



## *Aromatherapy and Hydrosols - Phytotherapy for skin and soul*

Hydrosols and aromatherapy belong together. If you use essential oils, then they are part of distillation. The second part are hydrosols.

We use them for many purposes: sometimes I like to use essential oils, but on the other side often it's better to use hydrosols. Why - this is the content of my talk today.

But first of all, talking about hydrosols, we have to spend a look on the medium **water**.

So, let's talk a little bit about water.

- Water means life!
- Water will not stand still.
- It is always off to somewhere else.
- It is restless, communicative and it is impossible to talk about hydrosols and distillation without talking about water!

We know, that approximately **more than 90 percent of water is salty and in our oceans**.

That means we have only **resources of 10 percent fresh water** for usage, but 90 percent of these less 10 percent are frozen in glaciers or in the deep ground, unavailable for us.

**Water is life.** And in our body, we have more than 70 percent water, and in the greatest part of this water will be found in **saliva, lymph and blood**.

Without water most living things will quickly die!

Water always has been used for health and people used water against fever, allergies, migraine, to ease cold and pain and swelling.

It was the - mostly only - cure for centuries. It was used as hot water, cold water or steam, depending on the condition.

So, we can say, that hydrotherapy is perhaps the oldest remedy of the world. And, of course, hydrosols follow the way of the water cure and are helpful at many diseases.

### **History of the stills**



We know, that the first stills were built in ancient times. Stills were used in **China** and **Pakistan** more than 4000 years ago! **The eldest still** we know actually was found in the north of Pakistan in **Mohenjo-Daro** (that's at the banks of the river Indus), was built 2300 before Christ. In these times, just only 1000 years later, the old Greek people tried to distil by using pots with water and cooking the plants, catching the essential oil with some wool (so we can learn at Dioskurides).

The way of the knowledge of distillation here in **Europe** was a long one, too - as I know the eldest still found in **Cyprus** was made of pottery in 1850 before Christ. It was a pot with some kind of helmet on to catch the essential oil and the hydrosol.

In the next thousand years the **Arabians**, especially in Alexandria, constructed the first **Alambique-stills** made of pottery, but they had some glass-stills, too. And they distilled especially rose water.

In the **middle age** people, all over Europe, tried to distil plants and more. The first books to this theme appeared. And one of the eldest books I found was written by **Hieronymus Brunschwig in the 15th century**.

Many books have been written in these years. In some of them you will find very curious hydrosols, such as one of horse excrements or those of chicken's excrements.

Often there was a woman who had the job to distil. They were called "**Wasserprennerinnen**". This was a free profession and they used to create the so called "*aqua vitae*" and "*aqua mirabilis*".

**In the 18th century** it was important for the rich people to smell good. This was the start for the **great perfumers** in France and in Italy. The essential oils got more important, but nevertheless the hydrosols stayed alive.

People were still using them for health purposes.

But then, the hydrosols lost their meaning on the beginning of the modern age, when the pharma industries started with creating their medicines.

**Since the 1970's** aromatherapy got more and more important for us and we came back to natural essential oils. And some years later the hydrosols came up again und we started using them, such as the hydrosol of Lavender and of Rose, more and more then Sandal wood, Peppermint and Neroli.



I am using the **Leonardo-still** to produce my private hydrosols. This still works efficient and is big enough for private use. We heard today often about distillation, so that I won't tell you about it again. If you have any questions to ask me, so do not hesitate to do this.

### **So, let us have a look now at what's important for storage and shelf-life of our hydrosols.**

We should store them at a **mean temperature of 15-17° C** in dark bottles. You may say, that there is a good place in the refrigerator. This might be correct, but as there is some food also inside, this idea is not so good - the hydrosol might get blooming and losing its quality because of the bacteria living in your refrigerator.

Let me show you a little example:

If you drink half a bottle of mineral water and then leave it in the car for two or three weeks - do you want to drink it again? No, you won't!

If you - on the other side - treat your hydrosols with respect and store them right, they will stay fresh mostly up to two years or more from the day of distillation on. And this storage does not need a refrigerator, you need only a cellar or a cool place in your home...

Your hydrosols have a **shelf-life** like any other natural product. Especially those without added preservatives. This shelf-life is not everlasting! I mean, please have a look at your hand-made cosmetic products. How long do you think they will last?

But therefore, a hydrosol which was preserved with alcohol or other chemicals will not be a natural product any more, which you can use fearless.

I for myself, am using only hydrosols without such preservatives.

In my eyes, the preserved hydrosols are helpful to create cosmetics, but not even for clinical use.

### **Water oil**

Due to the fact, that hydrosols include some parts of the essential oil, which cannot be completely be extracted, they have the benefit of these in the way of the so-called water oil. By the way: this water oil is even **not more than 0,3 - 3%** of the hydrosol.



## **Shelf-life**

Looking at the shelf-life of our hydrosols we have to mention, that sometimes the **pH-value increases too high**. What does that mean?

When starting to use hydrosols for my school, I talked about with my sister, who is a chemist, and my husband, a technician. Both meant, that this fact of pH-value is very important for using the hydrosol in a safe way.

Later on, I read in the book of Suzanne Catty that she also tested the pH-value of each hydrosol she got, and also does Jeanne Rose, the doyenne of essential oil art.

**We know, that distilled water has a pH-value 7.** But what happens, if we use plants for distillation? In plants we find some substances, which water never owns. This shows a comparison to herbal tea. But hydrosols are no distilled water or herbal tea - they gain their own pH-value. This is very interesting!

I learned at my experiments, that all hydrosols I tested had pH-values in the **acid range**, and every tested product had others!

**Testing** is very easy: you might use the stripes, you get for sanitary use, but also can use a digital pH-meter. So, did we, my husband used the digital and I used the stripes, when we made our experiments for my book about hydrosols. A little remark besides: you have to calibrate the digi-pH-meter after maximum 10 times of usage!

If the pH-value is higher than 7, you can't use the hydrosol any more for clinical use, skin care or air spray. I think, you might use it to create a soap, because therefore the pH-value is allowed to be over 7.

**Normally the pH-value for hydrosols is between 3.0 and 6.5.** Sometimes it's a little bit higher, up to 7. That's ok, if you use the hydrosol as soon as possible. The pH-value can change at storage! Please always have a look at this fact!

**Very interesting is a short look at the pH-value of some substances you all will know:**

- our tears have a pH-value of 7.2
- our saliva usual 6.5
- vinegar you will find with 2.6
- and ethyl alcohol at 6.9



If the pH-values of your products are not the same as mine, written in my book: don't hesitate! This might depend on the place, where your plants have grown, your kind of still, or some other circumstances.

If we have one look at the **essential oils**, we may find, that they **are acid depending, too**. Their pH-range is at approximately 5.0 to 6.0 pH, as studies are telling. We resume, that their antibacterial properties might belong to that fact, because the growth of bacteria is inhibited by an acid environment. And now look at the hydrosols with their pH-value! Is it possible, that they can be of importance for even the same purpose? I think, that this is so.

The next thing is **blooming of hydrosols**. This might happen, if the storage is not exactly as it should be. Or, on the other hand, if there are some spores in the bottle, because it has not been sterilized - good enough - before usage. Or, maybe, there was contamination at the still, or when there was condensation inside the bottle (this could happen, if you distil too hot!). This blooming you can see if it appears. But that doesn't mean, that the smell of the hydrosol must change! Don't use blooming hydrosols, please!

Sometimes it happens, that your still is not really clean enough. If you distil two times in short distance on the same day with the same still, it might occur that your still will be cleaned disorderly and there are some pieces of the first plant you've been distilling inside. Then it could happen like this when distilling the next plant: you will find some essential oil of the first one mixed up with the second one.

In this bottle, I show to you now, is a really mixture in: it happened because of the still was not clean before the second distillation was made: first *Achillea millefolium* (Yarrow) had been distilled. Then the still should have been cleaned, and then the second one - *Mentha piperita* (Peppermint) came into the still.

The effect is a very bad one: You will smell the peppermint, but see the rest of the yarrow. And all together is contaminated badly! This happened last month at a distillation class in my garden, when the participants themselves cleaned the still too quick.

So please always remember to clean your still perfect after using it! Do it the best way you know! Otherwise you will get a hydrosol of bad quality or - like this I show you - one which is disturbed!



**Sometimes you cannot see anything bad** in your bottle, the hydrosol looks clear after some time of storage, just as before, when it was freshly distilled. But it might be contaminated, too! **Remake your pH-value-test from time to time.**

If your new pH-value changed more than 1.0 pH from the first one at distillation, we can imagine, that there are bacteria inside. These hydrosols you should never use for therapeutic reasons! But you might use them for creating soaps...

How often do you have to make your tests? I think, they should be undertaken at least every two or three months, if you only use them for your own. If you sell your hydrosols, you have to test them more frequently and very carefully!

Some words to **filtration** for particular matters. Filtration should be made, if you do not want to have small plant particles in your hydrosol, which could carry some bacteria and so contaminate it. This will be necessary, if you want to use your hydrosol e.g. for clearing your eyes or take it into your mouth... For this purpose, you need a **ceramic filter**, because only these ones are fine enough.

**The ingredients of essential oils and hydrosols are not the same.** Always remember: **in your hydrosol**, you may find all the **hydrophilic** ones and some parts of the essential oil, called water oil, which will be in the hydrosol for more or less 0,3 - max. 3%, not even more. The hydrophilic parts should not be heavier than **250 g/mol**, because only this weight can be transported with the steam.

We will find some tannins, glucosinolates, alcohols, terpenes, ketones, esters, oxides, but if you distil some toxic plants, their alkaloids could be in there, too. **In the essential oil**, you may find only the **lipophilic** ones.

## Plants

The following overviews show the ingredients for **peppermint** (*mentha piperita*), **rosemary CT 1,8-cineol**, **Bulgarian rose**, and **lavender** (*lavandula angustifolia*), comparing the essential oil with the hydrosol. Let us have a look at them.



First, we look at the sheet of **peppermint essential oil and hydrosol**. The essential oil of peppermint is to be used very carefully, I think you know. When looking at the ingredients we find up to 25% of Monoterpenketon, which is too much for some kind of people we call the "risk group", such as babies, little infants, old people and pregnant women.

On the other side, we can see the ingredients of the hydrosol, and that we can find Monoterpenketon, too. But never forget, that the water oil part is so small! In the peppermint oil, we will find only up to 0,5 % of essential water oil! Therefore, the peppermint hydrosol is helpful for nearly everyone! Peppermint hydrosol is very good for cooling purposes. Use it as a spray, as body splash, for compresses and gels. We will meet it in the second part of my todays discourse.

The second comparison is that of **rosemary essential oil with rosemary hydrosol**.

The lipophilic part of the rosemary hydrosol will also be only up to 0,5% of water oil. You may use this hydrosol for body splash, for your hair care, for cosmetics and for cleaning up the air of your room. Use it, if you caught a cold, or if you have pain in your muscles or joints.

Our next plant is a good known one. I will talk a little bit about my favourite, the **Rosa damascene**.

You all know the smell of the Bulgarian rose, I think. The essential oil is one of the loveliest ones and I like it very much for using in cosmetics. But if you want to use it for health care, the essential oil does not be the favourite! In this case it is better to use the rose hydrosol! You may use it nearly for every purpose you want! Use it for babies, for children, for women, even for men.

You can make some spray, body splash, cooling you tired eyes, help your skin to get healthy again and use it for aromatic teas and cooking. We will have a lot of recipes in the second part. Stay tuned!

The last one I will show you as a special plant is **Lavandula angustifolia**.

Lavender can be used as helpful essential oil for many diseases. But also, the lavender hydrosol. Let's have a look at the facts:

I find it astonishing, that there is some Monoterpenketon in the hydrosols water oil, when there is none in the essential oil in this volume! Lavender hydrosol is one, where we will find up to 3% water oil. No other hydrosol will contain more than this.



But knowing lavender hydrosol you will find out, that it is very softly to the skin and helpful in many ways. I use it especially for kids and for room sprays. In times of illness and disease people will love the soft smell and its calming down. And, of course, we will find it in our cosmetics, too.

Now, that we know a little bit more about our hydrosols, we can say, that they are useful for different belongings. They are perfect for babies, elder people and of course all of us, in private or clinical belongings.

But we have to make differences!

For some purposes, the essential oil will be necessary, but for others we better use the hydrosol. Let us have a look at some examples:

Knowing, that hydrosols are mild and effective, we can use them for a wide range of applications.

### **In the following part I will give you some information how to use hydrosols and essential oils as well as some recipes.**

Using a hydrosol for a **compress** you have to dilute up to **five tablespoons** in approximately one litre of water, hot, warm or cold. Take the right temperature for your kind of use.

For **little children** please take only up to **three spoonful**.

But notice, that you have to cool down or heat up **only the water, not the mixed** hydrosol-water! Please, **never use a microwave** oven to heat it up!

Then **soak a clean cloth** in this mix and apply it to the area, which you want to heal. Hold on until the cloth changes temperature - if you used cold water, it will turn to warm, if you used hot water, hold until it turns cold.

**Compresses** can help in many diseases.

- For **muscle aches**, I will use for example, the hydrosols of *Abies alba* or *Thymus serpyllum*
- for **strains**, it will be useful to take the *Helichrysum italicum* hydrosol for a compress
- for **infected wounds**, *Cistus ladaniferus*
- against **Herpes simplex** there is *Melissa officinalis* the hydrosol of my choice (a few drops of hydrosols on a cleansing pad, press on your lips)
- for **tired eyes**, I prefer the Rose hydrosol



- against **headaches**: 20 ml hydrosol of *Melissa officinalis*, in combination with 3 drops Lemon essential oil, 1 drop of Melissa essential oil

In clinical behaviour, the **Rose hydrolate** is the best choice for eyelid purposes, but also for baby's health care, as well as wounds. Make your compresses also for your wellness! And, it smells wonderful!

A **mini-bath** can help especially, to ease **haemorrhoids**, **cystitis** or **vaginal infections**.

Take a small basin, fill in the appropriate-temperature water and dilute **100 ml of hydrosol**.

The following hydrosols may help:

- **haemorrhoids** can be calmed with *Cistus ladaniferus* or *Hamamelis virginiana*, as well as with *Matricaria recutita* or *Cupressus sempervirens*
- **cystitis**: you might use the hydrosols of *Santalum album*, *Thymus vulgaris*, or *Cedrus atlantica*, otherwise there is the possibility to combine the preferred hydrosol with the essential oil of *bergamot* and put it into your mini-bath.
- **vaginal infections**: *Santalum album* may help with your mini-bath.

### Bath with hydrosols

- For the baby's bath add only one teaspoon of hydrosol to the infant-size tub of water.
- For children above this age take one teaspoon of hydrosol for every year of age, maximum eight teaspoons full.
- Adult bath requires more for a normal bath tub. You will need up to 100 ml.

For babies, you may use the following hydrosols:

- Lavender
- Rose
- Neroli

And if the bath is for your wellness you might use one hydrosol of your choice!



## **Baby's choice - these recipes will be loved by your children up to 10, for sure!**

### **Vampire Spray**

- You need 5 ml Vodka - because Vampires do not like Vodka, so the children in our family told me.
- Put in 4 - 5 drops of Lavender oil. Vampires hate that!
- And at last put in Lavender hydrosol.
- All together into a 100-ml spray bottle.

The children call this "Anti-vampire-spray" and use it every evening before they go to bed. No vampire will disturb their sleep!

You will find some more recipes in your recipe-booklet!

### **Sweet dreams for the little ones**

Use a **cosmetic tissue** and put some **rose** hydrosol on it. Then hang it up over the baby's bed. Little ones up to 3 months do not need more to feel fine!

### **Natural cosmetic products**

#### **Cleaning your face**

First of all: you might use your special favourite hydrolate to clean up your face, without any doubt. It can be used like water. But of course, if you might buy it, it will be better only to add some 10 ml of hydrosol to your cleaning water.

You can use *Rose* water every time. But there are several others to use, also!

- *Plantago major* (Plantain)
- *Bellis perennis* (Daisy)
- *Hamamelis virginiana* (witch hazel)
- *Ribes nigrum* (black currant)
- *Centaurea cyanus* (cornflower)
- and many, many other hydrosols

Cleaning your skin can afford a makeup-remover. This is possible also with hydrosol: apply some hydrosol of your choice on a cotton pad and gently wipe with that over your skin. Advisable are the hydrolates of Chamomile, Cornflower, or maybe you like Geranium...



## Facial masks

If you want to get an effective cleansing effect, use **clay** in combination with hydrosols. There are different clays for different skin affords. You may find, that green clay works very good against pimples, pink clay will help with sensitive skin, yellow clay is often used for cosmetic products.

Put two or three tablespoons with clay into a bowl and mix it up with two or three tablespoons of hydrosol. You will get a fine paste. You might put in one or two drops of essential oil, if wanted. Put it on your skin and relax. After a few minutes wash your skin and make a splash with your favourite hydrosol directly on your face. You will feel beautiful and well!

## Moisture mist with hydrolate

This is very easy to do! Even when your face feels to be dry or stressed, moisture is necessary. Put your hydrosol in a spray and apply on your face! This spray will not ruin your make-up, if you don't wipe afterwards!

I like the combination of *Rose* and *Neroli* (Orange blossom) hydrosol for my skin, but you might also use *Geranium* or *Lemon* as well.

## Tired, and no sleep in sight?

Especially the hydrosol of *Pinus cembra* can help, if you don't like Lavender hydrosol for to sleep.

Maybe you want to combine it with the hydrosol of *Orange peels*. Smells very good and is helpful to calm down. Spray it on your pillow.

## Lotions

You may mix the hydrosol of your choice fifty-fifty with almond oil or jojoba oil, then shake it heavily and use it. This lotion makes a fine emulsion and feels good on your skin.

## Body splash

You like the fresh feeling, that a body splash gives to you? You will love body splash's not only in summer!

It's very easy to do: you only have to fill a spray bottle with the hydrosols you love.



My favourite this summer consists of  
50 ml Myrtle hydrolate  
25 ml Rosemary hydrolate  
25 ml Peppermint hydrolate  
If you like, you can taste it now!

Another **freshening spray** is the following:

5 ml Vodka  
10 drops Grapefruit  
30 ml hydrosol of *Abies alba* or *Pinus cembra*  
15 ml hydrosol of Lemongrass

It is perfect for summer, when the heat is on or if you are on the road for a long time to freshen up.

### **For your man**

Not only women like hydrosols, men do also, as I know!  
My husband likes especially these **aftershave lotion**:

You need to mix some ingredients, as there are  
40 ml *Cupressus sempervirens* (Cypress) hydrosol,  
40 ml *Myrtus communis* (Myrtle) hydrosol  
1 point of a knife of Allantoin  
after you've mixed this, you give in  
1 point of a knife of Xanthan  
20 ml Ethanol  
5 ml Fluid Lecithin Super  
2 ml Almond oil

and up to 10 drops of essential oils

Mix it up for a few minutes with your hand mixer, so there should be no little lumps in it. Then fill it into small bottles.

### **Deodorants**

You may use a **deo spray** - this is easy to do:

Use 2 ml Vodka and then up to 15 drops of fitting essential oils, afterwards put in 100 ml of your favourite hydrolate. Ready!



## Tooth paste and mouth wash

Hydrosols can also be used to create your own **tooth paste** - even children can do that!

60 ml hydrolate of Peppermint, Sage, or *Mentha citrata*

5 ml natural Glycerine

10 drops of essential oil of your choice (take Peppermint, Bergamot or Orange, e.g.)

white clay, to make it a paste.

Mix it for a few minutes to avoid building lumps and then fill it into a box.

For your **mouth wash** take 80 ml hydrosol, 10 ml salt-spring (brine) and 5 drops of essential oil. You have to mix the salt-spring with the essential oil and after that put the hydrosol and the mixture together.

## Aroma diffuser and Air spray

Hydrosols can be happily used for your rooms. Maybe, you use an aroma diffuser. When there is a little child, a baby in the room, essential oils in the diffuser might be too heavy. Therefore, the hydrosol is perfect for use. The same might be, when you have elder people to serve. Mostly, they prefer the light, shiny smell of the hydrosol.

You can use a lot of them for cleaning the air in wintertime or if there is an ill person in the room, too.

## A special scent for your rooms

Normally I do prefer to use an air spray for disinfection of a room, because it's easy to handle, when there are children in the room.

One of my favourites for disinfection is *Thymus vulgaris* hydrosol in combination with the essential oil of *Grapefruit* or *Bitter Orange*. Another of my beloved sprays is *Pinus cembra* hydrolate together with the essential oil of *Grapefruit*. Feels like sunshine in the mountains...

## Good time for learning

Mix up

10 ml *Rosemary* hydrosol

10 ml *Lavender* hydrosol

20 ml *Abies alba* hydrosol

and give it into your diffuser to clear the atmosphere of your room. Learning will be easier then.



To create a good spray using hydrosols together with essential oils, you need some ethanol or Vodka, too, because your essential oils are not hydrophilic, please remember!

Hydrosols are very easy to integrate into your life! Another purpose is to use them in the cleaning range! I use hydrolates - especially the Lavender one - for ironing my clothes. I put it into the water tank of my iron and the laundry smells wonderful!

You also can put them into your washing machine for the last rinse.

### **Use them for your pets!**

Pets mostly do not like essential oils. But they like the smell of hydrosols and so you can treat your pet easily with this wonderful help.

Your pet might have a beloved place in your home. Take a smell at this place and you won't love it!

Our cat loved lavender-hydrolate on his sleeping place.

And I created a **spray against fleas** for him, which he loved:

First mix

2 ml ethanol or Vodka

2 drops *Lavandula intermedia*

2 drops *Juniperus virginiana*

2 drops *Bergamot*

and then fill the spray bottle up with

50 ml hydrolate of *lavender*

50 ml hydrolate *tea tree*

Never spray this mix directly on your pet! Please spray on your hand and then wipe the fur softly and carefully. Mostly they like this treatment!

Now our last point is coming up: **Cooking** with hydrosols!

Hydrolates can give our meal a fine touch - if you use them carefully!

The taste of the right hydrosol at the right meal is wonderful!

- I even like Rose or Neroli for tea - make your tea as usual and put in a teaspoon full of your hydrosol.
- When baking bread, I use the hydrosols of *Caraway seed* (Kümmel) and *Fennel* for the dough (= Teig), to give him a special touch.



- Cold cucumber soup (Gurkensuppe) can be pimped up with some *dill herb* hydrosol.
- Or give the perfume of the *Filipendula ulmaria* hydrolate to your desert, you will love it.

Be creative and you will get the best results!

More recipes to the usage of hydrosols you will find in the little booklet I gave to you, in my book - and sometimes - on my website.

And always remember:

*"The sense of smell is the sense of remembrance and desire!"* (Jan Jacques Rousseau)

Thank you for your attention!