



3
FORMULATING
INNOVATIVE
ANHYDROUS SERUMS

ADVANCED CERTIFICATE IN
HIGH-PERFORMANCE SERUM FORMULATION
- THIRD EDITION -

LEARNING OUTCOMES OF MODULE 3: FORMULATING INNOVATIVE ANHYDROUS SERUMS

By the end of Module 3 you will be able to discuss the functions/benefits and properties/qualities of three types of anhydrous serum: liquid oil serums, pressed serums and lip serums; identify appropriate ingredients to include in anhydrous serums; use formulation templates to formulate anhydrous serums; and make a range of anhydrous serums.

LEARNING OUTCOMES BY LESSON:

3.1 FORMULATING ANHYDROUS OIL-BASED SERUMS

You will be able to:

- Compare the characteristics of liquid oil serums and pressed serums.
- Discuss the functions/benefits and properties/qualities of anhydrous serums.
- Describe the typical ingredients anhydrous serums contain and name examples of each type of ingredient.
- Select appropriate packaging for anhydrous serums.
- Put in place strategies to extend the shelf-life of anhydrous serums.
- Analyze examples of anhydrous serums on the market.
- List the percentage ranges within which different ingredients are included in liquid oil serums, pressed serums and lip serums.
- Discuss factors to consider when creating your formula.
- Use a formulation template to formulate an anhydrous serum.

3.2 FORMULATION EXAMPLE: ANTIOXIDANT CONCENTRATE SERUM WITH VITAMIN C

You will be able to:

- Explain why we used the ingredients included in our example formulation.
- Make an antioxidant concentrate serum.

3.3 FORMULATION EXAMPLE: CHAMOMILE SOOTHING SERUM

You will be able to:

- Explain why we used the ingredients included in our example formulation.
- Make a soothing anhydrous serum.

3.4 FORMULATION EXAMPLE: BARRIER SUPPORT SERUM WITH CERAMIDES

You will be able to:

- Explain why we used the ingredients included in our example formulation.
- Make a barrier support serum.

3.5 FORMULATION EXAMPLE: REPAIRING LIP SERUM WITH VITAMIN C AND COENZYME Q10

You will be able to:

- Explain why we used the ingredients included in our example formulation.
- Make a repairing lip serum.

3.6 FORMULATION EXAMPLE: GOLDEN ROSE PRESSED SERUM

You will be able to:

- Explain why we used the ingredients included in our example formulation.
- Make a pressed serum.

3.7 TROUBLESHOOTING ANHYDROUS SERUMS

You will be able to:

- Solve common problems you may encounter when making a liquid oil serum.
- Solve common problems you may encounter when making a pressed serum.



3.1 FORMULATING ANHYDROUS OIL-BASED SERUMS



3.1 FORMULATING ANHYDROUS OIL-BASED SERUMS

In this lesson, we will cover:

1. What is an anhydrous oil-based serum?
2. Different types of anhydrous oil-based serums.
3. Functions/benefits and properties/qualities of anhydrous serums.
4. Ingredients used in anhydrous serums.
5. Packaging.
6. Shelf-life.
7. Examples on the market.
8. Formulation templates.
9. Factors to consider when creating your formula.

WHAT IS AN ANHYDROUS OIL-BASED SERUM?

Anhydrous oil-based serums do not contain any water, or water-soluble ingredients; they are a blend of oil soluble ingredients. Therefore they are not prone to microbial contamination and it is not necessary to add a preservative. An antioxidant such as Vitamin E can be added to these products to extend their shelf-life. Antioxidants slow the process of oxidation which causes oils to go rancid.

Anhydrous oil-based serums are a blend of oil soluble ingredients.

Facial serums commonly use premium carrier oils and a variety of active ingredients.

DIFFERENT TYPES OF ANHYDROUS OIL-BASED SERUMS

There are two main types of anhydrous serums, those with a fluid, liquid consistency and those that are semi-solid in consistency. The semi-solid type of serum is known as a 'pressed' serum and is a relatively new product concept.

Fluid, anhydrous serums are similar to face oils. There are no strict definitions between the two and how they are classified and differentiated is often the decision of each skincare brand. However, facial serums commonly use premium carrier oils and a variety of active ingredients. This is the type of oil-based serum you will learn to formulate in this course. Oil-based serums can be formulated for nighttime or daytime use.

Pressed serums are similar to balms. They often use a wax or butter to create a firmer, semi-solid consistency. But in comparison to balms they use more luxury oils and butters, higher concentrations of active ingredients, and special waxes such as floral waxes.

FUNCTIONS/BENEFITS AND PROPERTIES /QUALITIES OF ANHYDROUS SERUMS

The functions and benefits offered by an anhydrous serum will depend on the skin type it is formulated for and the particular solution it is aiming to provide. Some examples are:

- anti-aging
- antioxidant
- soothing
- calming
- protective
- moisture boost
- firming/toning
- nourishing
- brightening
- repairing
- rejuvenating
- replenishing
- oil balancing

The typical properties and qualities of fluid oil-based serums are:

- Lightweight-medium weight.
- Easily absorbed.
- Smooth, silky after-feel.

The typical properties and qualities of pressed serums are:

- Non-greasy.
- Semi-solid balm consistency.
- Rich and concentrated.

INGREDIENTS USED IN ANHYDROUS SERUMS

Often, the main ingredient in most commercial serums that imparts a silky feel and slip are silicones. Silicones are not accepted in natural and organic skincare products, but there are natural alternatives which will replace the function of silicones effectively and we will explore these in detail on this course.

Oil soluble ingredients include:

- Carrier oils/butters.
- Esters (natural alternatives to silicone).
- Oil soluble vitamins.
- Lipophilic actives.
- Oil soluble botanical extracts.
- Oil soluble thickeners/viscosity modifiers.
- Lanolin/lanolin substitutes.



When oils are applied to the skin they fill up the small spaces between epidermal cells.

CARRIER OILS

Carrier oils (also known as vegetable oils, plant oils or fixed oils) are made of fatty acids and other beneficial ingredients such as phytosterols, vitamins, carotenoids and squalane. Fatty acids in the oils are in the form of triglycerides. They penetrate the upper layers of the epidermis and help the skin to function properly, plus they improve its condition and appearance.

Other components, often referred to as 'unsaponifiables' can have different beneficial effects on the skin – they can protect from moisture loss, they can soften the skin or even have a rejuvenating effect on it. When oils are applied to the skin they fill up the small spaces between epidermal cells, which is seen and felt as smoother, healthier and softer skin. This is the property emollients have.

Carrier or vegetable oils are essential in many cosmetic products and are used because:

- They are emollient – they soften and smooth the skin.
- They soften and lubricate the skin.
- They supply the hair and skin with essential fatty acids and vitamins.
- Some are also occlusives. They form a thin layer on the surface of the skin, preventing moisture from evaporating.

Some examples of carrier oils that can be used in serums are premium oils such as squalane, broccoli seed oil, chia seed oil and cranberry seed. These can be combined with lower cost oils such as apricot or peach kernel oils.

Your choice of carrier oil will affect the skin feel, absorption rate and shelf-life of the product you create. They can also affect the color and aroma of the product. It is a good idea to take some time to get to know the oils (color, scent, skin feel, absorption rate, spreadability) before you start formulating.



Some oils feel lighter on the skin and some feel heavier. This is due to their fatty acid compositions. Some oils are rich in essential fatty acids (EFA) – those are the fatty acids our body cannot produce: alpha linolenic acid, gamma linolenic acid and linoleic acid. Oils with a high quantity of those fatty acids, such as hemp, rosehip, evening primrose and borage, feel lighter and drier on the skin. Oils rich in oleic fatty acid, for example avocado, macadamia and almond oil, feel heavier or greasier on the skin, and are thus perfect to be blended with lighter feeling oils.

Lesson 2.5 Lipid ingredients: carrier oils, waxes and esters, includes details of different fatty acids present in carrier oils and how this affects the properties of the carrier oil. Lesson 2.5 also describes 20 specialist carrier oils in detail.

BUTTERS

If you are creating a pressed serum or lip serum and want a thicker consistency then butters are a useful ingredient. Butters are thick, fatty substances extracted from various plant species, usually from nuts, beans and seeds. They are solid at room temperature (25°C) but melt to a liquid state when they are heated. Common examples of butters are shea butter and cocoa butter. Compared to carrier oils, butters typically contain higher amounts of saturated fatty acids (fatty acids that contain no double bonds), which gives them a solid structure. They provide products with a thicker, creamier consistency. They are skin conditioning and emollient – giving a soft and smooth appearance, restoring suppleness and improving elasticity.

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ESTERS (ALTERNATIVES TO SILICONE)

Esters can be used as silicone alternatives to give the products a silky slip and a very light skin feel, commonly referred to as a 'dry oil' feeling. There are several natural ingredients that can do that, for example squalane or broccoli seed oil. Naturally derived esters, for example ecosilk (INCI: Isoamyl Laurate, Isoamyl Cocoates), have an even more pronounced dry oil effect. They are great for combining with heavier oils to make the overall formulation less greasy. They are also very good solvents for lipophilic active ingredients, they improve the spreadability of the formula and create a very light, elegant feel.

OIL SOLUBLE VITAMINS

Vitamins are potent micronutrients that have various benefits in skincare. In anhydrous serums, we use lipophilic vitamins, for example Vitamin E (an antioxidant), Vitamin A (a potent anti-aging vitamin) or lipophilic derivatives of Vitamin C (for example ascorbyl palmitate, an antioxidant).

LIPOPHILIC ACTIVES

To make anhydrous serums even more potent, we can include lipophilic active ingredients in the formulation. High-performance ingredients like alpha lipoic acid, coenzyme Q10 or carotenoids will add even more benefits to your serum formulations.

OIL SOLUBLE BOTANICAL EXTRACTS

Botanical extracts that are soluble in oil can also be used in anhydrous serums. CO₂ extracts can be used for fragrancing products or for their active components to bring certain benefits to the skin (eg, the soothing effects of calendula CO₂ extract). Essential oils will add fragrance to the product along with other components beneficial to the skin.

OIL SOLUBLE THICKENERS/VISCOSITY MODIFIERS

Viscosity modifiers change the texture of the product. They are used to thicken liquid oils into semi-solid oily gels or solid balms called pressed serums. Ingredients that will help to solidify the oils are various plant butters (eg shea butter), waxes (eg beeswax, or plant waxes as a vegan alternative) and other special ingredients like cera bellina (modified beeswax) or hydrogenated vegetable oil.

LANOLIN/LANOLIN SUBSTITUTES

Lanolin can also be a beneficial ingredient in an anhydrous serum. It is strongly occlusive and can help to restore the lipid barrier of the skin. It is an animal product, but there are vegan alternatives with similar benefits available. Most of them have very similar properties for the skin such as barrier repair, occlusive and moisturization. Some of them are:

- Bis-diglyceryl Polyacyladipate-2.
- Butyrospermum parkii (shea) butter (and) glyceryl rosinatate (and) olea europaea (olive) oil unsaponifiables.
- Hydrogenated olive oil unsaponifiables (and) squalane (and) sucrose polystearate (and) glyceryl undecylenate.
- Dimer dilinoleyl dimer dilinoleate (and) triisostearin.



Above: Lanolin

As serums are more expensive high-performance products they are usually sold in more luxury containers.

PACKAGING

The most appropriate packaging for serums depends on the type of serum, the overall formula, the ingredients it contains and its physical properties. Generally speaking, as serums are more expensive high-performance products they are usually sold in more luxury containers.

Glass is usually standard, but it is not suitable for all products. Many serums contain light-sensitive ingredients so it is best to use photoprotective packaging – amber, blue or violet glass is a good option. If the serum contains ingredients that are very sensitive to oxygen, airless pumps are also an option. Unfortunately, airless pumps are plastic, but there are dark colored ones available.

Liquid serums can be packaged in glass bottles with a pipette closure – the pipette makes it easy to only apply a drop or two of the serum. Pressed serums come in the form of solid or semi-solid balms, so they are typically found in jars. Compared to moisturizers, serums are usually sold in containers with smaller volumes, normally 30ml, but of course there are exceptions. Eye and lip serums are often found in even smaller containers, while less concentrated facial serums can be found in volumes similar to moisturizers.



SHELF-LIFE

The shelf-life of your product will depend on the shelf-life of the individual oils that you choose. The shelf-life of an oil depends on the percentage of monounsaturated fatty acids and polyunsaturated fatty acids. Generally, oils with a high content of saturated fatty acids (coconut oil, cocoa butter) will have a long shelf-life (about two years) as those fatty acids are not prone to oxidation. Oils with lots of monounsaturated fatty acids (avocado oil, sweet almond oil, hazelnut oil, macadamia nut oil) will have a shorter shelf-life of about one year, while oils rich in polyunsaturated fatty acids (borage oil, evening primrose oil, hemp seed oil, rosehip oil) will have a very short shelf-life of a maximum of six months. Please note that combining short shelf-life and long shelf-life oil will not extend the shelf-life of the short life oil.

Estimating the exact shelf-life of an anhydrous oil or serum product is difficult and can only be determined exactly by sending your products for a stability test. If you follow the advice given below you can expect your products to have around a six month shelf-life.



Extending the shelf-life:

- Use a new bottle of carrier oil. A newly opened bottle of oil will have a longer shelf-life than one that has been opened and stored for a while.
- Buy carrier oils from reputable suppliers.
- Use oils within their recommended BBE or period after opening (PAO), which your supplier should advise you of.
- Add an antioxidant (either Vitamin E at 0.1% or rosemary extract at 0.2-0.4%) to your carrier oils when you open them. Alternatively some suppliers sell carrier oils that already contain Vitamin E or include an antioxidant (either Vitamin E at 0.1% or rosemary extract at 0.2-0.4%) to your product formula.

Please note: If you add antioxidants (0.1% Vitamin E or 0.2-0.4% rosemary extract) to your carrier oils as soon as you buy them, you do not need to add more antioxidants to your oil serums as too many antioxidants can have a negative effect on oil stability. Choose to add them at either time, but not both.



EXAMPLES ON THE MARKET



ANTIPODES JOYOUS NIGHT REPLENISH SERUM £40 per 30ml

<https://uk.antipodesnature.com>

Product highlights/description:

“Antipodes Joyous Night Replenish Serum restores natural collagen and delivers natural radiance. With Himalayan goji delivers up to 19 amino acids to replenish protein at a cellular level. Red raspberry seed oil blends with New Zealand blackcurrant, a rich source of essential fats like gamma-linolenic acid (GLA). Hibiscus flower and kiwi oil freshens your complexion, while berry fragrance imparts pure joy.”

INCI: Ribes Nigrum (Blackcurrant Fruit Oil), Lycium Barbarum (Goji Fruit Extract), Rubus Idaeus (Raspberry Seed Oil), Hibiscus Sabdariffa (Hibiscus Flower), Fragrances of Blackberries: Alpha Isomethyl Ionone, Benzyl Alcohol, Citral, Citronellol, Coumarin, Eugenol, Farnesol, Geraniol, Isoeugenol, Limonene, Linalool.

Our analysis:

Lovely oil serum based on blackcurrant oil and raspberry oil to supply essential fatty acids to the skin. It is enriched with goji fruit extract and hibiscus flower, for additional nutrients. The serum is fragranced with artificial fragrance (alpha isomethyl ionone is a component only present in synthetic fragrances).



MAY LINDSTROM THE YOUTH DEW BALANCING FACIAL SERUM

\$140 per 30ml

www.maylindstrom.com

Product highlights/description:

“May Lindstrom The Youth Dew balancing facial serum is a joyously over-the-top hydrating potion that transforms skin with a power-packed bouquet of 20 ambitiously regenerating and indulgent plant and botanical oils infused with time stopping CoEnzyme Q10. It is a highly concentrated formula without fillers to deliver a powerful action, uncompromising purity and maximum results.”

INCI: Persea Americana (Avocado) Oil*, Limnanthes Alba (Meadowfoam) Seed Oil*, Olea Europaea (Olive) Oil*, Prunus Spp (Plum Kernel) Oil, Simmondsia Chinensis (Jojoba) Oil*, Hippophae Rhamnoides (Sea Buckthorn) Oil*, Rosa Rubiginosa (Rosehip Seed) Oil*, Punica Granatum (Pomegranate) Oil*, Calophyllum Inophyllum (Tamanu) Oil*, Borago Officinalis (Borage Seed) Oil*, Aleurites Moluccans (Kukui Nut) Oil, Oenothera Biennis (Evening Primrose) Oil*, Pelargonium Graveolens (Geranium Rose) Essential Oil*, Citrus Paradisi (Grapefruit) Essential Oil*, Citrus Sinensis (Sweet Orange) Essential Oil*, Citrus Limon (Lemon) Essential Oil*, Rosa Damascena (Rose Absolute) Essential Oil*, Rosa Damascena (Bulgarian Rose) Essential Oil*, Citrus Aurantium (Neroli) Essential Oil*, Daucus Carota (Carrot Seed) Essential Oil***, Ubiquinone (Coenzyme Q10), Limonene+, Citronellol+, Geraniol+, Linalool+, Citrsol+, Eugenol+.

*Certified organic. ***Wild harvested. +Component of essential oil.

Our analysis:

This serum is a mixture of 12 vegetable oils (avocado, meadowfoam, olive, plum kernel, jojoba, sea buckthorn, rosehip, pomegranate tamanu, borage, kukui and evening primrose). They nourish the skin with a wide range of fatty acids and beneficial unsaponifiables. The serum contains nine essential oils: geranium, grapefruit, sweet orange, lemon, rose absolute, rose, neroli and carrot seed. The essential oils add a pleasant scent and provide many benefits for the skin. This serum also contains coenzyme Q10 as the active ingredient, to offer antioxidant activity.



ODACITE SENSITIVE SKIN SERUM CONCENTRATE (CAMELINA AND CHAMOMILE)

\$39 per 5ml

<https://odacite.com>

Product highlights/description:

“Odacite Sensitive Skin Serum Concentrate (Camelina + Chamomile) is soothing, calming and strengthening, suitable for even the most easily upset complexions; counteracting redness and irritation, to leave your face smooth, supple and contented. The perfect supplement for skin susceptible to flare-ups, this potent elixir helps retrain your face to be less angry and tempestuous.”

INCI: Camelina Sativa (Camelina) Seed Oil, Anthemis Nobilis (Roman Chamomile) Flower Oil, Cymbopogon Martinii (Palmarosa) Leaf Oil, Lavandula Angustifolia (Lavender) Flower Oil, Santalum Spicatum (Sandalwood) Wood Oil, Bisabolol, Pelargonium Graveolens (Geranium) Flower/Leaf Oil, Citrus Aurantium (Neroli) Flower Oil, Hemidesmus Indicus (Sarsaparilla) Root Extract, Certified GMO-free Vitamin E (Tocopherols) Oil.

Our analysis:

This serum is based on camelina oil, which is a nice and gentle oil with high content of restorative alpha-linolenic acid. The essential oils all have good soothing properties: roman chamomile, palmarosa, lavender, sandalwood, geranium and neroli. The serum also contains an anti-inflammatory and soothing active ingredient – bisabolol, and sarsaparilla extract, which is believed to soothe itchy and damaged skin. To protect the oils from oxidation, Vitamin E (mixed tocopherols) is also added to the serum.



BIOSSANCE SQUALANE + VITAMIN C ROSE OIL

\$72 per 30ml

<https://bioessence.com>

Product highlights/description:

“A luxurious face oil that visibly brightens, firms, and evens skin tone. This exquisite oil delivers exceptionally soft, smooth, and radiant-looking skin thanks to the weightless hydration of sugarcane-derived, sustainable squalane oil, visibly brightening vitamin C, and radiance enhancing rose oil, which has been revered for centuries for its ability to reduce the look of lines and wrinkles.”

INCI: Squalane, Pistacia Lentiscus (Mastic) Gum, Rosa Damascena Flower Extract, Tetrahexyldecyl Ascorbate, Caprylic/Capric Triglyceride, Geraniol.

Our analysis:

This serum is based on squalane – its lightweight texture is suitable for every skin type and it gives the serum a less oily skin feel. Active ingredients in the serum are mastic gum, which is believed to have pore-tightening effects, and rose extract (it is not specified what type of the extract it is, but it has to be oil soluble so it is possible that it is rose absolute or rose CO₂ extract). Another potent ingredient is an oil soluble Vitamin C derivative – tetrahexyldecyl ascorbate, which functions as a potent anti-aging ingredient in the skin. The serum also contains caprylic/capric triglyceride, most commonly from fractionated coconut oil – it could be the solvent for rose extract or mastic gum. Geraniol, at the end of the list, is most likely a component of rose extract.



**MAYA CHIA THE SUPER BLEND PRESSED SERUM
MULTI-CORRECTIONAL MOISTURE CONCENTRATE
\$105 per 50ml**

<https://mayachia.com>

Product highlights/description:

“Maya Chia The Super Blend Pressed Serum Multi-correctional Moisture Concentrate is a pressed serum moisture concentrate that has been infused with nature’s most highly effective ingredients, including natural astaxanthin (one of nature’s most potent antioxidants), supercritical chia, powerful active botanicals, and the most innovative natural anti-ageing ingredients. The multi-action proprietary formula helps to brighten the appearance of the skin, reduce the appearance of fine lines and wrinkles, and increase skin’s firmness. Complementary wildcrafted plant actives each highly targeted to work together to impart a specific benefit to bring vitality to the skin’s appearance.”

INCI: Orbignya Oleifera (Babassu) Seed Oil*, Supercritical Chia (Salvia Hispanica) Seed Oil and Haematococcus Pluvialis Algal (Astaxanthin) Extract, Butyrospermum Parkii (Shea) Butter, Garcinia Indica (Kokum) Butter, Tetrahexyldecyl Ascorbate (Vitamin C Ester), Helianthus Annuus (Sunflower) Seed Oil (and) Lupinus Albus Seed Extract, Dipalmitoyl Hydroxyproline, Polyglycerol-3 Beeswax, Caprylic/Capric Triglyceride (and) Achillea Millefolium (Yarrow) Leaf Extract*, Salvia Officinalis (Sage) Leaf Extract*, Equisetum Arvense (Horsetail) Extract*, Urtica Dioica (Nettle) Leaf Extract*, Ubiquinone (Coenzyme Q10), Mica, Rose Geranium (Pelargonium Graveolens)*, Citrus Aurantium Amara (Neroli) Essential Oil*, Aniba Rosaeodora (Rosewood) Essential Oil*, Jasminum Grandiflorum (Jasmine) Absolute (Hexane-free), Citrus Aurantium Dulcis (Orange) Peel Essential Oil, Citrus Reticulata (Mandarin) Essential Oil*, Botanical Extracts.

*Organic or wildcrafted (when available).

Our analysis:

This is an example of a pressed serum. It is based on babassu oil, chia seed oil, shea butter and kokum butter. Besides beneficial carrier oils it also contains many active ingredients – astaxanthin (from algae), tetrahexyldecyl ascorbate (oil soluble Vitamin C derivative), coenzyme Q10 and dipalmitoyl hydroxyproline – all of them will work in synergy to combat the signs of aging. The serum is enriched with botanical extracts as well – lupine seed extract, horsetail extract, nettle extract, yarrow extract – their main benefits are additional anti-aging and wrinkle-relaxing properties. The serum is scented with luxury essential oils and absolutes that bring further benefit to the skin: geranium, neroli, rosewood, jasmine, sweet orange and mandarin. Shea butter and kokum butter add to the balm-like consistency of the serum, but cera bellina (polyglyceryl-3 beeswax) is also used as a thickener.



FORMULATION TEMPLATES

We have provided three formulation templates for:

- Liquid serum.
- Pressed serum.
- Lip serum.

The templates provided here show the different ingredients that can be included in each type of serum and the typical percentages at which they are used. You can use these as guidelines to create your own formulations. You can see examples of these templates put into action in the lessons that follow where we share some formulation examples created by our tutors.

Different active ingredients and essential oils will have different recommended usage rates which you should check before using them. You can refer to the information in **Module 2 Serum Ingredients**, your supplier, IFRA and any relevant regulations.

Formulation template for liquid serum

Ingredient type	Function	w/w%
Carrier oils	Emollient, active	up to 100%
Esters	Emollient	up to 100%
Active ingredients, botanical extracts	Specific skin benefit	up to 10%
Essential oils	Active ingredient, fragrance	up to 2%*
Vitamin E (95% mixed tocopherols) (or rosemary extract)	Antioxidant	0.1% (up to 0.4%)

Formulation template for pressed serum

Ingredient type	Function	w/w%
Carrier oils	Emollient, active	up to 100%
Butters	Emollient, active	up to 100%
Esters	Emollient	up to 100%
Waxes/thickeners	Thickener	up to 20%
Active ingredients, botanical extracts	Specific skin benefit	up to 10%
Essential oils	Active ingredient, fragrance	up to 2%*
Vitamin E (95% mixed tocopherols) (or rosemary extract)	Antioxidant	0.1% (up to 0.4%)

Formulation template for lip serum

Ingredient type	Function	w/w%
Carrier oils	Emollient, active	up to 100%
Esters	Emollient	up to 100%
Butters (optional, if making a thicker serum)	Emollient, active	up to 100%
Waxes/thickeners (optional, if making solid serum)	Thickener	up to 20%
Active ingredients, botanical extracts	Specific skin benefit	up to 10%
Essential oils	Active ingredient, fragrance	up to 0.5%*
Vitamin E (95% mixed tocopherols) (or rosemary extract)	Antioxidant	0.1% (up to 0.4%)

* The amount of essential oil you include is dependent on the oils chosen and IFRA guidelines.

FACTORS TO CONSIDER WHEN CREATING YOUR FORMULA

We have provided you with a **product development brief** for anhydrous serums that will help you develop your serum formula based on who the product is for and the main benefits you want it to offer.

A product development brief is essentially a series of questions that help you get clear about what you are creating, for whom and why. This means you have a clearly defined outcome before you start formulating. You are more likely to create a wonderful product that customers love if you design it with them in mind. Equally, if you are creating a product for yourself, you are also much more likely to create a successful product if you consider the product development questions first.

These are the main areas to consider:

- Target audience.
- Product positioning and target cost.
- Skin type.
- Purpose or function of product.
- Desired properties and qualities of product.
- Packaging.

Getting clear on these factors will help you choose the ingredients to use. The second part of the product development brief is a **formulation worksheet** where you can start to create your formula on paper.

OUR EXAMPLE FORMULAS

The lessons that follow contain a variety of example formulations created by our tutors. They take you through the product development process by answering product development questions and then creating a product formula. You could make these formulations exactly as we have presented them to practice the techniques required and use ingredients you might not be familiar with. You could then make adjustments to them or move on to creating your own formulations from scratch!

CHOOSING YOUR INGREDIENTS

In addition to the lessons in this module, you can also refer to the information provided in previous modules to help you choose the best ingredients for your formula. Helpful sections include:

- Lesson 1.1 Introduction to formulating serums.
- Lesson 1.4.1-1.4.5 Formulating for different skin types.
- Module 2 Serum Ingredients.

USING A 'HERO' OR STAR INGREDIENT

Before you create your formula or are in the process of developing it, you may have one ingredient in mind that will be the 'star' ingredient in your formula (sometimes also known as the 'hero' ingredient).

It may be one that offers certain benefits you are looking for or it may form part of your brand or product story. For example, you might feature the same ingredient in every product in your brand or range. Or it might be an ingredient with a certain story that you can tell, and this becomes part of your marketing and the story of your product.

You might choose a hero ingredient based on current market trends.



WORKBOOK EXERCISE

An example of a hero ingredient could be Vitamin C. Look at serums on the market and the names and descriptions of the serum to see if you can identify hero ingredients chosen by other brands. When reading through **Module 2 Serum Ingredients**, or **Lesson 1.4.1-1.4.5 Formulating for different skin types**, you might identify an ingredient that you want to use as your 'hero' ingredient.

PERFECTING YOUR FORMULA

Once you have created a formula on paper, it is time to create a small batch to test it out! You can evaluate factors such as how the product feels, how the product smells, how easily the product spreads. Based on your observations you may wish to make adjustments to the formula until you are satisfied. Professional efficacy testing and user trial reports can be arranged through cosmetic labs if you want data on the effectiveness of your product.

SUMMARY

In this lesson we learned about two types of anhydrous serums: liquid and pressed serums. We looked at the functions, benefits, properties and qualities of anhydrous serums, the typical ingredients they contain and suitable packaging. We analyzed five serums currently on the market to see what ingredients they contain and the benefits they offer. We provided three formulation templates and suggested factors to consider when creating your own formulations.