

Chapter 6 Carrier Oils 1

PRESENTED BY

DR. RATTANA PANRIANSAEN

FACULTY OF ALLIED HEALTH SCIENCES

SUAN SUNANDHA RAJABHAT UNIVERSITY

Headline

- The Characteristics of Carrier Oils
- Carrier oils extraction method
- Benefits of Carrier oils
- How to use Carrier oils

Introduction

- Essential oils are very intense. It should be diluted before applying to the skin, by dilution in carrier oil or base oil.
- Carrier oil or Base oil. Most of which oil that extract from Fixed oil Such as Sweet Almond Kernel Oil, Apricot Kernel Oil, Camellia Seed Oil.
- Carrier oil can be extracted in several ways.

Introduction

- Most carrier oils consist of saturated fatty acids and unsaturated fatty acids. The type and amount of fatty acids make each type of oil have different properties. thus making each type of oil have specific properties in selecting a carrier oil to dilute essential oils.
- Knowledge of carrier oils is required including Characteristics of Carrier oil, Carrier oil extraction method, Benefits of Carrier oils, the most used Carrier oil and Appropriate use and efficiency in the dermal absorption of essential oils. And appropriate use for health.

The Characteristics of Carrier Oils

○ Carrier oil or known as Base oil is an oil derived from high-fat plants that are different from essential oils. Most of Carrier Oil is Vegetable oil or Fixed oil that get from Fixed oil is classified as primary metabolite It is a substance derived from the process of photosynthesis such as carbohydrates, fats, amino acids, proteins, purines, and pyrimidines.

The Characteristics of Carrier Oils

- Plants use Primary metabolite substance as food for plant growth. While essential oils are secondary metabolites , they are derived from primary metabolites. into the process of biosynthesis to create various substances Necessary for a long life. and plant reproduction
- Most carrier oils have a boiling point of about 100 degrees Celsius, while essential oils have a boiling point at room temperature.

Main components of Carrier Oils

- Fatty acids, which are carbon-containing organic compounds. Atoms cling together in a straight line, dividing them into 2 groups.
 - Saturated fatty acid
 - Unsaturated fatty acid
- Unsaturated fatty acids have one or two carbon double bonds.
- The fatty acids contained in oil are caproic acid, myristic acid, palmitic acid, stearic acid, linoleic acid, linolenic acid, arachidic acid, etc.

ตารางที่ x ชนิดและปริมาณของกรดไขมันในน้ำมันตัวพา (กรัม/ 100 กรัม)

ชนิดของน้ำมัน	กรดไขมันอิ่มตัว			กรดไขมันไม่อิ่มตัว			
	ปาล์มิติก	สเตียริก	ทั้งหมด	โอเลอิก	ไลโนเลอิก	ไลโนเลนิก	ทั้งหมด
น้ำมันข้าวโพด	10.9	1.8	12.7	24.2	58.0	0.7	82.5
น้ำมันเมล็ดฝ้าย	22.7	2.3	25.9	17.0	51.5	0.2	69.7
น้ำมันมะกอก	11.0	2.2	13.5	72.5	7.9	0.6	82.1
น้ำมันปาล์ม	43.5	4.3	49.3	36.6	9.1	0.2	46.3
น้ำมันถั่วลิสง	9.5	2.2	16.9	44.8	32.0	-	78.2
น้ำมันดอกคำฝอย (มีกรดไลโนเลอิกมาก)	6.2	2.2	9.1	11.7	74.1	0.4	86.6
น้ำมันดอกคำฝอย (มีกรดโอเลอิกมาก)	4.8	1.3	6.1	75.3	14.2	-	89.5
น้ำมันงา	8.9	4.8	14.2	39.3	41.3	0.3	81.4
น้ำมันถั่วเหลือง	10.3	3.8	14.1	22.8	51.0	6.8	81.2
น้ำมันดอกทานตะวัน	5.9	4.5	10.3	19.5	19.5	65.7	85.2

(Charley, Helen, 1982: 229 อ้างถึงในวิภาวรรณ ศรีมุข, 2545)

Source of carrier oils

- There are many types of plants that can produce oil, including perennial plants and lumbar plants, which can be divided as follows.
- Oil from the perennial plants Such as Olive oil) and Palm oil.
- Oil from the seeds of perennial plants Such as Palm kernel oil, Coconut oil and Kapok seed oil.
- Oil from the seed part of the biennial plant Such as Cottonseed oil, Soybean oil, Sesame oil, Peanut oil , Sunflower seed oil, Safflower seed oil and Rice bran oil.

Types of Carrier oils

- Basic carrier oils are oils used in massage, can be mixed with essential oils or not. It has a very mild color and smell Such as Sweet almond oil and Grape seed oil.
- Special carrier oils are high viscosity oils. and expensive for certain purposes, such as skin care such as Avocado oil, Rosehip oil, Jojoba oil.
- Macerated carrier oils are oils that are mixed with essential oils for therapeutic purposes. This oil has unique properties. Such as Anti Virus, Anti inflammation Such as Calendula oil , Carrot oil.

Method for producing carrier oil

Extraction process

1. Mechanical expression Such as Peanuts, dried coconut.
2. Solvent extraction. Hexane, acetone, cyclohexane type Such as Peanuts, soybeans, cottonseeds, kapok seeds

Method for producing carrier oil

oil purification

1. Degumming is a process that separates phosphatide compounds or fat-protein complexes.
2. Alkali refining is a process that removes free fatty acids from oil using an alkaline solution.
3. Bleaching is the process of removing pigments such as chlorophyll and carotene from vegetable oils.
4. Deodorizing is the removal of unwanted odors such as soybean smell.
5. Winterizing separates fat crystals. To help prevent oil turbidity or fat crystallization during storage, such as salad oil.
6. Hydrogenation It is the process of converting liquid oil into solid fat for consumption for cooking and making food products. It also helps prevent rancid fats such as margarine, shortening and spreads.

ตารางที่ x ตัวอย่างน้ำมันตัวพาที่นิยมใช้บ่อย 20 ชนิด

ลำดับ	ชื่อภาษาไทย	ชื่อภาษาอังกฤษ	ชื่อวิทยาศาสตร์	ส่วนที่ให้น้ำมัน
1	น้ำมันแอปริคอต	Apricot Kernel oil	<i>Prunus armeniaca</i>	เมล็ด
2	น้ำมันอาร์แกน	Argan oil	<i>Argania spinosa</i>	ผล
3	น้ำมันอโวคาโด	Avocado oil	<i>Persea americana</i>	เนื้อผล
4	น้ำมันโบราจ	Borage oil	<i>Borago officinalis</i>	เมล็ด
5	น้ำมันชาคาเมลเลีย	Camellia oil	<i>Camellia oleifera</i>	เมล็ด
6	น้ำมันละหุ่ง	Castor oil	<i>Ricinus communis</i>	เมล็ด
7	น้ำมันมะพร้าว	Coconut oil	<i>Cocos nucifera</i>	เนื้อผล
8	น้ำมันอีเวนนิ่งพริมโรส	Evening Primrose Oil	<i>Oenothera biennis</i>	เมล็ด
9	น้ำมันเมล็ดองุ่น	Grapeseed oil	<i>Vitis vinifera</i>	เมล็ด
10	น้ำมันฮาเซลนัท	Hazelnut oil	<i>Corylus avellana</i>	เมล็ด
11	น้ำมันโจโจบา	Joboba oil	<i>Simmondsia chinensis</i>	เมล็ด
12	น้ำมันแมคาดาเมีย	Macadamia oil	<i>Macadamia integrifolia</i>	เมล็ด
13	น้ำมันมะกอก	Olive oil	<i>Olea europaea</i>	ผล
14	น้ำมันรำข้าว	Rice bran oil	<i>Oryza sativa</i>	เมล็ด
15	น้ำมันโรสฮิป	Rosehip oil	<i>Rosa Canina</i>	เมล็ด
16	น้ำมันเมล็ดพีช	Peach Kernel oil	<i>Prunus perisca</i>	เมล็ด
17	น้ำมันงา	Sesame oil	<i>Sesamum indicum</i>	เมล็ด
18	น้ำมันดอกทานตะวัน	Sunflower oil	<i>Helianthus annuus</i>	เมล็ด
19	น้ำมันสวีทอัลมอนด์	Sweet Almond oil	<i>Prunus amygdalus</i>	เมล็ด
20	น้ำมันจมูกข้าว	Wheat Germ oil	<i>Triticum sativum</i>	เมล็ด

Benefits of carrier oils

1. **Oil general information** such as INCI Nomenclature , source and extraction method
2. **physical information of oil** such as Color, sent, stickiness, appearance and absorption important chemical compounds
3. **Information about benefits of use** such as suitable skin condition and beneficial to the skin In terms of usefulness, it indicates the properties that will be obtained when mixed in massage oils or related products.

Beneficial for soothing or healing the skin

- Acne
- Bruising
- Burns
- Chapping
- Crow's feet
- Dryness
- Eczema
- Flaking
- Inflammation
- Irritation
- Itching
- Psoriasis
- Rashes
- Scarring
- Soreness
- Stretch marks
- Wrinkles

protective benefits for the skin

○ Anti-inflammatory

○ Astringent

○ Cleansing

○ Emollient

○ Firming

○ Moisturizing

○ Nourishing

○ Purifying

○ Regenerating

○ Rejuvenating

○ Restorative

○ Revitalizing

○ Softening

○ Soothing

○ Toning

Apricot Kernel Oil

Scent	No smell, mild smell	
Color	Clear, light yellow	
Stickiness	Moderate	
Characteristics and skin absorption	Light texture, easily absorbed, is a fat that makes the skin soft. It looks similar to sweet almond oil.	
Important chemicals	<ul style="list-style-type: none">- Minerals, some vitamins, including Vitamin B17.- Various kind of proteins.- Unsaturated fat and many essential fatty acids such as Oleic acid, Linoleic Acid.	
Skin types	Recommended for use on mature skin, dry skin, sensitive skin. In children, it can be used for example on the skin and face.	
Benefits for skin	<ul style="list-style-type: none">- Dryness- Inflammation- Wrinkles	<ul style="list-style-type: none">- Emollient- Moisturizing- Nourishing
How to use	Can be used without dilution.	
Preservation	Keep away from sunlight.	
Useful life	6 – 12 months Recommended to keep in a cool place.	

Argan Oil

Color	Light yellow to clear liquid	
Scents	No smell	
Stickiness	Light	
Characteristics and skin absorption	Light texture, easily absorbed, is a fat that makes the skin soft.	
Important chemicals	<ul style="list-style-type: none">- Unsaturated fats and many essential fatty acids such as Oleic acid, Linoleic Acid- Vitamin E, including antioxidants- Omega-9 fatty acids, omega-6 fatty acids and sterols	
Skin types	Recommended for mature skin, dry skin, itchy skin, psoriasis, acne, sunburn.	
Benefits for skin	<ul style="list-style-type: none">- Improve skin elasticity- Anti-inflammatory	<ul style="list-style-type: none">- Nourishing- Moisturizing- Antioxidant
How to use	Can be used without dilution.	
Preservation	Recommended to keep in the refrigerator.	
Useful life	1-2 Years	

Avocado Oil

Color	Light to dark, greenish. If obtained from distillation, it will be yellow.	
Scents	Unique smell, but if it is obtained from distillation, it is odorless.	
Stickiness	Sticky	
Characteristics and skin absorption	Difficult to permeate	
Important chemicals	<ul style="list-style-type: none"> - Unsaturated Fatty Acids and Linoleic Acid - Vitamin A, D, E, minerals such as potassium - Various proteins, lecithin 	
Skin types	Dry, wrinkled, sensitive, and aging skin	
Benefits for skin	<ul style="list-style-type: none"> - Eczema - Psoriasis 	<ul style="list-style-type: none"> - Moisturizing - Purifying - Restorative - Softening - Soothing
How to use	It is generally mixed in the ground oil, about 10% of the total, and can be used up to 30% of the total carrier oil.	
Preservation	Store in a cool place, especially unrefined oil types. When stored in the refrigerator, wax may form. and reverted when placed at room temperature.	
Useful life	9 Months – 1 Years	

Borage Oil

Color	light yellow	
Scents	soft smell, oily	
Stickiness	Light and oily	
Characteristics and skin absorption	Absorbs quickly, leaves no residue	
Important chemicals	<ul style="list-style-type: none">- Many vitamins, minerals- rich in fatty acids Gamma linolenic acid (GLA)	
Skin types	Suitable for dry, itchy, cracked skin.	
Benefits for skin	<ul style="list-style-type: none">- Eczema- Inflammation- Psoriasis	<ul style="list-style-type: none">- Emollient- Regenerating- Revitalizing
How to use	Mix in a ratio of 10-20 percent.	
Preservation	keep in a cool place and away from direct sunlight, as GLA is unstable, readily decomposes and reacts readily with air. Should be packaged in small bottles. in the right amount for each use	
Useful life	6 months - 1 year, recommended to be stored in the refrigerator.	

Camellia Oil

Color	light yellow	
Scents	No Smell	
Stickiness	Light	
Characteristics and skin absorption	Easily absorbed, leaving no residue	
Important chemicals	Rich in oleic acid	
Skin types	Suitable for facial skin, dry skin, normal skin, mature skin and sensitive skin.	
Benefits for skin	<ul style="list-style-type: none">- Dryness- Flaking- Itching- Soreness- Wrinkles	<ul style="list-style-type: none">- Emollient- Firming- Moisturizing- Soothing- Toning
How to use	Must be diluted before use It is recommended to mix in the ratio of 25 percent in the body massage mix with sweet almond oil. or apricot oil Including applying around the eyes or after shaving	
Preservation	keep in a cool place away from sunlight	
Useful life	2 Years	

Castor Oil

สี	เหลือง										
กลิ่น	อ่อนๆ										
ความหนืด	เหนียว ชื่น										
ลักษณะและการซึมผิว	ซึมผิวช้า										
สารเคมีสำคัญ	กรดไขมันชนิด Palmatic และ ricinoleic acid กลีเซอริน										
สภาพผิวที่เหมาะสม	ใช้กับผิวทุกส่วนนั้น รักษาอาการคัน สิว ผื่น สะเก็ดเงิน										
ประโยชน์ต่อผิวหนัง	<table border="1"><tr><td>- Acne</td><td>- Moisturizing</td></tr><tr><td>- Eczema</td><td>- Soothing</td></tr><tr><td>- Itching</td><td></td></tr><tr><td>- Psoriasis</td><td></td></tr><tr><td>- Rashes</td><td></td></tr></table>	- Acne	- Moisturizing	- Eczema	- Soothing	- Itching		- Psoriasis		- Rashes	
- Acne	- Moisturizing										
- Eczema	- Soothing										
- Itching											
- Psoriasis											
- Rashes											
วิธีการใช้งาน	โดยทั่วไปใช้ผสมในน้ำมันพืช ประมาณร้อยละ 10 ของทั้งหมด ใช้ได้กับทุกสภาพผิว										
การเก็บรักษา	เก็บในที่เย็น ห่างจากแสงแดด										
อายุการใช้งาน	2 ปี										

Coconut Oil

Color	Colorless, when cooled, may coagulate into solid, milky white lumps.	
Scents	Unique smell, there is no smell if the smell is extracted.	
Stickiness	It's quite viscous, but it melts when it comes in contact with the skin.	
Characteristics and skin absorption	slippery and oily	
Important chemicals	<ul style="list-style-type: none">- High saturated fatty acids such as palmitic and ricinoleic acid.- Glycerin	
Skin types	Mainly used on the body May be solved in case of sensitive skin.	
Benefits for skin	<ul style="list-style-type: none">- Stretch marks	<ul style="list-style-type: none">- Cleansing- Softening- Soothing
How to use	Generally mixed with ground oil, about 10 percent of the total. For body massage, it is recommended to use cold pressed coconut oil.	
Preservation	rancid when exposed to air should be stored in a closed place in a cool place away from sunlight	
Useful life	Relatively stable, can be stored for a long time	

Evening Primrose Oil

Color	Faded yellow green	
Scents	Sweet	
Stickiness	Quite viscous and loosen when touching the skin.	
Characteristics and skin absorption	coated	
Important chemicals	<ul style="list-style-type: none"> - Gamma-linoleic essential fatty acids - Various proteins, vitamins and minerals 	
Skin types	All skin types, dry skin, especially the elderly, menopausal	
Benefits for skin	<ul style="list-style-type: none"> - Bruising - Eczema - Itching - Psoriasis - Scarring 	<ul style="list-style-type: none"> - Regenerating - Rejuvenating - Moisturizing - Soothing
How to use	Generally mixed in ground oil, about 10 percent of the total.	
Preservation	High in GLA, must be stored in the refrigerator. Away from sunlight and exposure to air, easily decomposes and reacts easily with air. Should be packaged in small bottles. in the right amount for each use	
Useful life	Not stable, recommended to be stored in the refrigerator.	

Grapeseed Oil

Color	Light green, but slightly yellowish when distilled.	
Scents	light smell	
Stickiness	light, less viscous	
Characteristics and skin absorption	Easy to absorb	
Important chemicals	<ul style="list-style-type: none"> - Unsaturated fatty acids - Various vitamins, including vitamin F and minerals 	
Skin types	<p>Suitable for oily skin, combination skin, is a popular oil used in body massage. because it is not viscous Makes skin smooth and soft after massage Long lasting than other oils, can be used with all skin types.</p>	
Benefits for skin	<ul style="list-style-type: none"> - Acne - Inflammation 	<ul style="list-style-type: none"> - Astringent - Rejuvenating
How to use	can be used without dilution In case of use on the body only	
Preservation	Keep away from sunlight and heat.	
Useful life	6 months – 1 year	