**Using Preservatives to Extend the Shelf Life of Your Products**

The preservatives do extend the longevity of the products and help keep them free from bacteria, there are considerations that need to be kept in mind when utilizing preservatives to protect naturally derived products.

Most natural substances are not active against the most threatening microbes, *pseudomonads*. Others, such as essential oils, require unsuitably high concentrations to be effective. Some have offensive odors or colors that would be unacceptable. So a natural preservative is not really an option.

**Preservative-Free Formulations**

Spa settings are one of the most ideal settings for the use of preservative-free products because formulations can be made immediately prior to use. Formulating anhydrous products is another way to potentially eliminate or reduce the need for chemical antimicrobial preservatives.

Bar soaps typically do not require an antimicrobial but stay fresher when an antioxidant is used. You do have natural antioxidants available to you for this purpose.

Direct sunlight and UV rays, oxygen, heat, moisture and bacteria from your fingers can all be detrimental to your products. Below are several tips for protecting and preserving your preservative free formulations:

* Be sure your hands, work surface, and utensils are clean/sterile when preparing your products. This will help ensure that you do not introduce bacteria or contaminate your batch. Commercial skin care production is undertaken in extremely clean and sterile environments for this same reason.
* Store your products in dark containers or opaque packaging to keep them away from the harmful effects of sunlight.
* Ensure that your packaging is airtight. Natural products can oxidize and go rancid when exposed to air.
* Heat can also be damaging to natural products. Store products in a cupboard or other cool place.

**When You Have to Have an Antimicrobial Preservative**

If you are formulating something that contains water, milk, hydrosols or other aqueous liquids, you will have to preserve the product or use it within 1-2 days refrigerated. Water provides a medium for harmful bacteria, mold, yeast and fungi to grow over time. If used, a contaminated product could cause severe health problems, blindness and even death.

Grapefruit seed extract or citricidals are another class of antimicrobials that are considered by some to be more natural than the parabens. Choose your citricidal preservative carefully as some of them have questionable ingredients. A good quality citrus seed extract should not contain additional preservatives.

Paraben based preservatives include Germaben, Germaben II, Phenonip, Methyparaben and other types such as Germall and LiquaPar Oil.

**Antioxidants**

An anti-oxidant is a preservative that reduces the rate of oxidation in oils that oxidize quickly. Oxidation is a chemical process that occurs when oils or other natural ingredients are exposed to oxygen. Anti-oxidants extend the shelf life of your products by reducing the rate of oxidation of your oils.

**T-50 Vitamin E Oil**

Vitamin E contains natural antioxidants which extend the life of your products. Gamma tocopherol, a component of Vitamin E, is a great antioxidant for protecting cosmetic formulations. T-50 has a larger amount of gamma tocopherols than other forms of Vitamin E oil.

While the alpha tocopherol in the 250, 1000, and 1400IU/g oils is wonderful as an in vitro antioxidant, studies show that the gamma tocopherol in the Vitamin E T-50 oil is a better antioxidant for oils/lipids in cosmetic formulations.

T-50 has a higher content of gamma tocopherols. As a general guideline, it can be used at a rate of .04% or 400ppm to help extend the shelf life of your product. Recommended usage levels are meant only as a guide. All new formulations should be challenge tested to ensure that your preservative is working properly.

**Rosemary Oil Extract**

Rosemary oil extract (ROE) also acts as a natural antioxidant. ROE can impart its own aroma into your products, so keep that in mind when using it. As a preservative, .15 to .5% is offered as a general guideline.

**Anti-Microbials**

An anti-microbial is an ingredient or substance that helps to destroy unwanted micro-organisms such as bacteria. In the context of handmade skin care products, an anti-microbial helps preserve a product by keeping the product free of these unwanted micro-organisms.

**Grapefruit Seed Extract**

Grapefruit Seed Extract (GSE) is a citrus seed based anti-microbial used as a preservative in skin care products. GSE is made with the extracts of citrus seeds and pulp. It is blended with vegetable glycerin to make it non-irritating to the skin and mucous membranes when used in formulations. GSE is even safe enough to use as a disinfectant for drinking water when necessary.

**Germaben II**

Germaben II is a convenient, ready-to-use broad spectrum anti-microbial preservative for personal care products such as shampoos, conditioners, lotions, creams, body sprays and other formulations. It is highly effective against gram positive and gram negative bacteria, yeasts and molds and does not need any additional preservatives.

**LiquaPar Oil**

LiquaPar Oil is a clear, liquid blend of isopropyl, isobutyl and n-butyl esters of para hydroxybenzoic acid. It is a very stable and effective preservative against gram positive and gram negative bacteria, yeast and mold. LiquaPar Oil is readily incorporated into various types of formulations, including anhydrous products, without heating.

It is a good choice for salt scrubs and bath oils where no water is present but may be inadvertently introduced to the container during regular use.