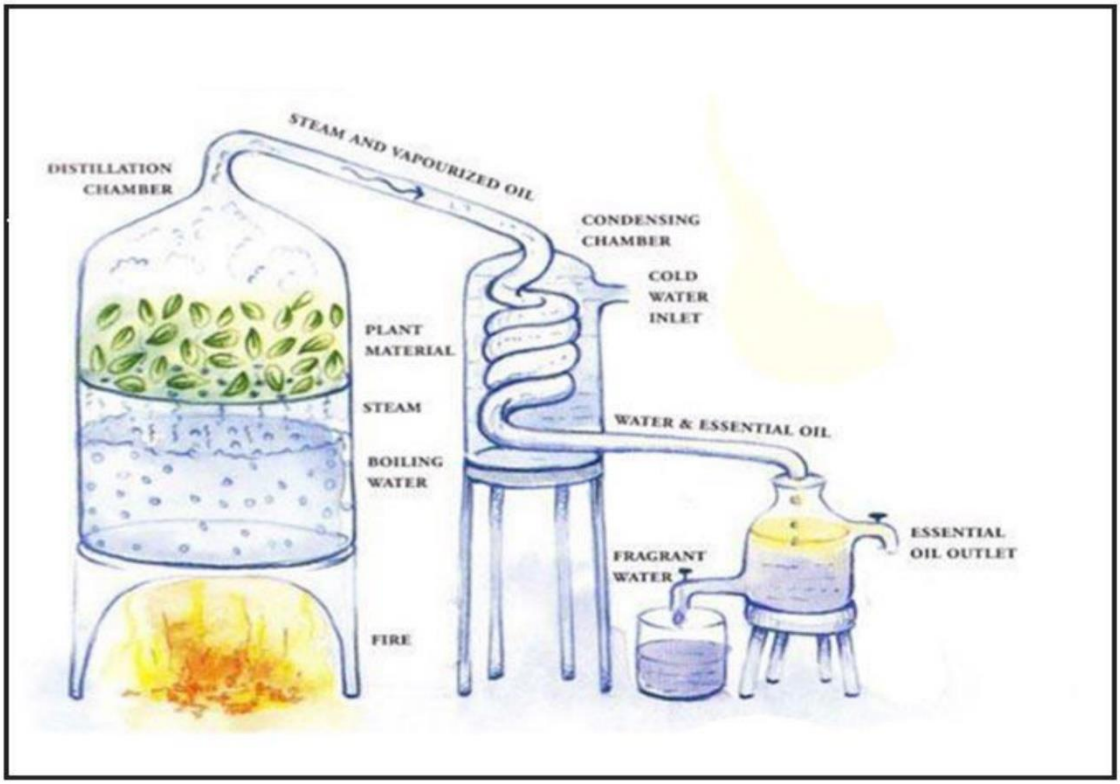
## What are essential oils?

An essential oil is a natural liquid product containing volatile (easily evaporated at normal temperatures) chemical compounds, extracted from a single plant species. Not all plants produce essential oils, and in the plants that do, the essential oil may be found in the roots, stems, leaves, flowers, or fruits.
An essential oil is essential in the sense that it contains the essence of the plant's fragrance—the characteristic fragrance of the plant from which it is derived.

## How are essential oils extracted?

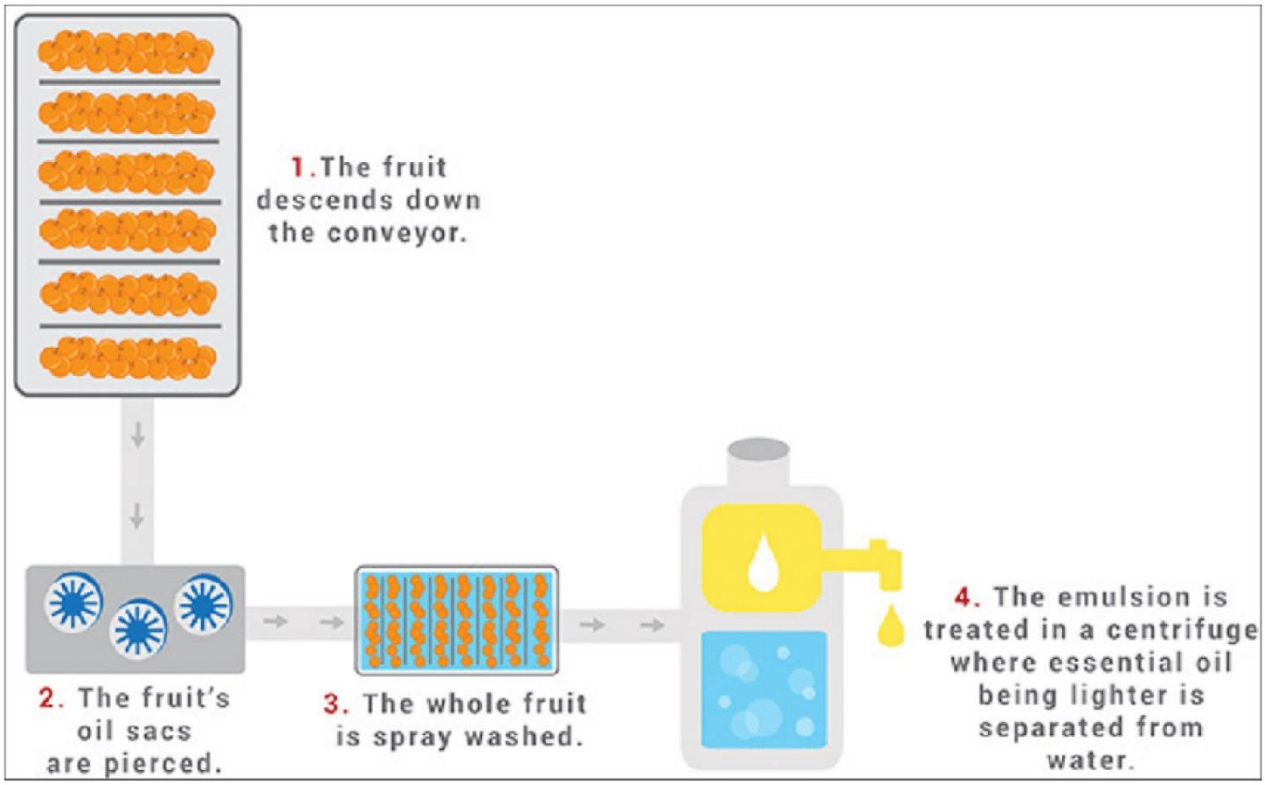
It is important to know something about how essential oils are extracted because oils from the same plant extracted in different ways can result in very different products.
Essential oils are generally extracted by **distillation**, often by using **steam**. Other processes include **expression**, **solvent extraction**, and **cold pressing**.

## Steam Distillation



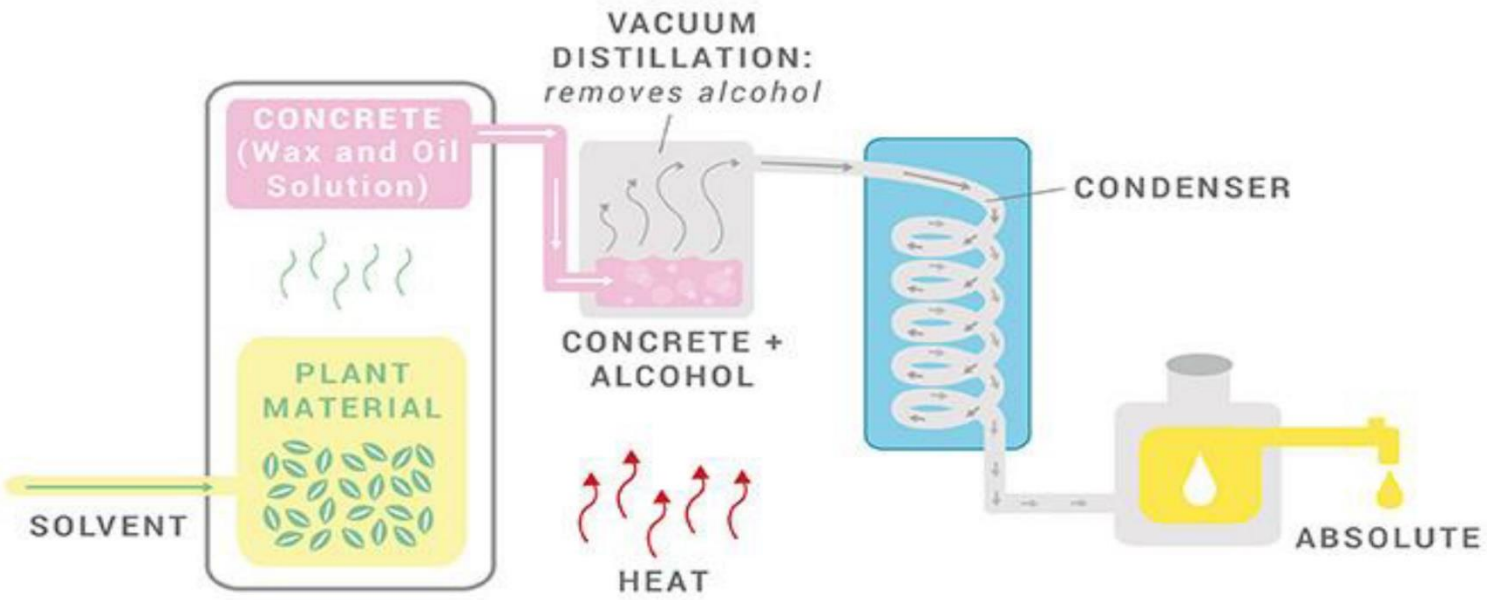

Most common essential oils such as geranium, tagette, basil, lavender, peppermint, tea tree oil, patchouli, eucalyptus etc. are distilled. In this method, steam is directed through the plant material (flowers, leaves, wood, bark, roots, seeds). The steam vaporizes the lighter chemicals contained within the plant material. The steam is then condensed through a cooling process. This process generates two products: the essential oil, which contains oil-soluble molecules, and a hydrolat or hydrosol or the plant water essence, which contains water-soluble molecules. Hydrosols include rose water, lavender water, lemon balm, clary sage and orange blossom water. Most oils are distilled in a single process. One exception is ylang ylang (Cananga odorata) which is purified through a fractional distillation.

## Expression




Expression is used to extract essential oils from citrus fruits. Expression is the process of grating or scraping the peel of a citrus fruit to release the oils. For example, when zesting a lemon, the scent of lemon rises into the air because the volatile oils have been released from sacs found in the peel.
In the process of essential oil expression, care is taken to capture the oil. Expression does not involve heating; thus, the chemistry of citrus essential oils is not heat-altered and citrus oils smell very similar to the fruits from which they come.

## Solvent Extraction




Most flowers contain too little volatile oil to undergo expression, but their chemical components are too delicate and easily denatured by the high heat used in steam distillation. Instead, a solvent such as hexane or supercritical carbon dioxide is used to extract the oils. Extracts from hexane and other hydrophobic solvents are called concretes, which are a mixture of essential oil, waxes, resins, and other lipophilic (oil-soluble) plant material.

Although highly fragrant, concretes contain large quantities of non-fragrant waxes and resins. Often, another solvent, such as ethyl alcohol, is used to extract the fragrant oil from the concrete. The alcohol solution is chilled to −18 °C (0 °F) for more than 48 hours which causes the waxes and lipids to precipitate out. The precipitates are then filtered out and the ethanol is removed from the remaining solution by evaporation, vacuum purge, or both, leaving behind the absolute.

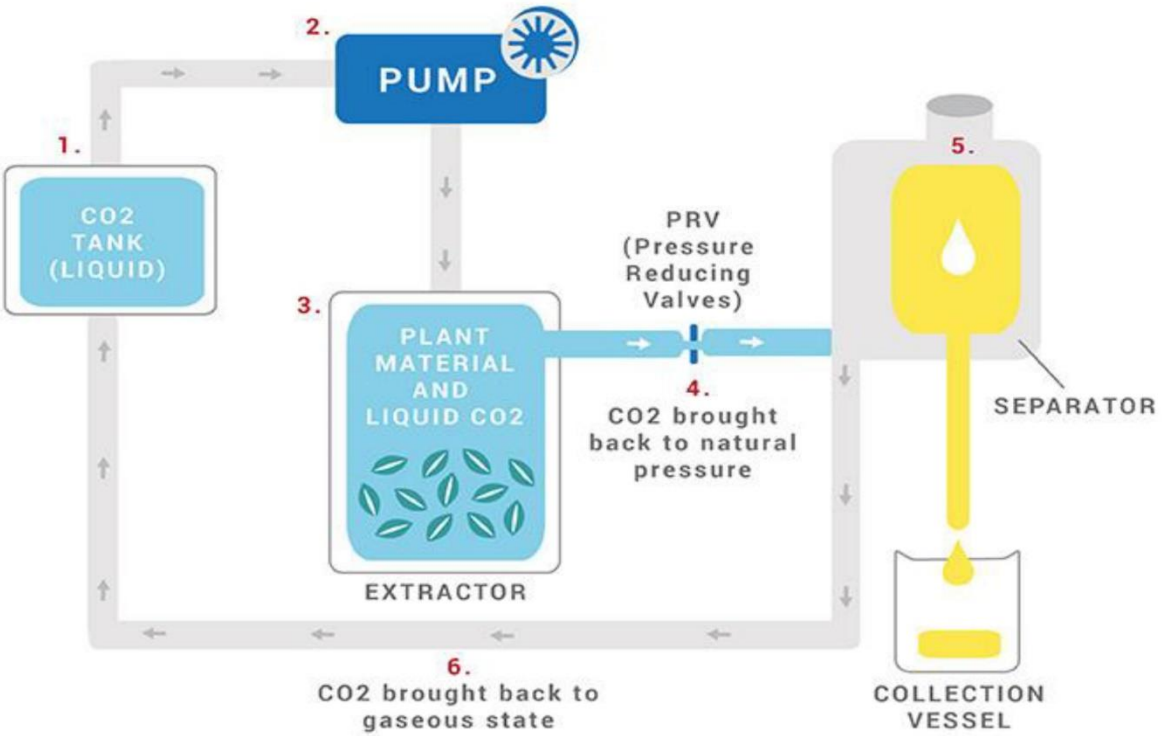
## Supercritical C02 Extraction

Essential oils derived from the supercritical CO2 extraction of herbs are similar to the oils produced through distillation in that they can be used in aromatherapy and natural perfumery.

Oils derived from steam distillation vary in their qualities depending on the temperatures, pressures, and length of time applied for the process. The CO2 extraction process might thus produce higher quality oils that have not been altered by the application of high heat, unlike the steam distillation process. In CO2 extraction, none of the constituents of the oil are damaged by heat.
Thus, the difference between traditional distillation and supercritical extraction is that instead of heated water or steam, CO2 is used as a solvent in the latter method. The supercritical extraction process operates at temperatures between 95 to 100 degrees F whereas steam distillation operates at temperatures between 140 to 212 degrees F.

In steam distillation, the molecular composition of both the plant matter and the essential oil are changed due to the temperature applied. On the other hand, a CO2 extract is closer in chemical composition to the original plant from which it is derived, as it contains a wider range of the plant's constituents.

CO2 extracts are usually thicker than their essential oil counterparts and often give off more of the aroma of the natural herb, spice, or plant than a distilled essential oil. CO2 extracts have been said to contain more plant constituents than the amount extracted from the same plant using steam distillation.



THE CO2 EXTRACTION PROCESS: Pressurized carbon dioxide becomes liquid while remaining in a gaseous state, which means it is now "supercritical." In this state, it is pumped into a chamber filled with plant matter. Because of the liquid properties of the gas, the CO2 functions as a solvent on the natural plant matter, pulling the oils and other substances such as pigment and resin from the plant matter. The essential oil content then dissolves into the liquid CO2. The CO2 is brought back to natural pressure and evaporates back into its gaseous state, while what is left is the resulting oil.

C02 is colorless, odorless, and can be easily and completely removed by releasing the pressure in the extraction chamber. It is what we exhale and is needed by plants in order for them to thrive, which illustrates its harmlessness when employed in the extraction process. This absence of potentially harmful solvents in C02 extraction means neither the human body nor the environment is polluted.

## What are aroma chemicals?

**Aroma Chemicals** refer to chemical substances that impart odor and they are often highly volatile. Along with Essential Oils, aroma chemicals form the backbone of ingredients used when formulating fragrances.
Aroma chemicals can be alcohols, esters, aldehydes, terpenes, ketones etc. They can be produced **synthetically** or by processes that conform to a definition of **natural:**

Natural aroma chemicals are obtained from various plant parts including, flowers, fruits, peels, leaves, barks, seeds, woods, roots, and resinous exudates. Extraction methods such as distillation, steam distillation, and mechanical separation or cold pressing are various ways to obtain pure plant extracts used for producing natural aroma chemicals. A natural aroma chemical is further refined and perfected when the raw material goes through a process of fermentation and isolation. Fermentation enhances the aroma, texture, and overall appearance, while isolation separates the constituents of the plant extract and purifies them.

- ***Aroma chemicals produced by isolation or by fermentation are easily understood as natural.***
- ***Aroma chemicals that are produced in chemical reactors where the starting materials are synthetic, and undergo substantial chemical transformation, are synthetic.***

Since synthetic aroma chemicals are developed in a laboratory, it is much easier to be certain about the aromatic profile and chemical constituents that create the fragrance, thus providing an example of how the finished aroma will smell like.
An example of a natural aroma chemical would be citral produced by fractional distillation from lemongrass oil or oil Litsea Cubeba. An example of a synthetic aroma chemical would be Anethole produced by a series of complex chemical reactions from crude sulfate turpentine.

Natural aroma chemicals are also extracted from essential oils. For example from Geranium oil we can extract geraniol, citronellol, citral, linalool, limonene, isomenthone, citronellyl formate, geranyl formate, epi-γ-eudesmol.

## What are fragrances and perfumers?

**A fragrance** is defined as a combination of organic compounds that produces a distinct smell or odor.
**A perfume** is a liquid mixture used to emit a pleasant odor. It is formed from fragrant essential oils derived from plants and spices and/or aroma chemical compounds (natural and synthetics).

## What are the different types of perfume?

Perfumes are classified into **5 main** groups loosely based on their concentration of aromatic compounds.

**Finished perfume (parfum) has a 20–30% concentration of fragrance.**

- As it contains a high concentration of fragrance, it is typically the most expensive.
- It is usually a heavier, oilier product than the other types of perfume, and tends to be used in smaller quantities.
- The smell is long-lasting — an average of 8 hours and up to 24 hours.

**Eau de parfum or parfum de toilet has a 15–20% concentration of fragrance.**

- Eau de parfum contains a greater concentration of alcohol and water and is generally cheaper than perfume (parfum).
- It is a lighter product and has a shorter duration of around 4 to 5 hours.
- Eau de parfum is the most common fragrance type and is the base for other fragrance types.

**Eau de toilette has a 5–15% concentration of fragrance.**

- Eau de toilette has a low concentration of essential oils and a high concentration of alcohol.
- It dissipates quickly and lasts 2 to 3 hours.
- It is a cheaper option and often used for daywear.

**Eau de cologne has a 2–4% concentration of fragrance.**

- Eau de cologne has a much lower fragrance concentration to create a very light formulation.
- It is primarily used in fragrances designed for males as an aftershave or splash-on fragrance.
- It dissipates quickly and lasts about 2 hours.
- Cologne, by definition, refers to ‘eau de cologne’. However, the term ‘cologne’ is in common use in the English language to denote any fragrance worn by a male

**Eau fraiche has a 1–3% concentration of fragrance.**

- Eau fraiche has the lowest fragrance concentration of all types of perfumes, and is diluted with water rather than alcohol or oil.
- Common uses for eau fraiche include mists and splashes that are very light and dissipate within an hour.

## What are the ingredients and chemical structures of a perfume?

Perfumes are composed of three structural parts — **the top, middle**, and **base notes** — to provide the **first impression, body**, and **lasting impression** of the fragrance respectively after the application of a perfume.

**The top note**, or **head note**, provides the initial scent that forms the first impression of the perfume. It has the following features:

- It is comprised of small light molecules that have a strong fresh scent but evaporate quickly, usually 5–30 minutes after application.
- Common top notes include citrus (lemon, orange), light fruits (berries), and herbs (sage, lavender).

**The middle note**, or **heart note**, masks any unpleasant initial impression of the base note and provides the main body of the scent.

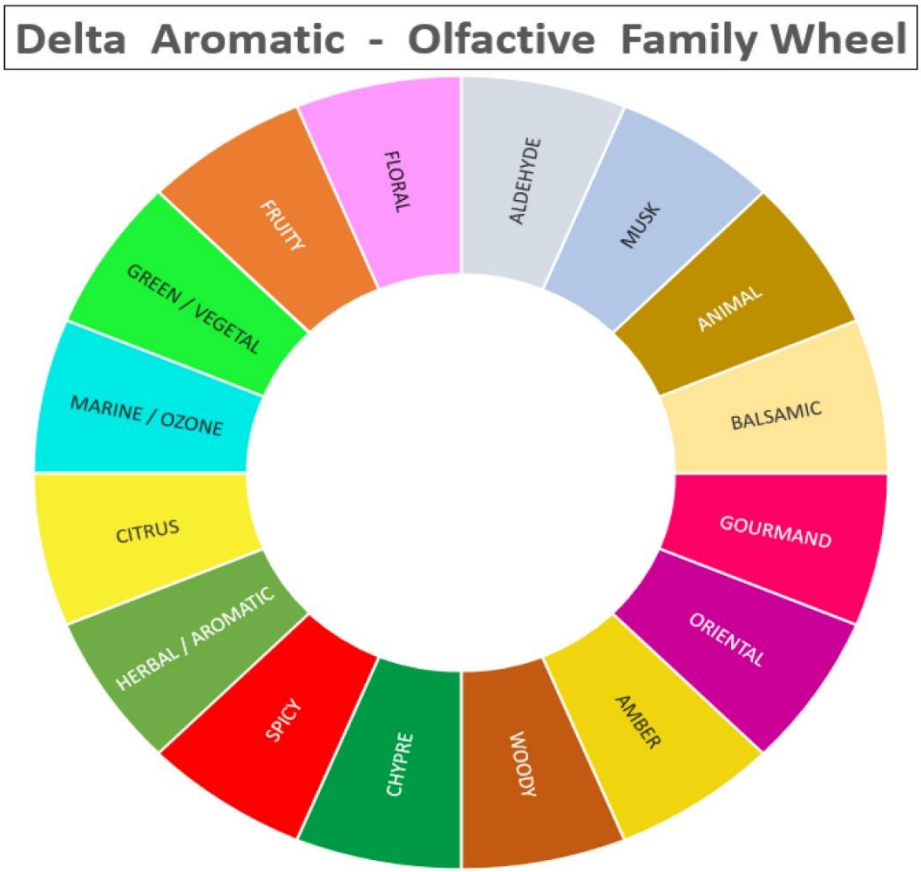
- It is comprised of more complex molecules than top notes and has a more mellow, rounded, and balancing scent.
- It first appears 20–60 minutes after application, and usually lasts 2–4 hours.
- Middle notes are made from more potent florals and spices. Common middle notes include lemongrass, rose, geranium, jasmine, nutmeg, lavender, cinnamon, coriander etc.

**The base note** adds to the middle note to boost and deepen the existing body of the scent and provide its lasting impression.

- It is comprised of large heavy molecules to provide a rich and smooth nature to the scent.

- It is typically not perceived until 30 minutes after application or during the dry-down period. Some can last over 24 hours after application.
- Common base notes include cedarwood, sandalwood, vanilla, amber, patchouli, oakmoss, and musk.

# DELTA AROMATIC-OLFACTIVE FAMILY WHEEL




The **Fragrance wheel** is frequently used as a classification tool in perfumery. **Delta Aromatic** has created its own **Fragrance wheel**, a circular diagram that depicts every scent family. A scent family is a group of scents that have been put together because of their similarities and complementary differences. Scent groups that are closest together share characteristics in their fragrances, while scent groups that are further apart on the wheel are less closely related in terms of fragrance.

# COMPLETE REVIEW OF ODOUR-OLFACTIVE (AND SUB) FAMILIES

*A complete review of Odor-Olfactive [and sub] Families*

In Delta Aromatic we identify/specify Families and sub Families based on Natural inspiration.
Each Fragrance Ingredients are classified within those families and sub families.
**Delta Aromaric Fragrance Library** is using the below **classification** in the categories ***Odour Family***, ***Odour descriptor 1*** and ***Odour descriptor 2,*** in order to describe & classify a fragrance:

- ALDEHYDIC
- MUSK
- ANIMAL
    - Animal / Leather
- BALSAMIC
    - Balsamic
    - Balsamic / Vanilla
- AMBER
- WOODY
    - Woody
    - Woody / Patchouli
    - Woody / Moss
- SPICY
- HERBAL / AROMATIC
    - Herbal / Spicy
    - Herbal / Tobacco / Hay
    - Herbal / Lavender
    - Herbal / Anis / Mint
    - Herbal / Pine
- CITRUS
    - Citrus
    - Citrus / Lemon / Aldehyde