The Botanical Preservative

PLANTSERVATIVE™

Lonicera Caprifolium

Lonicera Japonica Plant

Lonicera Japonica in flowering buds

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CAMPO ® Multi-Purpose Cosmetic Base Chemicals & Active Ingredients
CAMPO ® Novel Functional Active Cosmetic Ingredients and Raw-Materials
There lived a young couple in a small village with two twin girls: one was named Golden Flower and other Silver Flower. The Twin girls, who had always loved each other, grew up to be very close and had promised each other that they would never get married and would never separate from each other.

Not long after they had passed their seventeenth birthdays, Golden Flower suddenly fell ill, with a high fever and red sports all over her body.

“This is a contagious disease and there is no cure for it. Everybody should keep away from the patient,” warned the doctor who made the diagnosis.

But Silver Flower insisted on staying closed to her sister no matter what, and nobody could convince her otherwise.

However, the doctor was right, it was indeed a contagious disease, as the twin sisters died a few days later and was buried together.

In the spring of the following year, all kinds of plants were growing all over the graveyard, but nothing grew on the graves of the twin sisters, except for one plant with an abundance of yellow and white flowers. People in the village were very curious about this strange phenomenon, and some were even convinced that the twin sisters had turned into the flowers.

At the time when the plant was in full blossom, two little twin girls in the village fell ill with high fever and red spots all over their bodies - with exactly the same disease that killed Golden Flower and Silver Flower. The parents called on the same doctor to treat their little girls and the doctor gave the same diagnosis.

Although they were told that there was no cure for the disease, the parents went ahead and picked the flowers that grew on the graves of the two deceased sisters and decocted them for their daughters to drink. The two little girls soon recovered from their illness to enjoy their happiness once again.

The people in the village named the herb after the deceased twin sisters calling it “gold-silver flower.”
JAPANESE HOHEYSUCKLE – LONICERA JAPONICA
(GOLD-SILVER FLOWER, JINYINHUA)

Jinyinha or Lonicera Japonica comes from the Caprifoliaceae family. The plant has white or purplish flowers, which grow in pairs with yellow or golden ones.

Lonicera from Lonicera Japonica, the scientific name for Jinyinhua Lonicera from Lonicera Japonica, the scientific name for Jinyinhua is named in honour of Adam Lonicer (1538 - 1616) a German physician and naturalist. The common name, honey suckle, was given in the mistaken belief that bees obtained honey from the flowers.

In ancient Greece, the plant was an object of religious worship. European herbalists used to squeeze the juice from the plant to treat snakebites. The seeds and flowers, boiled and mixed with oil, are applied to swellings. The flowers are still being used as a cure for asthma.

Li Shin-Chen gives a good description of this Chinese honey suckle or woodbine. The first Chinese name refers to the plant not withering during the winter, and the second to the fact that the flowers, which are at first white afterwards become yellow, and as they do not fall early, the plant bears both colors at the same time.

The flowers, vine and leaves are employed in medicine. Prolonged use is said to increase vitality and to lengthen life. Antifebrile, corrective, and astringent properties are ascribed, and it is used in the treatment of all sorts of infections and poisons. A wine (Jeu-tung-chin) and a plaster (Jeu-tung -kao) are official. The dried flowers in the Chinese medicine shops have a smell resembling that of some kind of tobacco.

The flowers are sweet in flavour and emit cold energy attributive to the lung, stomach and large intestine channels. The flower buds - the part most commonly used - and rounds at the upper end and narrow at the base.

The jinyinhua can reduce excessive heat in the body, counteract toxins, cool down the blood and disperse wind in the body. Thus, it is often prescribed for carbuncles, dysentery and sore or swollen throats.

Reports on the leaves is being poisonous has been controversial. Some pharmacological studies have actually shown that the herb can increase as well as reduce blood sugar content, and have antitumour, antibacterial and antifungal properties.

Experiments have shown Jinyinhua has certain attributes, which make it an effective treatment in five major areas: protecting the liver, inhibiting influenza and mumps, reducing blood fat and fighting bacteria.

In addition, since this herb contains lonicerin, saponin, and inositol, and has been found to possess antibacterial and antiviral effects, it is now being widely used to treat the common cold, influenza, cystitis, arthritis eye and throat infections, and contagious hepatitis.
Chinese: Jinyinhua (Gold - Silver Flower)
Re: 2894
Common name: Japanese honey-suckle.
Family: Caprifoliaceae.
Chinese’ name: Gold-silver-flower (so named because it has both colors.)
Pharmaceutical name: Flos Lonicerae.
Part used: Buds.
Dosage: 12g.
Flavor: Sweet.
Energy: Cold
Class: 2, herbs to reduce excessive heat inside the body.
Meridians: Lungs, stomach, heart, and spleen.
Actions: To clear up heat counteract toxic effects, cool down the blood, and disperse wind the heat.
Indications: Carbuncles, dysentery, and sore throat with swelling.
Notes: Experiments have shown that jinyinhua can Produce five major effects: It can (1) Protect the Liver (2) Inhibits influenza (3) Inhibit mumps (4) Reduce blood fat (5) Be used as an Antibacterial herb

BIBLIOGRAPHY:
- Qualitative and quantitative analysis of active flavanoids in Flos Lonicera by capillary zone electrophoresis coupled with solid-phase extraction. Jun Chen, Song-Lin Li, Ping Li, Yue Song, Xing-Yun Chai, Ding-Yuan Ma. http://www.paper.edu.cn
CAMPO™ PLANTSERVATIVES WSr

The Botanical Preservative

Plantservative WSr (Japanese Honeysuckle – Lonicera Japonica) is fully active liquid preservative isolated from herb, namely Lonicera Japonica (Japanese Honeysuckle) and Lonicera Caprifolium and is suitable for the antimicrobial protection of cosmetic and pharmaceutical applications.

The following advantages of are emphasized:

- Broad-spectrum antimicrobial activities – Plantservative WSr exhibit rapid, microbicidal activity against Gram – negative bacteria, as well as Gram Positive bacteria, yeasts and molds.

  Suitable concentrations (0.5-2.0%) show rapid, bactericidal activities, even against such species are Pseudomonas Aeruginosa, which is resistant to many synthetic preservatives and is a frequent contamination of preparations in the tropical and semi-tropical countries.

- Easy incorporation. Being a liquid, miscible with many organic solvents, surfactants and emulsifiers. Is easily incorporated into the materials to be preserved.

  Good compatibility. Is chemically inert and therefore compatible with the majority or types of chemical compounds. At the correct concentrations, it maintains strong, extensive efficiency in the presence of such materials as proteins, gums, anionic and maintains its antimicrobial activities in acidic, neutral, and mildly alkaline pH conditions.

  Does not cause any changes in color or odor to the final products, and this is very particularly important in cosmetic preparations.

  Non-volatile. Is non – volatile and there should be no loss of preservative activities from the product, even after prolonged exposure to air or in storage.

  High Stability-Remains fully stable over a wide permittance range of pH and temperature range. There is no significant degradation when strongly heated in the pH range 3-8. Aqueous solution will without detriment to the preservation activities.

- Low toxicity-A comprehensive toxicological data has been shown to be that this plant extract with preservative activities has low toxicity, being totally non-irritant to skin, mucous membranes and well tolerated by eye at suggested concentrations. Japanese Plantservative WSr has been shown to be devoid of skin sensitizing effects.

- Fully biodegradable at the extremely dilute conditions as found in the effluents is biodegradable and thus presents no pollution hazard.
**Plantservative WSr Bacteriostatic and fungistatic activity:**

Plantservative WSr exhibits effective microbiostatic activity against a wide broad-spectrum of bacteria, molds, and yeast at concentration of 0.25 % (w/v) and less.

This is a first of the series of botanical based preservative(s) exhibit such a novel MIC rate and totally and food and medicinal plant in the oriental cultures of China, Tibet and Korea.

This microbiostatic activity is illustrated by the following table, which shows the minimum inhibitory concentration (MIC) of Plantservative WSr against examples of different groups of microorganisms. The values were determined in liquid media with readings of bacteria growth after 7 days at 32 deg’Cent, and for fungal growth after 30 days at 25 deg’Cent in solid media.

<table>
<thead>
<tr>
<th>Test Species</th>
<th>MIC of Plantservative WSr (%W/v)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BACTERIA</strong></td>
<td></td>
</tr>
<tr>
<td>Staphylococcus</td>
<td>0.25</td>
</tr>
<tr>
<td>Streptococcus haemolyticus</td>
<td>0.25</td>
</tr>
<tr>
<td>Lactobacillus buchneri</td>
<td>0.10</td>
</tr>
<tr>
<td>Bacillus subtilis</td>
<td>0.15</td>
</tr>
<tr>
<td>Pseudomonas fluorescens</td>
<td>0.75</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td>0.25</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>0.25</td>
</tr>
<tr>
<td>Enterobacter agglomerans</td>
<td>0.15</td>
</tr>
<tr>
<td>Klebsiella aerogenes</td>
<td>0.75</td>
</tr>
<tr>
<td>Proteus vulgaris</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>YEASTS</strong></td>
<td></td>
</tr>
<tr>
<td>Candida albicans</td>
<td>0.25</td>
</tr>
<tr>
<td>Saccharomyces cerevisiae</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>MOLDS</strong></td>
<td></td>
</tr>
<tr>
<td>Penicillium notatum</td>
<td>0.25</td>
</tr>
<tr>
<td>Trichoderma viride</td>
<td>0.60</td>
</tr>
<tr>
<td>Aspergillus niger</td>
<td>0.75</td>
</tr>
</tbody>
</table>

It should be noted that the minimum lethal concentration of Plantservative WSr for most microbial species is the same as its MIC value.

**Plantservative WSr Microbicidal action in aqueous solution**

The following table shows the rapid lethal effect exhibited and obtained by 0.25% in phosphate buffer, pH 5.0.

<table>
<thead>
<tr>
<th>Microbial Species</th>
<th>0.25 % PLANTSERVATIVE WSr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15Mins</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>-</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>+</td>
</tr>
<tr>
<td>Pseudomas aeruginosa</td>
<td>+</td>
</tr>
<tr>
<td>Pseudomas fluorescens</td>
<td>+</td>
</tr>
<tr>
<td>Candida albicans</td>
<td>-</td>
</tr>
<tr>
<td>Penicillium crustaceum</td>
<td>+</td>
</tr>
</tbody>
</table>

**Legends**

+ = Growth after sub culture was added into inactivating medium.
- = No growth was observed after sub culture was added into inactivating medium.
CAMPO™ PLANTSERVATIVES WSr

TECHNICAL SPECIFICATION

Botanical Origin: Plantservative WSr is an extract of flowers of Lonicera Caprifolium (Caprifoliaceae) and Lonicera Japonica (Caprifoliaceae)

Part Used: Flowers Buds

Primary Extraction solvent: Carbon Dioxide

Final carrier Vehicle: Water, Carbon Dioxide

Approx Raw Material Extraction Composition

<table>
<thead>
<tr>
<th>INCI Names</th>
<th>CAS</th>
<th>EINECS</th>
<th>Approx Raw Material Extraction Composition %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lonicera Caprifolium Extract</td>
<td>84603-62-3</td>
<td>283-263-6</td>
<td>Approx up to &lt;25</td>
</tr>
<tr>
<td>Lonicera Japonica Extract</td>
<td>223749-799-9</td>
<td>N/A</td>
<td>Approx up to &lt;60</td>
</tr>
<tr>
<td>Aqua / Water</td>
<td>773218-5</td>
<td>231-7912</td>
<td>Approx up to &lt;15</td>
</tr>
</tbody>
</table>

INIC Name: Lonicera Caprifolium Extract
Lonicera Japonica Extract
Aqua / Water

CTFA Name: Lonicera Caprifolium (Honeysuckle) Flower Extract
Lonicera Japonica (Honeysuckle) Flower Extract
Aqua / Water

CHINA SFDA IECIC Index No#: 1061

CHINA SFDA IECIC Approved Name: 忍冬花提取物

Product #: 95-180-3004 PLANTWSr BOC10169KKR

USA FDA Code: 54FYY99

USA FDA Registration #: 15706999776

Cosmetics use: Astringent, skin conditioning

Suggested usage concentration: >0.25% - 1.0%

Other Industrial uses: Broad-Spectrum antimicrobials, Broad-Spectrum anti-fungals & Broad-Spectrum anti-yeasts

Suggested usage concentration (other industrial uses): 5% - <10%

As natural plant extract with Broad-Spectrum anti-biotical properties, Broad-Spectrum anti-viral properties, Broad-Spectrum anti-gram positive micro organisms properties & Broad-Spectrum anti-gram negative micro organisms properties

Poultry & Veterinary uses: >1.5% v/v - <2.5%v/v (volume to volume)

Contains No synthetic PARABENS of Methyl Parabens, Butyl Parabens, Propyl Parabens, Hydroxyl Parabens, NOR/AND Does NOT Contains of any PARABENS' PRE-CUSORS such as parahydroxy benzoic acid (4-Hydroxybenzoic acid), of any vegetal origin, nor of synthetic origin, or of any other natural origin.

NO PHENYLOXYETHANOL ! NO Ethylene glycol monophenyl ether, NO Phenoxytolarosol

NO FREE FORMALDEHYDE nor / and

NO FORMALDEHYDE DONORS!