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# UTISOL

**soft gelatin capsules**

**ESSENTIAL OILS BASED NATURAL REMEDY  
FOR TREATMENT OF CYSTITIS AND  
URINARY TRACT INFECTIONS**

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# URINARY TRACT INFECTIONS (UTI)

- Healthy people generally have no problem to fight any invading bacteria; their strong immune system largely expels the bacteria from the bladder without major consequences.
  - However, stress, illness, physical injury, or poor and improper diet weaken the immune system, bacteria easily dominate defence cells and leads to urinary tract infections.
  - Pregnancy, menopause and sexual intercourse may also increase risk and lead to urinary tract infections.
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# URINARY TRACT INFECTIONS (UTI)

- Infections of the urinary tract (UTIs) are the second most common type of infection.
  - Urinary tract infections can hurt either men or women, although, because of anatomical differences, dominantly harm women.
  - Bladder infections, such as cystitis, are common and usually supposed to be not serious if treated promptly. But if the infection spreads to the kidneys, it can cause more serious illness. Also, even treated and looked as cured, cystitis returns in several months with signs of insensitivity of bacteria to antibiotics.
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# URINARY TRACT INFECTIONS (UTI)

- About half of women will get a urinary tract infection or UTI at some point in life. Most of urinary tract infections (almost 90%) are caused by *Escherichia coli* (*E. coli*), although some other bacteria, viruses, fungi and parasites can also invade the urinary tract.
  - The main danger associated with untreated UTIs is that the infection may spread from the bladder to one or both kidneys. When bacteria attack the kidneys, they can cause damage that will permanently reduce kidney function. In people who already have kidney problems, this can raise the risk of kidney failure. There's also a small chance that the infection may enter the bloodstream and spread to other organs.
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# UTI TREATMENT

- Acute cystitis and kidney infections can often be treated with oral antibiotics (penicillins, cephalosporins and fluoroquinolones) until symptoms disappear. But severe kidney infections may require hospital care, including a course of intravenous antibiotics.
  - Unfortunately, some women are prone to getting UTIs over and over again, 3-5 times a year. Also people with diabetes are more vulnerable to UTIs for several reasons. First, their immune systems tend to be weaker. Second, high blood sugar can spill into the urine and encourage the growth of bacteria. Also, nerve damage related to diabetes can prevent the bladder from fully emptying.
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# UTI TREATMENT

- It often happens that the patient infected with these bacteria gets a course of antibiotics but does not eliminate the infection completely. The bacteria that remain in the body become resistant to the drug, and physicians are compelled to increase the dose, or prescribe another antibiotics. But extended use of strong antibiotics destroys the good bacteria that protect the body and vaginal flora, and a new infection quickly formed. Bacteria then quickly occupy vaginal and urinary tract and it can last months or even years.
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# UTI TREATMENT

- Beside antibiotic treatment, only few alternative methods are offered to patients with chronic (interstitial) cystitis or chronic UTI. Herbal diuretics (Uva ursi, Cranberry, Juniper berries) are somewhat useful, but success rate is not impressive. Better results were achieved with D-mannose, which interacts with lectins on the bacterial wall of *E. coli*.
  - Nevertheless, the efficacy of UTI treatment with natural remedies remains low. There is a strong demand for safe and efficient natural composition to help people suffering from UTI
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# ESSENTIAL OILS FOR UTI TREATMENT

- It was found that mixture of several essential oils, given orally, helps to alleviate UTI infections in a fast and painless manner. Being swallowed, essential oils and their metabolites prevent adhesion of *E. coli* to the bladder wall, suppress bacteria growth and help to wash them out.
  - The only limitation for wide use of this medicine was strong acrid taste and some stomach irritation of the product due to high content of essential oils. That's why the improvement of consumer satisfaction becomes a serious task, and it was successfully resolved using newest pharmaceutical technologies.
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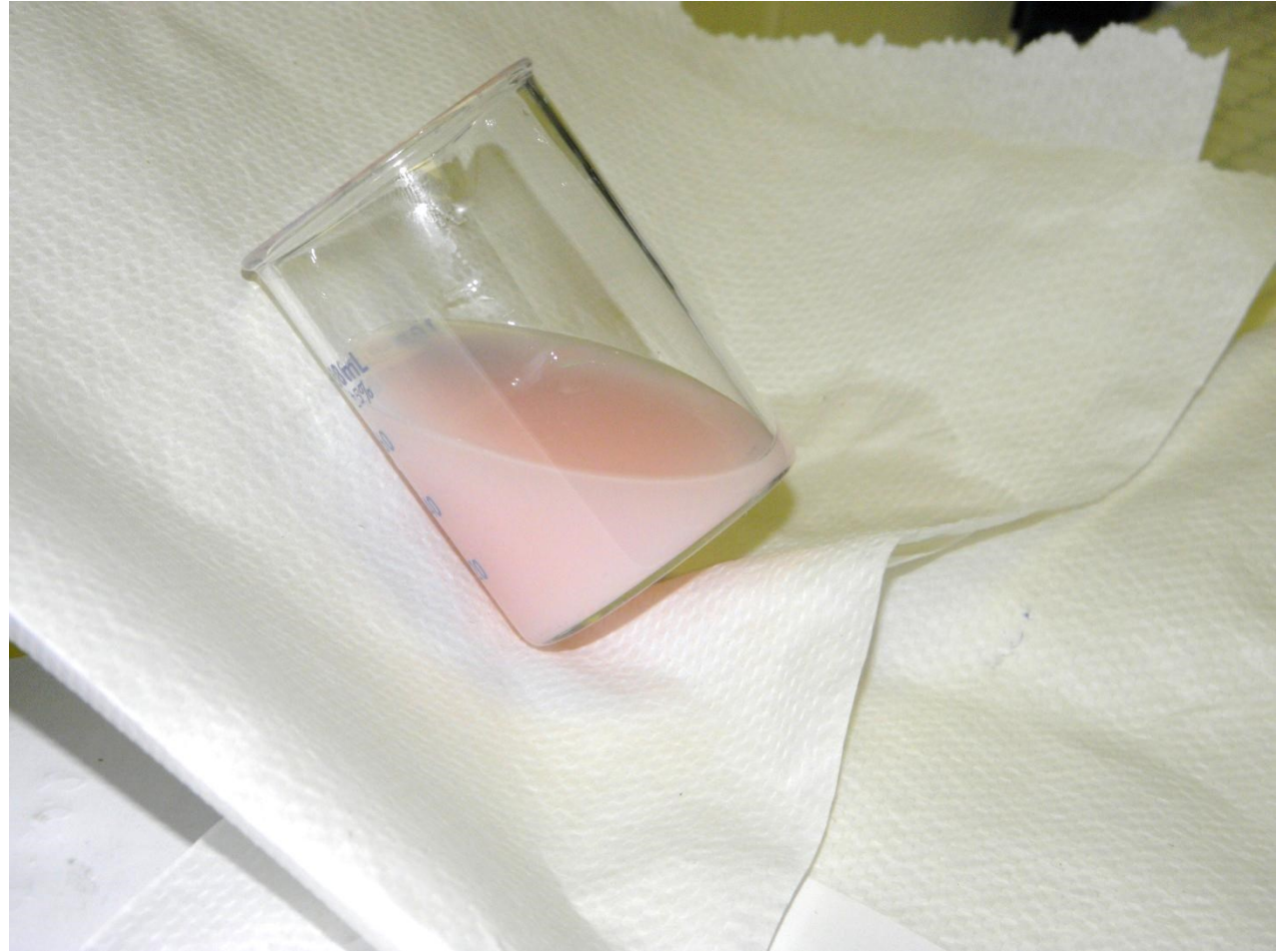


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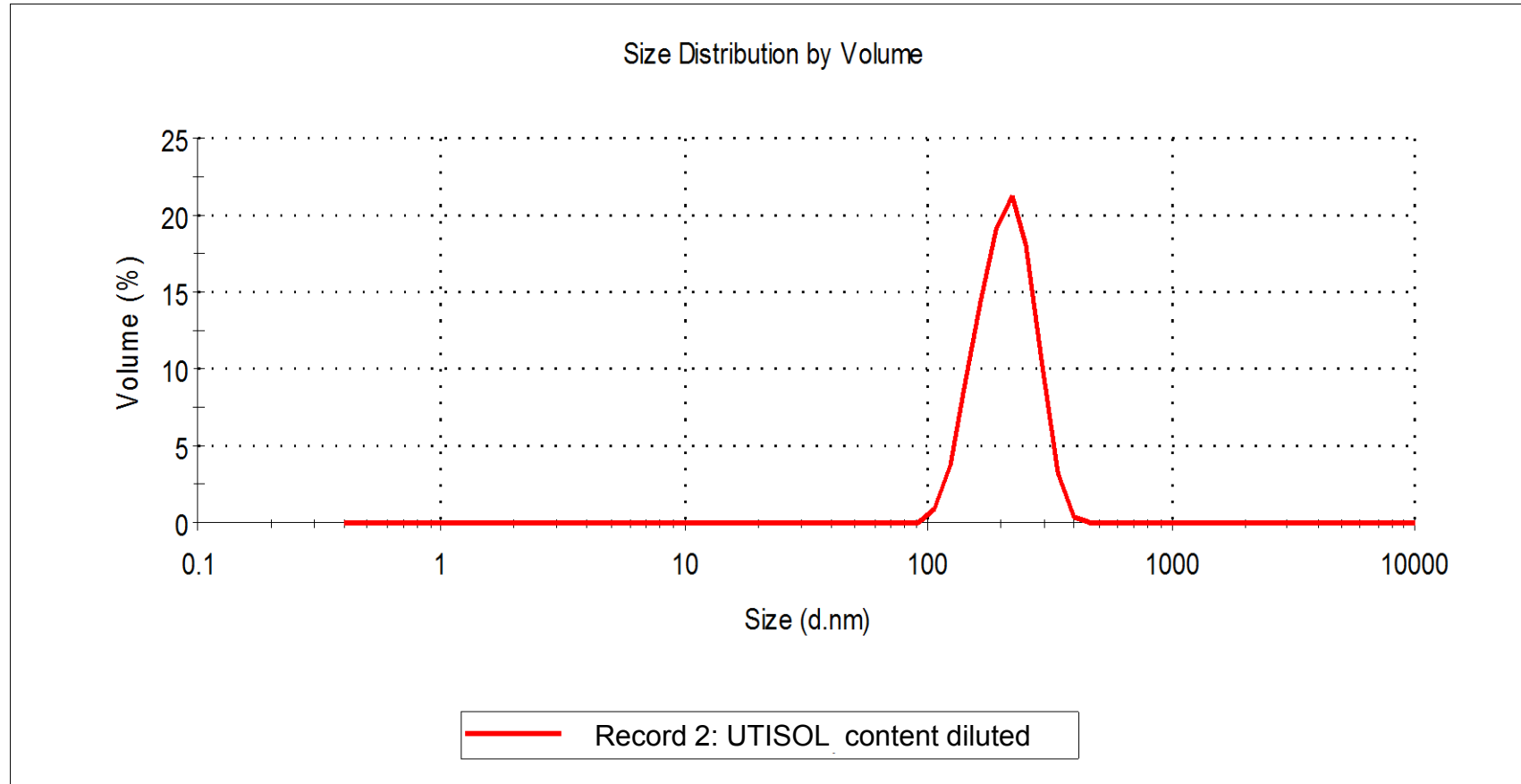
# ESSENTIAL OILS FOR UTI TREATMENT

- We have developed a convenient oral formulation (a soft gelatin capsule) for effective relief of urinary tract infections. The scientifically selected combination of essential oils was incorporated into self-nanoemulsifying composition, which forms an ultrafine oil-in-water emulsion when the capsule dissolves in the stomach.
  - Strong unpleasant taste of the oils is completely masked after incorporation into soft gelatin capsule; additionally, loss of active components was also eliminated.
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# UTISOL CAPSULES AND FORMED NANOEMULSION



# UTISOL NANOEMULSION PARTICLE SIZE



Peak: 214 nm  $\pm$ 54.6 nm PI 0.235

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# ESSENTIAL OILS FOR UTI TREATMENT

- Droplet size of the formed emulsion is around 100-200 nm, and oil absorption in the stomach is very fast without any signs of irritation. Such small droplets absorbed immediately in gastro-intestinal tract and quickly provide working concentration of active compounds and metabolites in kidneys, ureters and bladder, preventing adhesion of dangerous bacteria.
  - Increased activity of the essential oils in self-nanoemulsifying formulation also allowed to decrease the dose of the essential oils per treatment.
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# ACTIVE INGREDIENTS:

- Juniper essential oil
  - Lavender essential oil
  - Eucalyptus essential oil
  - Pine needle oil
  - Caraway seeds essential oil
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# JUNIPER ESSENTIAL OIL

- Juniper oil is very valuable oil and can be used in cases of nervous tension and anxiety, for the urinary tract disorders, for over-eating and obesity, for eliminating uric acid and for skin care. The affinity to the urogenital tract was further shown when studies revealed that it enhances glomerular filtration.
  - The main chemical components of juniper oil are alpha-pinene, beta-pinene, camphene, sabinene, myrcene, a-phellandrene, a-terpinene, gamma-terpinene, 1,4-cineole, b-phellandrene, p-cymene, terpinen-4-ol, bornyl acetate, caryophyllene and trace amounts of limonene, camphor, linalool, linalyl acetate, borneol and nerol. It is considered non-toxic but since it can stimulate the uterine muscle it should not be used during pregnancy, nor by people with serious kidney problems.
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# LAVENDER ESSENTIAL OIL

- Lavender oil is one of the most versatile oils and is handy to have around the house, as it can be used for such a variety of problems. The main chemical components of lavender oil are  $\alpha$ -pinene, limonene, 1,8-cineole, cis-ocimene, trans-ocimene, 3-octanone, camphor, linalool, linalyl acetate, caryophyllene, terpinen-4-ol and lavendulyl acetate.
  - The therapeutic properties of lavender oil are antiseptic, analgesic, anti-convulsant, anti-depressant, anti-rheumatic, anti-spasmodic, anti-inflammatory, antiviral, bactericide, carminative, cholagogue, cicatrisant, cordial, decongestant, diuretic, emmenagogue, hypotensive, sedative, sudorific and vulnerary. It is also very beneficial for problems such as bronchitis, asthma, colds, laryngitis, throat infections, cough and helps the to deal with colic, nausea, vomiting and incontinence.
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# EUCALYPTUS ESSENTIAL OIL

- Eucalyptus oil is extracted from the fresh or partially dried leaves and young twigs of *Eucalyptus globulus* of the Myrtaceae family. The main chemical components of eucalyptus oil are alpha- and beta-pinene, alpha-phellandrene, 1,8-cineole, limonene, terpinen-4-ol, aromadendrene, epiglobulol, piperitone and globulol.
  - Eucalyptus oil is very helpful when used for headaches, fevers, ailments of the respiratory tract, muscular aches and pains and in treatment of inflammation. The oil is also effective against bacteria - especially staphylococci, and has a refreshing and stimulating action on the mind, helping to improve concentration.
  - Eucalyptus oil should be used with care by people with high blood pressure and epilepsy.
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# PINE NEEDLE OIL

- The oil is extracted by steam distilling the needles of Siberian pine (fir). The main chemical components of pine oil are borneol, bornyl acetate,  $\alpha$  and  $\beta$ -phellandrene, pinene and 3-carene. It can be used in cystitis, hepatitis and prostate problems, as well as to improve circulation and to relieve rheumatism, gout, sciatica and arthritis, but it should be done with care due to the possible sensitization nature of this oil.
  - Although pine oil can cause allergic reactions, it is very useful to relieve mental, physical and sexual fatigue.
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# CARAWAY SEEDS ESSENTIAL OIL

- Caraway oil's beneficial and medicinal properties come from many components, namely carvone, limonene, furfural, cuminaldehyde and other ingredients.
- Caraway oil has antiseptic, anti-histaminic, anti-spasmodic, carminative, digestive, disinfectant, diuretic, expectorant, astringent, and tonic properties that make it beneficial for treating or alleviating many health problems.
- People who are suffering from obstructed urination, high blood pressure, and renal calculi can benefit from caraway oil. The urination-stimulating effect of this oil also helps lower blood pressure, reduces fat, removes uric acid, and cleans up waste deposits from the kidney.



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# NON-MEDICINAL INGREDIENTS:

- Non-medicinal ingredients include complex of pharmaceutical grade surfactants and oils, forming self-nanoemulsifying composition when combined with set of essential oils.
  - Composition is incorporated into soft gelatin capsule to guarantee stability and components protection.
  - The product is convenient to use and provides fast and efficient relief in treated disorders.
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# HOW TO TAKE

- Utisol soft gelatin capsules must be taken orally with full glass of water. One capsule should be taken 2-3 times a day 15 minutes before a meal.
  - The treatment usually lasts 15-30 days.
  - Since Utisol is a concentrated preparation, a 60 capsule bottle provides supply for up to 4 weeks of the treatment.
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