

About

I make and sell lotions and shampoos – \$35 for each 9 ounce bottle, plus priority mailing, which in the US is \$8.30 for two 9 ounce bottles (small priority box) and \$15.05 for 3 to 18 bottles (medium priority box).

The sunscreen and the leave-on hair and scalp conditioner are produced in 4 ounce bottles that cost \$17.00 each.

A small USPS priority box holds four 4 ounce bottles, or one 9 ounce bottle and two 4 ounce bottles. A medium USPS priority box holds between three and eighteen 9 ounce bottles.

Payments can be made by mailing me a US-bank check, or via the Zelle phone-app in the US directed to Bank of America and my phone number, 602 318 2877, but you have to email me with your mix-of-products in your order because there's no memo-line with Zelle.

Payment can also be made via Western Union to a retail location – you have to email me the transaction number.

International orders via foreign-bank check cause me to incur a currency exchange rate of 3% plus \$5, so you have to add this amount to your check – Western Union is less expensive. UK orders should be done via your UK Post Office and Western Union, as the exchange rate is better and the cost of the transfer is only about 4 GBP. <https://www.postoffice.co.uk/international-payments> They require you to send a copy of the front and back of your photocard driving license to ukid@westernunion.com.

I've been making cosmetics for over 6 years, and I have made hundreds of different formulations in the process of perfecting products that treat and prevent seborrheic dermatitis. Making cosmetics that are safe for *malassezia*, **and** are high quality from a sensory point of view, takes a lot of time. My lotion prices are only slightly more expensive than an equivalent quantity of CeraVe PM, except my products are have active ingredients.

Looking back, I wonder, what was I thinking? Getting smooth soft skin by only taking a shower? And then applying lotion once a day? It seemed implausible, but as I've learned to make better products, it was a really good plan.

I sell a lotion and a shampoo with climbazole **and** piroctone olamine, and a 2nd type of lotion and shampoo **without** climbazole but otherwise having comparable ingredients. I was surprised to find that after my skin healed, I could eliminate climbazole and use only piroctone olamine, which has a 3000 to 1 “Margin of Safety” ratio and is therefore “milder” than climbazole.

Both lotions have a very soft feel and slowly reduce fine lines and wrinkles, because of the hyaluronic acid, which isn't actually an acid at all, but is instead a salt, more correctly called sodium hyaluronate.

All my products contain Vitamin D (cholecalciferol), which is remarkable – it promotes the skin to shed excess keratin like no other single ingredient. Positive results are evident immediately and reach full resolution in 3 months as to the removal of excess keratin and thickened skin, and it also unclogs pores.

All my products also contain sodium hyaluronate (often misnamed as hyaluronic acid), which softens the skin, gently plumps fine lines, and reduces wrinkles. Sodium hyaluronate also softens the hair and repairs hair damage from harsh shampoos, the sun, and hair perms.

Testing numerous ingredients on myself has shown that seb derm originates because *malassezia*, among other irritants, causes the skin to produce excess keratin, and then, *malassezia*, is able to easily colonize the excess keratin on the outer surface of the skin. Vitamin D resolves this, and rapidly.

The deeper, allergic skin reactions to *malassezia*, characterized by red, itchy bumps, merely appear to be the problem – the most obvious signs are actually secondary to the layer of excess keratin that's easily colonized by *malassezia*. By using topical Vitamin D, you don't have to wait so long to suppress or eliminate *malassezia*, because topical Vitamin D allows the skin to rapidly rejuvenate itself, minus the layer of excess keratin.

Please don't crack a capsule of Vitamin D onto your skin – this will definitely produce an overdose of Vitamin D. The useful concentration of Vitamin D is far smaller than expected, as 0.003% is sufficient to remove excess keratin – this is 1,000 IU of Vitamin D per ml. All locations characteristic of seb derm, the nose, forehead, and cheeks, shed excess keratin after I added Vitamin D (oil soluble) into my products.

Both shampoos also contain Vitamin D, which is useful for removing excess keratin on the scalp, where most lotions are not practical because the higher oil content of lotions weighs hair down, making it too shiny, which isn't aesthetically acceptable.

The Hair and Scalp Treatment can be used on the hair because the oil content is much lower – too low to maintain proper skin hydration but excellent for the hair and scalp.

Both shampoos will also make your hair cosmetically “fuller,” because piroctone olamine expands the cuticle on each hair shaft, only by about 6%, but the results are noticeable.

Both lotions have a blend of MCT oil, squalane oil, and microcrystalline wax. Both shampoos, and the leave-on hair and scalp conditioner, have only squalane oil. Squalane oil is slightly more water-soluble and washes out more easily than MCT oil. The sunscreen includes carnauba wax, which is also safe for *malassezia*-problems. Carnauba wax is included in the sunscreen to provide sweat resistance.

All my products also contain niacinamide (B3), dl-panthenol (B5), Vitamins E and A, organic sulfur (OptiMSM), glyceryl caprylate, ceramide complex (the same as CeraVe PM lotion), and sodium hyaluronate (high molecular weight), each of which work to improve skin

texture and skin plumpness. These additional ingredients probably have a synergistic effect with Vitamin D as well.

If you're interested in more information or simply want to ask me a question, send an email to busbylaw@cox.net. There are many similar skin conditions, and I don't want to sell you products that don't work for your condition(s). I've always found questions and comments interesting and informative.

Product Descriptions and Labels

All my products contain the active ingredient piroctone olamine. My lotion and shampoo that contain the active ingredient climbazole are named **AquàVive**. My lotions and shampoo that do **not** contain climbazole are named **AquàTone**. In other words, “-Vive” indicates the product has climbazole. “-Tone” indicates the product has piroctone olamine and doesn't have climbazole. Other than that, the names are merely synthetic and unique.

1) AquàVive Hyaluronic Lotion, with climbazole.

Label information: Distilled water, Caprylic/capric triglycerides, Niacinamide & dl-Panthenol (proVitamins), Olive squalane oil, Glycerin, Cetearyl alcohol 30/70 NF (thickener), Sodium hyaluronate, HMW, & Ceramide complex (skin texture improvement), Cholecalciferol, Tocophersolan, & Retinyl palmitate (Vitamins D, E & A), Piroctone olamine (anti-demodectic), Microcrystalline wax, **Climbazole** (antifungal), Cetareth 20 & Glyceryl stearate (emulsifiers), OptiMSM, Isopropanol, Phenoxyethanol, Benzoic acid, & Dehydroacetic acid (preservatives).

Sensory qualities:

- Smooth skin texture • Brighter, plumper skin • Persistent softening • Protects against oxidation due to ultraviolet (UV) light • Provides deep-dermis hydration • Improves elasticity and tone • Reduces wrinkles and fine lines • Enhances skin-cell turnover • Softens and soothes • Spreads easily and is rapidly absorbed into the skin • Improves elasticity • perfect 5.5 pH • Fragrance free.

Ceramide complex INCI: Ceramide NP, Ceramide AP, Ceramide EOP, Phytosphingosine, Cholesterol, Sodium Lauroyl Lactylate, Carbomer (and) Xanthan Gum

2) AquàTone Hyaluronic Ceramide A & E Lotion, without climbazole, is similar to Derma-E Hydrating Day Cream, but softens skin more persistently.

Label information: Distilled Water, MCT oil (Caprylic/Capric Triglycerides), Niacinamide & dl-Panthenol (proVitamins), Glycerin, Olive squalane oil, Cetearyl alcohol 30/70 NF (thickener), Sodium hyaluronate, HMW, & Ceramide complex (skin texture improvement), Cholecalciferol, Tocophersolan, & Retinyl palmitate (Vitamins D, E, & A), Microcrystalline wax, Piroctone olamine, Glyceryl Stearate & Cetareth 20, (emulsifiers), OptiMSM, Isopropanol, Phenoxyethanol, Benzoic acid, & Dehydroacetic acid (preservatives).

3) AquàVive Hyaluronic Shampoo, Conditioner, and Shower Scrub, with climbazole.

AquàVive shampoo is also a shower scrub for skin plus a conditioner for hair – it effectively cleans away dirt and oil, and maintains a correct pH balance. It's fragrance-free, soap-free, non-comedogenic, color-safe on dyed hair, and removes water-resistant make-up – plus it's sulfate-free to prevent skin irritation. Olive squalane oil is emulsified into surfactants so hair and skin

feel soft. An additional benefit of olive squalane oil is that climbazole and piroctone olamine are oil-soluble, not water-soluble – formulating with oil creates micellar emulsions inside the surfactants to disperse an effective dose of the active ingredients onto the skin surface.

The surfactant emulsion removes environmental dirt, microorganisms, and sebum from the skin surface, while the moisturizing emulsion remains suspended in the lather during the cleansing process. During rinsing, the lather becomes dilute and the moisturizing emulsion breaks, depositing oil, and the oil soluble active ingredients such as Vitamin D, climbazole, and piroctone olamine, onto the skin, resulting in improved skin-barrier lipid structure.

Label information: Distilled water, Decyl glucoside, Coco-betaine, Sodium cocoamphoacete, & Sodium lauryol sarcosinate, (surfactants), Niacinamide & dl-Panthenol (proVitamins), Glycerin, Olive squalane oil, Acrylates C10-30 crosspolymer, Sodium hyaluronate, HMW, & Ceramide complex, (skin texture improvement), Piroctone olamine (anti-demodectic), **Climbazole** (antifungal), Cholecalciferol, Tocophersolan & Retinyl Palmitate (Vitamins D, E, & A), PEG-8 dimethicone (hair conditioner), Sodium carbomer, Citric acid, Di-PPG-2 myreth-10 adipate (solubilizer), OptiMSM, Isopropanol, Methylene blue, Phenoxyethanol, Benzoic acid, & Dehydroacetic acid (preservatives).

Sensory qualities:

- Sulfate-free to prevent skin irritation
- Cleans completely, because it blends hydrophilic, active ingredients into water
- Improves skin elasticity
- Prevents moisture loss
- Soap-free
- Conditions hair
- Silky after-feel
- Color-safe on dyed hair
- Thicker, softer hair
- Improves shine and elasticity
- Prevents breakage
- perfect 5.5 pH
- Fragrance free.

4) AquàVive Hyaluronic Leave-on Hair Conditioner and Scalp Treatment

This product is designed for use between shampoos, or for use after shampooing if you have long or thick hair that's difficult to comb or brush. It's not just for women, but that's the primary purpose. Containing climbazole and piroctone olamine, it will fight *malassezia* and *demodex* less well than a complete shower but it's a realistic approach for people who don't shower and shampoo their hair and scalp every day.

Label Information: Distilled water, Niacinamide & dl-Panthenol (proVitamins), Olive squalane oil, Glycerin, Sodium hyaluronate, HMW, & Ceramide complex, (hair & skin texture improvement), Piroctone olamine (anti-demodectic), Climbazole (antifungal), Cholecalciferol, Tocophersolan, & Retinyl Palmitate (Vitamins D, E, & A), Caffeine, Sodium carbomer & PEG-8 dimethicone (conditioners), Caffeine, Citric acid, Di-PPG-2 myreth-10 adipate (solubilizer), OptiMSM, Isopropanol, Phenoxyethanol, Benzoic acid, & Dehydroacetic acid (preservatives).

Sensory qualities:

- Treats hair and scalp between shampoos, and blends active ingredients into water
- Improves hair shine and comb-ability
- Prevents dry, frizzy hair, and itchy scalp
- Soap-free
- Silky after-feel
- Color-safe on dyed hair
- Thicker, softer hair
- Prevents breakage during brushing
- perfect 6.0 pH for hair
- Fragrance free.

5) AquàTone Hyaluronic Shampoo, Conditioner, and Shower Scrub Formula, without climbazole.

This product is designed for people who have a problem with *demodex* rather than *malassezia*, or for people who simply want softer, more elastic, skin and hair. In sum, this is better than any

salon-quality shampoo. Compared to AquàVive shampoo, it's similar but doesn't contain climbazole or coco-betaine. (Cocobetaine foams nicely but is slightly sticky.)

Label information: Distilled water, Decyl glucoside, Sodium cocoamphoacete, & Sodium lauryol sarcosinate, (surfactants), Niacinamide & dl-Panthenol (proVitamins), Glycerin, Olive squalane oil, Acrylates C10-30 crosspolymer, Sodium hyaluronate, HMW, & Ceramide complex, (skin texture improvement), Piroctone olamine (hair substantivity), Cholecalciferol, Tocophersolan, & Retinyl Palmitate (Vitamins D, E, & A), Sodium carbomer, Citric acid, Di-PPG-2 myreth-10 adipate (solubilizer), OptiMSM, Isopropanol, Methylene blue, Phenoxyethanol, Benzoic acid, & Dehydroacetic acid (preservatives).

6) AquàTone Hyaluronic Sunscreen

What it is:

A waterproof, physical sunscreen that delivers powerful broad-spectrum UVA/UVB protection and helps prevent free radical and oxidative damage as well as photo-aging, for a more youthful complexion. Due to the use of 8% zinc oxide in the formulation, it has an SPF rating of 10. The zinc oxide is non-nano and uncoated.

If you want to know more...

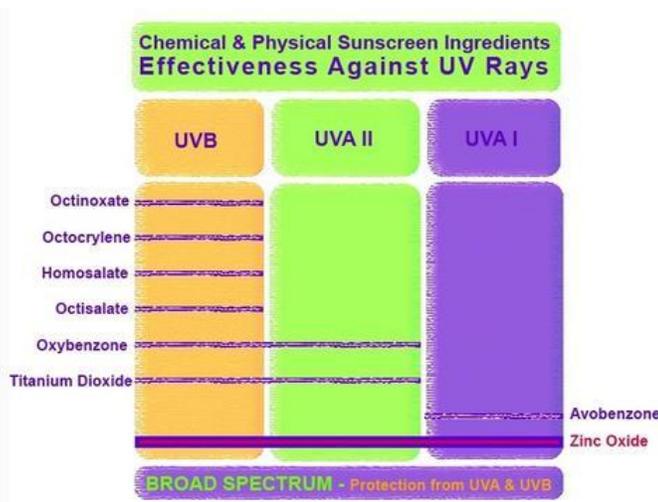
AquàTone Sunscreen is a daily sunscreen loaded with potent antioxidants like hyaluronic acid. AquàTone Sunscreen delivers essential moisture and helps minimize fine lines and wrinkles, leaving your skin looking healthy and youthful. This unique formulation is ideal for daily use.

What else you need to know:

It's very difficult to formulate a physical sunblock without using chemical screens or silicones, but AquàTone Sunscreen has done just that. This physical sunscreen is formulated without any chemical sunscreens, which can be sensitizing and not as beneficial to skin as the naturally-derived physical alternative, zinc oxide. Plus, it's non-irritating, free of fragrance and essential oils, and suitable for all skin types, including the most sensitive. AquàTone Sunscreen uses only clean ingredients that directly benefit the skin's health and support the integrity and effectiveness of the formulations. Safety and bio-availability are the key concepts.

AquàTone Sunscreen Label:

Distilled water, Zinc oxide, Caprylic/capric triglycerides, Microcrystalline wax, Cetearyl alcohol 30/70 NF, Cetareth 20, & Glyceryl stearate (emulsifiers), Ethanol, Glycerin, Niacinamide & dl-Panthenol (proVitamins), Carnauba wax, Sodium hyaluronate, HMW, Tocophersolan & Cholecalciferol, (Vitamins E & D), Piroctone olamine (anti-demodectic), OptiMSM, Phenoxyethanol, Benzoic acid, Dehydroacetic acid, & Citric acid (preservatives).



The Chemistry of MCT Oil (Medium Chain Triglyceride) in a Lotion

On October 6, 2013, I learned that *malassezia* grows by consuming oils or fatty acids only with carbon chain lengths of 11 to 24 (also called C11 to C24). See, www.biochemj.org/bj/108/0225/1080225.pdf <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1198797/>. This study is the reason why I decided to formulate my own lotion and shampoo, and is illustrated in the chart below:

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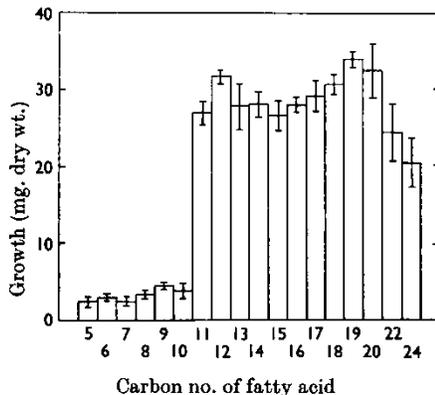


Fig. 1. Growth of *P. ovale* in 25 ml. of peptone-glucose broth with 25 mg. of individual fatty acids in ascending series of chain length. Sodium taurocholate (1%) was added to each flask. Growth is expressed as mg. of dry defatted cell residue after 72 hr. growth at 37°.

Malassezia evolved the ability to metabolize all plant, nut, fruit, and seed oils, which are in the range of C12 to C24. On the other hand, MCT oil (called “caprylic/capric triglycerides” on INCI cosmetic labels) is composed only of C8 and C10 oils, and is not an oil found in nature – it’s distilled from coconut oil and is therefore “synthetic” from a botanist’s perspective.

The purpose of making an MCT lotion is to moisturize skin but not feed *malassezia* yeast. An MCT lotion will not make the problem worse, because it doesn’t have any ingredients that are food grade to *malassezia*. MCT oil is vacuum-distilled from coconut oil – the C8 and C10 oils are lighter so they distill out and leave behind the C12 and longer oils. However, pure MCT oil is much too oily, shiny, and pore-clogging to use as a cosmetic.

Squalane oil, derived from olive oil, is at the other end of the spectrum for *malassezia*-safe oils – it's C30. Combining the two oils in my products increases the “soft” feel of the lotion, and squalane oil is the only oil used in my shampoo because it softens hair more completely, like a conditioner, so the use of a separate “conditioner” is not helpful or necessary. Microcrystalline wax is C26 and “longer,” and is also safe for *malassezia*-conditions. Including microcrystalline wax makes the lotion more persistent, so a once per day application is sufficient.

Because MCT oil, squalane oil, and microcrystalline wax are not found in nature, under INCI regulations my products could actually be labelled as “oil free,” but that description seems illogical and misleading in my opinion. Still, and taa-daa, my lotions are “oil free.”

All other ingredients are synthetic and bear no relationship to anything found in nature. This is a good thing – it means that *malassezia* and *demodex* have not encountered anything similar in their evolutionary history and so cannot metabolize them. However, there are millions of people, and of course some of them, somewhere, will react to something, even water.

If you are one of the rare people who are “water only,” because you experience burning and tingling with even the mildest lotion or shampoo, you are stuck with using water only. I haven't been able to solve this problem.

Instructions for Use

Use my shampoo and lotion products each time the skin becomes wetted, preferably once per day, and at night. Treatment is most effective if you use each product once per day. Twice per day treatment is not necessary or useful – unless of course you go to the gym or play sports, in which case ordinary hygiene suggests showering twice per day.

Wet your head and body in the shower, turn off the shower, and pour about 9 ml of the shampoo/shower scrub into a cupped hand, and apply to your hair, scalp and face, with your eyes closed, lathering gently, and within the first 30 seconds or so, you'll feel the lather running down your torso and arms, so quickly lather there, and then lather down to your legs and feet. Continue to gently lather the foam on your hair, scalp, face and body for 3 to 4 minutes using your hands, and then turn the shower on, to rinse off with water. Of course you can leave the shower on, but saving the planet and so forth...

Towel dry, and then apply 2-3 ml of the lotion, which is enough to lightly cover all the skin on the face and neck. Close your eyes to apply on the eyelids or near the eyes. One M&M candy has a volume of 0.64 ml, so 3 ml of lotion is a little more volume than 4 M&M's. Also apply the lotion to any other body-skin you intend to treat.

Do **not** merely splash water onto your face in the sink – this is a poor way to clean your face, as the force of a shower is **very** helpful to remove the extra layer of keratin that *malassezia* creates and hides within. Hyper-keratinization is the most common sign associated with an allergic reaction to *malassezia*. That being said, of course my shampoo can be used as a facial wash in the sink, but this is most certainly **not** the best method for cleansing your face. For the same reason, shave before you shower.

Treatment in the evening is most effective because it prevents *demodex* from mating. Daily treatment will take months, the time for which depends on the level of involvement between the fungus and your immune system, which varies from person to person. Most likely,

the length of time is unexpectedly long because a majority of fungal colonies are dormant, and this dormancy technique, based on quorum sensing, allows the colonies to survive environmental stress from antifungals such as climbazole.

The problem with Climbazole – the Benefits of Vitamin D

Climbazole is a very effective anti-fungal. However, the problem with climbazole has been that it usually takes your age in decades times 2, to calculate the number of months for your skin to heal to the point where no one else would notice, on casual glimpse, that anything is wrong with your skin. This is Stage 1 of healing. To get Stage 2, where no one would notice on close inspection, takes twice the time of Stage 1. To get to the final Stage (Stage 3), where you yourself will not notice any problems on close inspection, takes twice the time of Stage 2. I invented the “Stages” concept to account for the fact that people are harder on themselves than others are.

By using topical Vitamin D, you don’t have to wait so long to suppress or eliminate *malassezia*, because topical Vitamin D allows the skin to rapidly rejuvenate itself, minus the layer of excess keratin – this excess keratin layer provides the perfect environment for *malassezia* to thrive. By eliminating the excess keratin, you’re evicting *malassezia* from the safe-place provided by excess keratin.

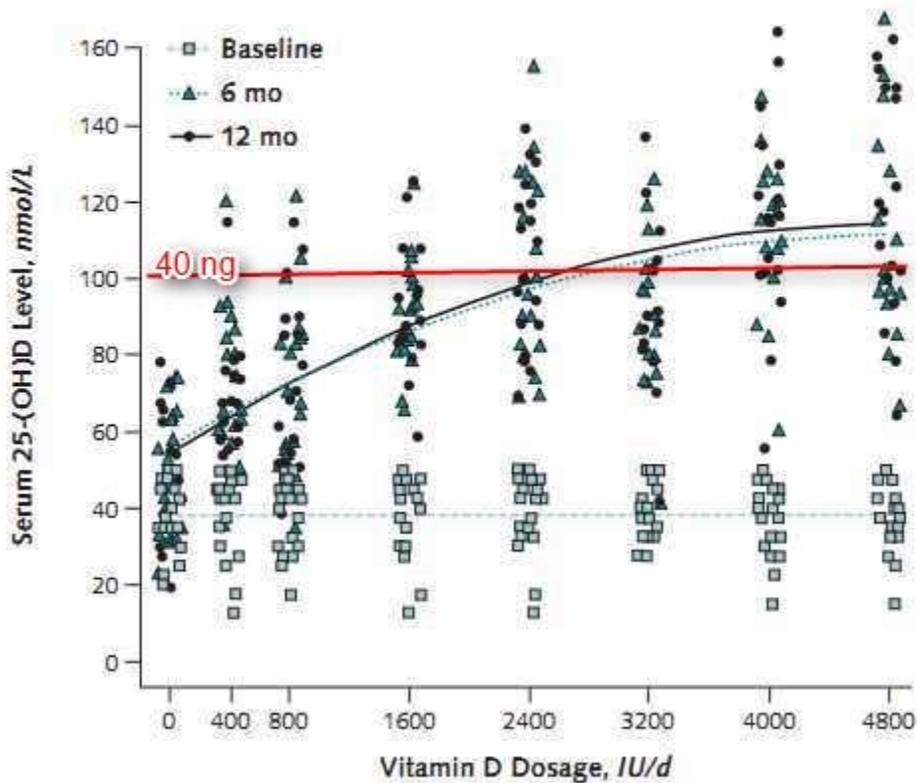
I started using climbazole when I was 59, so it took me a year to get to Stage 1, but the benefits were immediately obvious, which is why I stayed the course. Nevertheless, it truly takes far too long for your skin to heal, and reasonable people should suspect there’s an additional root cause for seb derm – not only *malassezia*.

Accordingly, in June 2019, I found that adding Vitamin D to my products is extremely beneficial for eliminating excess keratin. I’m a good “test subject” for excess keratin, as my entire body had clogged pores and patches of excess keratin, especially the bottom of my feet, the palms of my hands, and my elbows, even after long-ago eliminating my *malassezia*-problem. By process of slowly incorporating sodium hyaluronate, Vitamins A and E, and finally, Vitamin D, to my own products and testing them on myself created a solution where my “extra layer of skin” flaked off. Hurray! See, “Atopic dermatitis treatment needs more than 5,000 IU of Vitamin D,” RCT, September 2018, found on the web at https://www.researchgate.net/publication/327805994_Oral_vitamin_D3_5000_IUday_as_an_adjuvant_in_the_treatment_of_atopic_dermatitis_a_randomized_control_trial.

In my case, it was apparent I was unable to metabolize enough Vitamin D in my digestive system, because I had previously taken oral supplements with high doses of Vitamin D without any changes at all concerning my skin. Vitamin D malabsorption in the gut is most likely a genetic condition, but for those who would like to see this as a connection between the digestive system and the skin, there is that.

Additional support for my theory that people absorb Vitamin D in very different amounts in their digestive systems, as shown in the chart below, (look at the wide range of individual responses), copied from <https://vitamindwiki.com/Reasons+for+low+response+to+vitamin+D>:

Figure 2. Vitamin D dose-response curve.



Example #1: 2400 IU dose: 75-140 nmol response (the same as 30-56 ng)

Example #2: 4000 IU dose: 50-160 nmol response (the same as 20-62 ng)

My initial hypothesis was that transdermal absorption of Vitamin D would be more efficient for skin problems, because it avoids problems with absorption in the gut. In addition, because the skin produces Vitamin D when exposed to sunlight, the delivery route for Vitamin D would be optimized when applied topically to the skin.

Additional research was necessary to determine the concentration of Cholecalciferol that could be used, in the minimum proportion. First, assuming full body use of 10ml of lotion per day, and second, employing the guidance of “Investigating Transdermal Delivery of Vitamin D3,” AAPS PharmSciTech, Vol. 16, No. 4, August, 2015, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4508301/>, the concentration used in my products, 0.005% cholecalciferol by weight, results. See also, <https://mms.mckesson.com/product/956993/Galderma-Laboratories-00299201210> and https://www.researchgate.net/publication/232742654_Assessing_the_Relationship_between_Vitamin_D-3_and_Stratum_Corneum_Hydration_for_the_Treatment_of_Xerotic_Skin.

The improvement in skin quality was immediate and effective for my skin, so the concentration appears optimal.

This concentration of Cholecalciferol, even if one assumed, completely contrary to the article cited above, that **all** of it would be absorbed into the blood serum, would be about 3,000IU per day with normal use on the face and neck, that is, 3ml. However, very little if any trans-dermal Vitamin D3 is in fact absorbed into the bloodstream because the barrier properties of the skin prevent it. *See*, Figures 4 and 5 of the article cited above, and the article-text, which states, “no detectable amount of vitamin D3 permeated through the porcine skin,” when using Cholecalciferol dispersed in oleic acid (a C18 oil very similar to olive oil). Guidelines in the US state that 4,000 IU per day is the maximum recommended dietary dose – the dietary dose relates to pills that are swallowed. Please keep this in mind if you are taking Vitamin D as an oral supplement, and you probably shouldn’t exceed 4,000 IU per day. <https://lpi.oregonstate.edu/mic/vitamins/vitamin-D>

The risk from extremely high doses of Vitamin D is a build-up of calcium in your soft tissues, such as your blood vessels, which is not at all healthy. Therefore, if you are taking large doses of Vitamin D, you should add Vitamin K2 via MK-7 softgels, in order to prevent vascular calcification and to move calcium from the soft tissue and vascular system and into your bones and the dentin layer of your teeth – this is extremely healthy. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4566462/pdf/34-39.pdf>

The biochemical effect of K2, specifically MK-7, as shown by the reduction of vascular calcification, is seen within six weeks, with a maximal effect after three months. Clinical benefits take more time to be achieved – measurable bone and cardiovascular benefits in a clinical trial of MK-7 become visible after one year, with a more pronounced effect after two and three years. <https://wholefoodsmagazine.com/columns/vitamin-connection/new-discoveries-about-role-vitamin-k-health-part-3-brain-and-nerve-functi/>

Finally, with the recent inclusion of Vitamin D, it’s likely that my earlier estimates for the “Stages” are too long, probably by a factor of 50%. However, I want to repeat, **do not** crack a Vitamin D capsule onto your skin, as the concentration will be far in excess of a healthy, proper dose.

What is the difference between atopic dermatitis, seborrheic dermatitis, and eczema? (From MedicineNet)

Eczema is used as a general term for many types of skin inflammation (dermatitis) and allergic-type skin rashes. There are different types of eczema, like allergic, contact, irritant, and nummular eczema. Several other forms have very similar signs and symptoms. The diverse types of eczema are listed and briefly described below. Atopic dermatitis is typically a more specific set of three associated conditions occurring in the same person including eczema, allergies, and asthma. Not every component has to be present at the same time.

Types of eczema

- Contact eczema is a localized reaction that includes redness, itching, and burning where the skin has come into contact with an allergen (an allergy-causing substance) or with an irritant such as an irritating acid, a cleaning agent, or other chemical
- Allergic contact eczema is a red, itchy, weepy reaction where the skin has come into contact with a substance that the immune system recognizes as foreign, such as

poison ivy or certain preservatives in creams and lotions like Neosporin or Bacitracin

Seborrheic eczema (also called seborrheic dermatitis or seborrhea) is a very common form of mild skin inflammation of unknown cause that presents as yellowish, oily, scaly patches of skin on the scalp, face, ears, and occasionally other parts of the body. Often this is also called dandruff in adults or cradle cap in infants.

Nummular eczema: coin-shaped (round), isolated patches of irritated skin — most commonly on the arms, back, buttocks, and lower legs — that may be crusted, scaling, and extremely itchy

Neurodermatitis is a very particular type of dermatitis where the person frequently picks at their skin, causing rashes. The underlying cause may be a sensitivity or irritation which sets off a cascade of repeated itching and scratching cycles. It may be seen as scratch marks and pick marks on the skin. Sometimes scaly patches of skin on the head, lower legs, wrists, or forearms caused by a localized itch (such as an insect bite) may become intensely irritated when scratched.

Stasis dermatitis is a skin irritation on the lower legs, generally related to circulatory problems and congestion of the leg veins. It may have a darker pigmentation, light-brown, or purplish-red discoloration from the congestion and back up of the blood in the leg veins. It's sometimes seen more in legs with varicose veins.

Use of Hair Conditioners. Many women have long, thick hair and prefer to use a hair conditioner. This is fine, but be sure to apply the conditioner for 10 to 20 minutes **before** you shampoo. You'll see good results this way, and the anti-fungal shampoo will be effective against *malassezia* on your scalp and face. If you use a typical conditioner (one with "quat" ingredients) keep in my that these will buildup in your hair and make it "too heavy." The quat-conditioners are intended to be stripped out with SLeS or SLS types of surfactant/shampoo, which my shampoos don't have. For example, it will take about 5 successive shampoos (my shampoos) to remove most of the quat-conditioners. And because of this, you should apply a quat-conditioner before you shampoo with my product. All keratin-conditioners are in fact merely quat-conditioners.

A much better alternative to quat-conditioners is to apply about 2-3ml of my AquàVive Hyaluronic Hair and Scalp Conditioner **after** showering (or **between** shampoos), which provides a light conditioner and hair de-tangler, and it includes the same active ingredients as the shampoo, for all-day effectiveness against *malassezia* and *demodex* – plus, it makes hair soft and slightly shiny, for an attractive appearance.

Treatment Outcomes

At first, some parts of your skin may appear to turn a red, purple or magenta, which results from your body recognizing that there are fungal foreigners, to which the body's first healing reaction will be inflammation, which is normal. **Do not be dismayed by patches of skin redness** – your body is healing, although it may take months to become normal.

During the course of this treatment your skin will begin to flake off in small white flakes or in larger white plaques up to 1/4 of an inch. You may ultimately flake off a large portion of the superficial outer layer of your skin, because the fungal keratin plaque is composed mostly of proteins present in your own skin. Most of the fungal skin plaques are stiff and less flexible than normal skin, and so the skin may crack and bleed around the plaques. The skin that rubs off may

be papery white or surprisingly brown, dark grey or even black, apparently from years of environmental dust being incorporated into the thickened keratin-layer on the skin.

If you have a flu-like symptoms or slight fever for no apparent reason, it may be a Herxheimer Reaction to the byproducts of the fungus dying off in large numbers. Do not scratch the sores – gently rub off the dead skin. All of the foregoing should occur with progressively less itchiness. However, the condition is seasonal – when the weather becomes colder, the sebum glands appear to produce a different quality of oil and then the itching and red patches flare up, apparently because the body in a cooler temperature is able to recognize the fungal colonies that were dormant, hiding from the body’s immune response during warm weather. See, cmr.asm.org/content/25/1/106.full

Shelf Life

The recommended shelf life is less than the longest possible shelf life, and the products are recommended to be kept in the dark. AquàVive and AquàTone products have a recommended shelf life of 1 year, and a maximum shelf life of 3 years. However, the assumption is that your house is maintained at “room temperature,” or about 75 degrees Fahrenheit – so if you turn off your air conditioning in the summer, when you’re at work or on vacation, your house will of course heat up significantly, so then you should store all your cosmetic products (not only mine) in the refrigerator. All my products can be frozen indefinitely and therefore can easily be mailed in the winter to Canada or Scandinavia.

Products that contain Vitamin A, the scalp conditioner, lotions, and shampoos, are designed to be kept in the dark because light, and especially sunlight, will cause the Vitamin A to oxidize and become useless. Oxidation doesn’t result in anything harmful, but the product will not contain Vitamin A after about 6 months, if not kept in the dark. The sunscreen doesn’t contain Vitamin A, which is a mild retinol, which is inappropriate for use in strong sunlight. Accordingly, you don’t need to keep the sunscreen in the dark.

The shampoos contain methylene blue because it oxidizes at the same rate as Vitamin A, and the natural, pale, yellow color of the surfactants becomes apparent. This will occur in about 30 days if the shampoos are left unclosed **and** in the light. As methylene blue and Vitamin A have useful anti-aging qualities for the skin, the cap should be kept closed, and the bottle in a dark cabinet or drawer.

Vitamin A and methylene blue, even when kept in the dark, will oxidize and become useless, but harmless, in about 36 months, even when kept in the dark between uses – therefore all my products should be used in 36 months for optimum effectiveness.

Some more Information about these products

Climbazole lotion is in my opinion ten times more effective than any ketoconazole lotion. At this time, climbazole-based skin lotions are not sold anywhere else in the world – a few shampoos are. My reason for compounding a climbazole skin lotion is that a shampoo when used as a body wash doesn’t remain on the skin long enough to constitute an effective delivery system. Hair acts like a textile and absorbs part of any shampoo applied to it, but body washes are not absorbed by the skin as much as a lotion.

Also consider that using lotions that contain typical oils and lanolin is like throwing gasoline on a fire if you are already suffering from *malassezia* skin reactions. *Malassezia* is an unusual fungus – it’s lipid dependent (requires oil to survive).

Please keep in mind that I’m not a health care professional but felt compelled to investigate because there is too much marketing of ineffective products. None of my statements are approved by the FDA. Please see a doctor – but of course, you wouldn’t have read this far if your physician had already prescribed something useful.

The climbazole-concentration of 0.06% in my “-Vive” products is optimal and within EU cosmetic regulations, which evaluated the use of 2% rinse-off products and 0.5% leave-on face, foot, and scalp lotions. Please note that 0.06% is designed for up-to full body use, so if you’re using these climbazole products only on your face and scalp, the result is a safety ratio substantially greater than the EU’s minimum Margin of Safety. https://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_120.pdf. It’s likely to be FDA-acceptable to make a cosmetic product with 0.06% climbazole because from a regulatory point of view, it’s merely a preservative-level. No one in the US has ever done clinical trials on climbazole. Therefore, a US doctor or pharmacist cannot and will not prescribe or compound a lotion or shampoo similar to my products, because there is no “USP” climbazole.

A tiny amount of climbazole provides a very effective treatment – however, I also sell an otherwise identical non-climbazole lotion similar to CeraVe PM lotion (but without the parabens, and much “richer” and silkier), which you can also buy after you have vanquished your allergic reaction to *malassezia*, to ensure that the allergic reaction does not return – Vitamin D is particularly useful to prevent reoccurrences.

My products are tested on me, not animals. That being said, everyone should recognize that no two people are exactly alike, and even with carefully selected and tested ingredients some individuals may have previously become sensitized to one or more ingredients and thereby already have a rare allergic reaction. If in your experience, your face can tolerate “water only,” then you’re not a candidate for my products, or any other topical cosmetics. Sorry to say.

As with any cosmetic, discontinue use if you experience discomfort or other indications that the product is not appropriate for your individual body chemistry. Also keep in mind that **many** skin conditions are itchy and have raised red bumps – my products treat against *malassezia* and *demodex*, whereas many other skin conditions produce similar signs and symptoms. And if you are using an antibiotic, for example, to control acne, you may experience more *malassezia*-problems as a result.

<https://jamanetwork.com/journals/jamapediatrics/fullarticle/485898> ;
<https://pdfs.semanticscholar.org/26e3/6c0472c471653e965be7283064d846788745.pdf> .

LIMITED WARRANTY – PLEASE READ CAREFULLY

The information contained herein is offered in good faith based on my experience and research and is believed to be accurate. However, because conditions and methods of use of my products are beyond my control, this information shall not be used in substitution for actual use to determine whether my products are fully satisfactory for your specific problem. My warranty

is that the product will meet the ingredient-label. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

Fungal Skin Problems that Appear Red, Circular and Thickened

If you have slightly thick or hard, circular, red, slightly grainy spots, with well-defined edges, or folliculitis, and never-ending hive like itching, use my antifungal shampoo. Afterward, do not apply any oil-based lotions, as the fungus causing the circular sores is *malassezia*, which is lipid dependent – it grows only by metabolizing oils with carbon chain lengths of 12 to 24. My lotions will not feed *malassezia* because my products contain oils that have carbon chain lengths of 8, 10, 26, and 30.

Seb derm has typical locations including the nose, cheeks, forehead, and hairline, which are used to diagnose seb derm. However, the condition can occur all over the body.

My products are designed to treat skin problems caused by an allergic reaction to *malassezia*, a type of fungus, and *demodex*, a type of arachnid. All mammals, including humans obviously, have resident populations of *malassezia* and *demodex*, but only some individuals have an allergic reaction to them. There is no laboratory test for these allergic reactions. Using effective antifungal or anti-demodectic products is the only diagnostic test.

The medical terms are typically folliculitis, seborrheic dermatitis or seborrheic hyperplasia. Please note that seborrheic hyperplasia is a different and extraordinarily difficult to treat condition, because the problem is embedded deeply in each sebaceous gland. Vitamin D should uncap the sebaceous glands, but I'm speculating here because I don't have seborrheic hyperplasia.

If you instead have psoriasis, which involves much larger, thicker, white or grayish irregular scaly patches (instead of red circular patches), primarily at your elbows or joints, an antifungal or anti-demodectic will not be effective. However, if you have atopic dermatitis, which involves solid reddened papules (small eruptions resembling pimples) and vesicles (small blister-like elevations on the skin that contain tissue fluid) your itch and scratch cycle may have additional causative factors and antifungal and anti-demodectic treatment may not be completely effective but could be helpful.

Demodex related Conditions such as Rosacea and Meibomian Gland Dysfunction

Like *malassezia*, *demodex* are found on all mammals, but only some individuals develop an allergic reaction. Unlike *malassezia*, *demodex* is an arachnid – a spider that lives inside the sebaceous glands, but the males move around on the surface of the skin at night to find a suitable mate, where they can be eliminated by piroctone olamine.

The meibomian glands supply a layer of oil to the surface of the eyes and are the richest oil-producing sebaceous glands found anywhere on the body and are a site where *demodex* thrive. *Demodex* have a lifespan of approximately 23 days, and have no excretory opening on their body, so when they die, the resulting debris and bacteria clog the meibomian glands, resulting in dry red eyes. *Malassezia* and *demodex* compete for similar resources, and *malassezia* produce azelaic acid, which tends to suppress *demodex*. Therefore, while using effective an anti-*malassezia* product, it is useful to add an anti-demodectic ingredient such as piroctone olamine. More information concerning *demodex* is available in my US patent application, which can be found by googling my full name, Thomas Lynn Busby.

Over the Counter Anti-Fungal Shampoo Treatments for *Malassezia*

If you'd like to try alternative products, you can try the following products, all of which are less effective than my products – they don't contain the most effective anti-fungals, and none of them treat the root-problem of excess keratin.

Heger 150 shampoo (1.5% climbazole) is made in France and was available in the US on eBay and was shipped from Bulgaria but appears to have been discontinued. A new climbazole shampoo from Alderma, Bioderma Sensibio DS Gel, is available on Amazon and ships from Portugal. Another new shampoo containing 0.5% piroctone olamine and 0.45% climbazole is made by Eucerin and is called DermoCapillaire Antidandruff Gel Shampoo. However, all of these shampoos have “harsh” surfactants, related to sodium lauryl sulfate, which irritate the skin and increase TEWL.

In the US, you can buy Nizoral (1.0% ketoconazole) shampoo from any brick and mortar drug store. Nizoral was approved in 1995 and is effective on *malassezia*, but in my experience is so very much less effective than a shampoo with climbazole. Both climbazole and ketoconazole work by slowly dissolving fungal cell walls. See, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3100109/>; adc.mef.hr/index.php/adc/article/download/887/588; www.ncbi.nlm.nih.gov/pubmed/18492152.

A third alternative, 1.0% butenafine hydrochloride (Lotrimin Ultra) also has been reported as effective on *malassezia* but is an off-label use. Even so, in 2012 the FDA issued a Guidance calling for clinical trials of this drug on *malassezia*, so a positive outcome seems likely. No such trials have been done.

A fourth alternative is Selsun Blue (1.0% Selenium Sulphide) shampoo, which is sold by all drug stores. Selsun Blue is an out-of-date product that activates some of the body's natural defenses against *malassezia*, but it does not dissolve the fungal cell walls, which is why other shampoos are recommended. However, the most useful aspect of Selsun Blue is that it is effective **only** against *malassezia* and can thereby provide a quick, easy to purchase, differential diagnosis. Use it daily for 3 or 4 days, stand in bright sunlight and scratch your scalp. If you see a small cloud of white flakes, you have an abundant skin-reaction to *malassezia*. Alternatively, after using any of these shampoos daily for 3 to 4 days, if your skin turns red in blotches, and flakes off slowly, you have an accurate diagnosis of numerous *malassezia* colonies on your skin. Please do at least one of these diagnostic test before you buy my products from me.

A fifth and very much last place alternative is Head and Shoulders, a heavily promoted 1950's shampoo that contains 1% or 2% zinc pyrithione, which is absolutely **not** an effective antifungal treatment for oily dandruff or for *malassezia* skin conditions. Zinc pyrithione might be an anti-histamine, but its super-effective marketing campaign is the only reason anyone would buy it.

Also consider applying Hibiclens (4% Chlorhexidine Gluconate) occasionally, as fungi are capable of working with other microbes to create symbiotic biofilms but be careful to keep Hibiclens away from your nostrils, eyes, and ears as permanent deafness can result. Full body application is an off-label use of Hibiclens.

Salicylic acid is a terrible ingredient in shampoos because it makes hair straw like. Do not use any topical salicylic acid product if you have dark skin, as it can cause dark skin spots from a concentration of melanin. See, http://neurolex.org/wiki/Category:Salicylic_acid#tab=Basic

Oral antibiotics can cause *malassezia* conditions to become much worse. See, <http://www.facingacne.com/killing-germs-wrong/>; <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3162261/>;

<http://www.scirp.org/journal/PaperDo...?paperID=26149> ;
<http://archpedi.jamanetwork.com/data/Journals/PEDS/12008/POA30545.pdf>

Many doctors are poorly informed about *malassezia* because it is difficult to culture and study, and the human body has numerous micro biota. However, DNA genome sequencing on *malassezia* began in 1995 and was accurately concluded in 2005. Much medical research has been published in the last ten years and new perspectives on *malassezia* have become widely distributed.

If you have skin irregularities that are not responsive to ketoconazole or climbazole, try Lotrimin AF (1.0% Clotrimazole) to see if your skin responds, although this is an off-label use. See, <http://journals.usamvcluj.ro/index.php/veterinary/article/view/3950> . Clotrimazole up to a 10% concentration is authorized by the FDA for vaginal use against *candida*, so it is presumably safe to use anywhere on your skin. Some Canadians report that prescription Stieprox shampoo (ciclopirox olamine 1.5%) is effective but it isn't sold in the US and the manufacturer's Product Monograph shows that ketoconazole shampoo is more effective. See, www.stiefel.ca/pdf/stieprox_shampoo_pm.pdf; at page 10 of Steifel's Monograph. Likewise, a very small number of people report that Nystatin is effective, but it is intended to be used for the treatment of cutaneous candidiasis, and is unlikely to be effective for seb derm induced by an allergic reaction to malassezia.

Corticosteroid lotions in theory will reduce itching but will cause skin atrophy when used for long periods of time and are always formulated with oils that will feed *malassezia*. Plus, the histamine rebound after ceasing its use makes itching much worse. While intense itching is one of the most incredibly irritating symptoms of a *malassezia* skin condition, in my opinion no one should ever treat it with a topical corticosteroid. See, cornetis.pl/pliki/DK/2004/1/DK_2004_1_7.pdf

Alternatives Taken Internally

Ketoconazole 200mg tablets were once considered effective against *malassezia* but as of August 2013, are no longer allowed by the FDA or in the EU because of liver impairment. See, <http://www.fda.gov/downloads/Drugs/DrugSafety/UCM362592.pdf> Itraconazole tablets can be taken but only under doctor-supervision, due the necessity to check for liver damage while using itraconazole. Fluconazole tablets (*aka* Diflucan) are not effective against *malassezia*. See, www.ncbi.nlm.nih.gov/pubmed/17645378

Malassezia in Nature

Malassezia is the only member of the Mycota kingdom that is able to metabolize oils. All *malassezia* subspecies that colonize people are lipid dependent, and as such, will not grow in culture media unless oil is added. (*Malssezia pachydermatis* is lipophilic rather than lipid dependent but is thought to cause dermatitis only in dogs and mammals other than humans.) *Malassezia's* dimorphic nature, existing as both yeast cells (budding bottle-shaped cells) and a much larger hyphae form can be seen under a microscope at 100x.

Malassezia prefers skin that is rich in secreted oils, such as the scalp, face, lips, chest, and the back. *Malassezia* is normally present on everyone's skin, that is, it's commensal. The reaction that some people have to *malassezia* is not completely understood by medical science, but it seems the fungus co-opts the host's immune reactions so that the host's skin does not recognize the fungus as an invader, which allows the fungus to create a plaque of keratin to further shield itself inside the skin. In much simpler terms, it's a skin allergy. Some researchers

call it a “shag carpet of proteins and sugars” in which fungus grows without being detected. *Malassezia* also interferes with the body’s immune system by modifying various interleukins, in order to trick the body to not recognize the fungus as a foreign object, an aspect of medical research that holds promise for the future.

All mammals – dogs, cats, rhinoceroses, and even sea lions to name a few of the documented cases over the last hundred years – can potentially suffer from an inflammatory skin reaction to *malassezia*. However, just like people, most of the individual members of any particular mammal species do not suffer an inflammatory skin reaction to *malassezia*, so the problem of skin flare ups continues to puzzle researchers. That other mammals in widely varied environments likewise react to *malassezia* tends to refute beliefs that diet or modern environmental toxins are at fault for the inflammatory reaction that some humans experience.

The condition is far too complicated to explain to people who ask, “What is that spot on your face?” In the past I simply said, “I have a genetic condition where my skin produces an excess of keratin.” This moves the conversation along and appears to satisfy the inquiry.

Finally, the condition is infectious to the host but not contagious to other humans or mammals, except for premature babies, persons with HIV/AIDS, or using catheters on dialysis, or with suppressed immune systems.

USPS Priority Mail Costs, as of Jan. 28, 2020

US Priority mail (to a mailbox in the US)

Small Flat Rate box = \$8.30

Medium Flat Rate box = \$15.05

Canada, Small Flat Rate Box = \$27.90

Medium Flat Rate Box = \$51.55

Rest of the World (not US or Canada) Priority Flat Rate prices are \$38.60 for a small box and \$75.35 for a medium box. In essence AUS and NZ receive a discount on mailing costs.

USPS Priority Mail International service is **not** available to: Ascension, Bolivia, Falkland Islands, North Korea, & Somalia.

When you pay for Priority Mail, it comes with a tracking number, so I can guarantee delivery to your mailbox. I usually mail on Thursday. Free samples are **not** available. A sample-size of 10 or 15 grams wouldn’t be enough to make a difference, because with topical treatments you have to use them for 10 days, at least, to verify they’re working, and besides, your age in decades times 2 is the number of months to get to where other people wouldn’t notice anything amiss with a casual look.

Scandinavian countries have extremely high VAT (customs fees and taxes) that include the cost of postage in calculating the VAT. For example, to mail three 9 ounce bottles and one 4 ounce bottle, with a weight of just under 48 ounces, costs \$37.50 to Norway via 1st Class International USPS mail. If you like, I can mail via 1st Class International. The customer is always responsible for paying any such VAT, but I’ll work with you to accommodate your order to reduce VAT. Send me an email before ordering under this option.

Keep in mind that 1st Class International mail doesn’t have a tracking number, so I can’t guarantee the post office will deliver your 1st Class package. Priority Mail has my shipping guarantee because it includes a tracking number.