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**CARRIER OILS FOR MAKING COSMETICS,
SKINCARE AND HAIR CARE PRODUCTS**

Carrier Oils: An Overview



Carrier oils are basically "dilution oils" to dilute essential oils. Essential oils cannot be applied directly to the skin because it contains certain compounds, which can cause irritation to the skin.

Carrier oils are added in the essential oils in order to dilute them and make them skin friendly. Almost every cosmetic or skincare product contains essential oils diluted with carrier oils.

One of the most important steps in creating cosmetic, skincare, or hair care products is adding carrier oils for a wide variety of reasons.

Carrier oils also serve as "transporters," allowing essential oils to penetrate the skin without damaging it due to corrosive nature of Essential Oils.

[Difference between Carrier Oils and Essential Oils](#)

Essential oils:

- Essential oils are basically extracted from the aromatic leaves, roots of certain plants, flowers, wood, resin, seeds, and bark.
- Steam Distillation – Most common distillation method.
- Quick evaporation
- Cannot be applied directly to skin – Needs Carrier oils to dilute.
- Strong Smell
- Uses: Therapeutic and Aromatherapy

Carrier Oils:

- Carrier Oils are extracted from fatty parts of the plants such as coconut, avocado, seeds, nuts, and kernels.
- Cold Pressed – Most common distillation method.

- No evaporation
- Can be applied directly to the skin.
- Uses: Moisturizing and Nourishing the skin

Different Properties of Carrier Oils

Carrier oils contain a variety of properties, based on which they are classified into numerous groups.

Following are the most noticeable properties and characteristics of Carrier Oils.

- **Vegan:** Because carrier oils are derived from vegetables and other vegetarian sources, they are vegan.
- **Organic:** Carrier oils are completely natural and free of any hazardous ingredients that would otherwise make a person hesitant to use them.
- **Unrefined:** Carrier oils that have not been processed or are unrefined maintain their characteristics and are more natural. It keeps its health advantages by being more genuine.
- **Refined:** To remove any contaminants, refined carrier oils are cleansed with some form of bleaching agent. It may also eliminate some of the carrier oil's vital components and essential compounds, which are helpful to the skin.
- **Cold Pressed:** The cold press of carrier oils is a chemical-free method in which the nuts or kernels are placed in a press machine, where a screw is inserted to remove the fatty section and the oil is squeezed out. If the nut or seed is hard, some heat may be

produced throughout the process, despite the name. As a result, the oil would be slightly damaged.

- **Expeller/Screw Pressed:** The hydraulic press is used to smash the seeds or nuts in the expeller pressing of carrier oils. Heat is generated in this procedure, which could potentially harm the oil nutrients. All contaminants would be removed from the carrier oil throughout the refining, deodorizing, and bleaching processes, making it more appropriate for use in cosmetic products.
- **Heat Pressed:** Heat pressed carrier oils are normally less expensive and can remove a lot of contaminants and dangerous substances, but they can also harm the oil's vital components.

Science Behind Carrier Oils



Carrier oils contain unique qualities that make them suitable for research and application on humans. It is now feasible to make as many carrier oils as you like with the help of science.

Essential oils are diluted with carrier oils before being utilized in cosmetic, skincare, or hair care products.

Scientists and cosmetic engineers have been able to create a plethora of fantastic items for everyday use by better understanding the special qualities of carrier oils.

1. Shelf Life of Carrier Oils

The shelf life of a product refers to how long it can be used before it spoils.

The shelf life of carrier oils varies greatly from one to the other. The following are the shelf lives of some carrier oils:

- Apricot Oil: 1 year
- Argan Oil: 2 years
- Avocado Oil: 18 months-1 years

1.1 How to Extend Carrier Oil's Shelf Life

Keeping them out of direct sunlight can increase carrier oils' shelf life.

- Try to keep it in a dark.
- Store in a Cool Place
- Store in an amber or dark bottle
- Store in small sized bottle

1.2 How to tell if Carrier Oil is rancid

Carrier oils don't have a distinct scent or character. Carrier oils, on the other hand, begin to produce a rotten odor that is powerful and sour, as well as altering color. This indicates that it has gone rancid or is spoiled.

2. Skin Penetration of Carrier Oils

Almost all carrier oils can penetrate the skin, which is why they are mixed into essential oils to make them skin permeable. The permeability of carrier oils to the skin varies depending on their type and quality.

- Soybean and Almond Oil penetrated deepest layer of skin
- Paraffin, Jojoba and Avocado Oil penetrated only superficial layer of the skin.

2.1 What is the Molecular Weight of Carrier Oils

Triglyceride-based lipids are known as carrier oils. Carrier oils have a low molecular weight, which allows them to penetrate the skin more easily.

The molecular weight of carrier oil is calculated to be 176.12.

2.2 Why is it important to determine Molecular Weight of Carrier Oils

Molecular weight enables the developers of carrier oils to classify different carrier oils into different categories based on their permeability, resistance, strength, and toughness.

3. Viscosity of Carrier Oils

The resistance to flow of a fluid is characterized as viscosity. The viscosity of carrier oils must constantly be determined in order to learn about their various characteristics.

3.1 Which Carrier Oil absorbs faster than the other.

The molecular weight of carrier oils determines their absorption and penetration. Lower molecular weight carrier oils are better absorbed and skin permeable than larger molecular weight carrier oils.

Light Carrier Oils are more permeable into the skin so are always preferred over the Heavy Carrier Oils.

4. Ideal Temperature for Carrier Oils

Every manufactured product has a specific optimal temperature at which it will keep its quality. Carrier oils have a preferred temperature range in which they operate best.

Temperature below 120 °C (250 °F) is the ideal temperature for carrier oils.

If the Temperature exceeds this normal range, it will greatly affect the nutrients and essential elements of the carrier oil.

4.1 What is Smoke Point of Carrier Oils

The temperature at which the carrier oil stops simmering and begins smoking is known as the smoke point.

High Heat is Directly Proportional to High Smoke Point.

Carrier Oils with different Smoke points are: -

- Avocado Oil - High
- Corn Oil – High
- Peanut Oil – High
- Coconut Oil – Moderate
- Butter Oil – Moderate
- Pumpkin seed Oil - Low

Carrier Oils and Anti-Ageing Products



When it comes to the production of cosmetic, skincare, and hair care products; carrier oils have been proven to be one of the most crucial ingredients.

It not only boosts the product's endurance, but it also makes it safer to apply to the skin without causing any hazardous side effects. Many anti-aging products rely heavily on carrier oils for their formulation.

Different carrier oils are used to treat various skin issues. In order to create the greatest skincare solutions, anti-aging product producers use a variety of carrier oils for various objectives.

1. Antioxidants

Carrier oils offer antioxidant characteristics that help to remove toxins and pollutants from your skin and, eventually, your entire body. It offers the skin a healthy glow without harming it. The antioxidant characteristics of the following carrier oils are the best.

- Grape Seed Oil
- Amaranth Seed Oil
- Olive Oil

According to Orchard, A. (2019), carrier oils have been proved to be an essential source of anti-oxidation particularly for skin. (Orchard, A. 2019)

2. Collagen Regeneration

Collagen is a naturally occurring protein in the skin that helps to maintain it tight and firm for a longer time. Collagen deficiency can cause skin to seem dull and hyper pigmented.

Some of the best Carrier Oils used for Collagen Regeneration are: -

- Sunflower Oil
- Jojoba Oil
- Pomegranate Oil

These carrier oils have an ability to reduce wrinkles, fine lines, and freckles from the skin.

As researched by Michalak, M., (2018) that carrier oils are essential for good skin maintenance and function. Carrier oils are extensively utilized in cosmetic formulations as active ingredients or as ingredients that allow the addition of additional ingredients due to

their biological qualities and anti-inflammatory effects. (Michalak, M., 2018)

3. Circulation

Aromatherapy and body massage often combine carrier oils with essential oils to stimulate and enhance circulation.

Some of the most important and effective carrier oils which are added in the essential oils to be used to improve circulation are: -

- Coconut Oil
- Grape seed Oil
- Olive Oil

As researched by Aichinger, R. (2020) states that essential oils when mixed with carrier oils, it makes them very efficient and effective to improve circulation of the body. (Aichinger, R. 2020)

4. Elastin Regeneration

With time, the skin loses its elasticity and becomes flaccid and wrinkled. For elastin regeneration, carrier oils are added to anti-aging products without causing any harm. The best Carrier oils for Elastin Regeneration are: -

- Argan Oil
- Primrose Oil
- Rosehip Oil

Orchard, A (2019) have researched on the effectiveness of carrier oils against elastin regeneration and deduced a positive outcome in different scenarios. (Orchard, A 2019)

5. Healing

Many carrier oils have been shown to aid in the healing of wounds and scars. When combined with other essential oils, they can be applied to the skin without causing tissue damage.

Following are the best carrier oils for wound healing: -

- Almond Oil
- Avocado Oil
- Coconut Oil
- Sesame Oil

Hartman, D. (2002) and some other US practitioners have experienced the benefits of carrier oils particularly in wound healing. (Hartman, D. 2002)

6. Inflammation

Carrier oils have a wide range of therapeutic properties. They're also employed in a variety of herbal and allopathic treatments for a variety of uses. After an accident or surgery, carrier oils have been used to help reduce inflammation.

Certain Carrier oils for having anti-inflammatory properties are: -

- Black Cumin Seed Oil
- Jojoba Oil

- Grapeseed Oil
- Evening Primrose Oil

Hongratanaworakit, T (2018) and other colleagues have reported that essential oils diluted with carrier oils have been used for their analgesic as well as anti-inflammatory properties. (Hongratanaworakit, T 2018)

7. Moisturization

In order to make skincare products more hydrating, carrier oils are included. Skincare products without carrier oils may cause the skin to become dry and flaky.

The best carrier oils for moisturization are: -

- Tamanu Oil
- Olive Oil
- Rose Hip Seed Oil

Matsumoto, Y., (2019) have studied the role of carrier oils as skin emollients and moisturizers. It claims that they have been greatly used to hold the moisture into the skin and keeps it hydrated for a longer period of time. (Matsumoto, Y., 2019)

8. Skin Barrier Repair and Protection

Carrier oils are used to protect the skin from pollutants on the outside as well as UV radiation from the sun. It will make the skin look more luminous and protect it from damage caused by dust or other elements.

Carrier Oils which protect the skin are: -

- Sweet Almond Oil
- Argan Oil
- Apricot Kernel Oil

9. Carrier Oils with Highest Vitamins

Every carrier oil contains a variety of vitamins, which is why they are used for skincare and anti-aging treatments. Some of the carrier oils with highest vitamins are: -

- Apricot Kernel Carrier Oil – Vitamin A
- Rosehip Carrier Oil – Vitamin C
- Argan Oil – Vitamin E

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