The Botanical Preservative

PLANTSERVATIVE™


Lonicera Japonica Plant


Lonicera Caprifolium


Lonicera Japonica in flowering buds

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CAMPO ® Multi-Purpose Cosmetic Base Chemicals & Active Ingredients
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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.

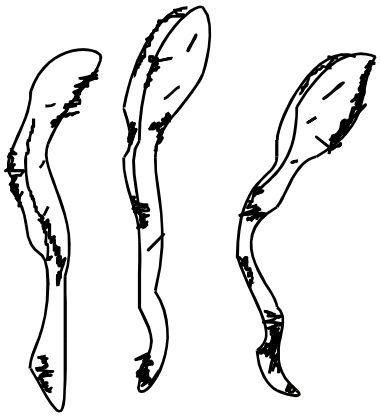
The jinyinhua can reduce excessive heat in the body, counteract toxins, cool down the blood and disperse wind in the body. Thus, it is often prescribed for carbuncles, dysentery and sore or swollen throats

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.)
Scientific names	:	Lonicera japonica Thunb, Lonicera hypoglauca miq. Lonicera
	:	Confusa Dc.,Lonicera Caprifolium and Lonicera dasystyle Rehd.
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



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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, Japan, 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 7days at 32deg`Cent, and for fungal growth after 30days at 25deg`Cent in solid media.

Test Species	**MIC of Plantservative WSr** (%W/v)
BACTERIA	
Staphylococcus	0.25
Streptococcus haemolyticus	0.25
Lactobacillicus buchneri	0.10
Bacillus subtilis	0.15
Pseudomonas fluorescens	0.75
Pseudomonas aeruginosa	0.25
Escherichia coli	0.25
Enterobacter agglomerans	0.15
Klebsiella aerogenes	0.75
Proteus vulgaris	0.25
YEASTS	
Candida albicans	0.25
Saccharomycas cerevisiae	0.25
MOLDS	
Penicillium notatum	0.25
Trichoderma viride	0.60
Aspergillus niger	0.75

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.

Microbial Species	**0.25 % PLANTSERVATIVE WSr**				
	15Mins	30Mins	1Hr	2Hr	1Day
Staphylococcus aureus	-	-	-	-	-
Escherichia coli	+	-	-	-	-
Pseudomas aeruginosa	+	-	-	-	-
Pseudomas fluorescens	+	-	-	-	-
Candida albicans	-	-	-	-	-
Penicillium crustaceum	+	+	+	-	-

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 (Caprifoliacee) and Lonicera Japonica (Caprifoliacee)
Part Used	:	Flowers Buds
Primary Extraction solvent	:	Carbon Dioxide
Final carrier Vehicle	:	Water Carbon Dioxide

Approx Raw Material Extraction Composition

INCI Names	*CAS*	*EINECS*	*Approx Raw Material Extraction Composition %*
Lonicera Caprifolium Extract	84603-62-3	283-263-6	Approx up to <25
Lonicera Japonica Extract	223749-79-9	N/A	Approx up to <60
Aqua / Water	773218-5	231-7912	Approx up to <15

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 2012 Index No# 序号	:	1061
China SFDA IECIC Approved Name 中文名称	:	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%
Poultry & Veterinary uses	:	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
Suggested usage concentration (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 of 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 FORMALDHYDE nor / and**

- **NO FORMALDEHYDE DONORS !**

Specification		
Parameter Analysis	*Specification Range*	*Methods*
Physical Form	Liquid	Visual
Colour	Clear Colorless Yellowish tint to yellow clear Ale	Visual
Odour	Faint characteristics	Oilfactory
Specific Gravity (20°C)	1.1200-1.3200	USP XXIV / Paar, DMA35
Refractive Index (20°C)	1.300 – 1.450	USP XXIV / DGF IV C (52)
pH(20°C) (100% Concentrate)	9.00 – 12.00	USP XXIV / DGF H III (92)
Carrier Menstrual (Vehicle)		
Water	30.0% - 57.0%	-
Water Solubility	Clearly hazy soluble	-
Dry Residue (105deg.C/ 2hrs)	30% - 70%	2 h @ 105 °C
Preservation	None	-
Pesticide Content	None	Pflanzaniaschuttal 1989
Total Germs	<100 Cfu/ml - Non-Pathogenic	USP XXIV / Ph.Eur2.6.12 (97) 72h @ 37°C
	<100 Cfu/g - Non-Pathogenic	USP XXIV / Ph.Eur2.6.12 (97) 72h @ 37°C
Total Yeast/Mold	<100 Cfu/ml	USP XXIV / Ph.Eur2.6.12 (97)
	<100 Cfu/g	USP XXIV / Ph.Eur2.6.12 (97)
Heavy Metals (Total) As, Pb, Hg	< 0.005 ppm	USP XXIV / Ph.Eur2.6.12 (97)

CAMPO™ PLANTSERVATIVE WMr

The Botanical Preservative

Plantservative WMr is a Jojoba Oil solvent extracted Version instead of of Plantservative WM, which is fully active liquid preservative, isolated from herb, namely Lonicera japonica (Japanese Honeysuckle) and is suitable for the antimicrobial protection of cosmetic and pharmaceutical applications.

The following advantages of **Plantservative WMr** are emphasized:

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

  Suitable concentrations (**>2.5%**) show rapid, bactericidal activity, even against such species as 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. **Plantservative WMr** is easily incorporated into the materials to be preserved.

- Good compatibility- **Plantservative WMr** 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.

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

  Non- volatile-**Plantservative WMr**, 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-**Plantservative WMr** remains fully stable over a wide permittance range of pH and temperature range. There is no significant degradation of Plantservative when strongly heated in the pH range 3-8. Aqueous solution of Plantservative will without detriment to the preservation activities.

- Low toxicity-a comprehensive toxicological data on **Plantservative WMr** has been shown to be that this plant extract with preservative activities has low toxicity, (Year Assessment 1992 for oral LD50 for rats is 1.55ml/kg of body weight) being totally non-irritant to skin, eye, and mucous membranes at suggested concentrations. **Plantservative WMr** has been shown to be devoid of skin sensitizing effects.

- Fully biodegradable at the extremely dilute conditions as found in the effluents, **Plantservative WMr** is biodegradable and thus presents no pollution hazard.

Plantservative WMr Bacteriostatic and fungistatic activity:

Plantservative WMr exhibits effective microbiostatic activity against a wide broad-spectrum of bacteria, molds, and yeast at concentration of 2.5 %(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, Japan, and Korea.

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

Test Species	**MIC of Plantservative WMr** (%W/v)
BACTERIA	
Staphylococcus	2.5
Streptococcus haemolyticus	2.5
Lactobacillicus buchneri	1.0
Bacillus subtilis	2.5
Pseudomonas fluorescens	2.5
Pseudomonas aeruginosa	2.5
Escherichia coli	2.5
Enterobacter agglomerans	2.5
Klebsiella aerogenes	2.5
Proteus vulgaris	2.5
YEASTS	
Candida albicans	2.5
Saccharomycas cerevisiae	2.5
MOLDS	
Penicillium notatum	3.00
Trichoderma viride	3.00
Aspergillus niger	3.00

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

Plantservative WMr Microbicidal action in aqueous solution

The following table shows the rapid lethal effect exhibited and obtained by 2.5% in phosphate buffer,pH 5.0.

Microbial Species	**0.25 % PLANTSERVATIVE WMr**				
	15Mins	30Mins	1Hr	2Hr	1Day
Staphylococcus aureus	-	-	-	-	-
Escherichia coli	+	-	-	-	-
Pseudomas aeruginosa	+	-	-	-	-
Pseudomas fluorescens	+	-	-	-	-
Candida albicans	-	-	-	-	-
Penicillium crustaceum	+	+	+	-	-

Legends

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

CAMPO ™ PLANTSERVATIVES WMr (JOJOBA OIL)

TECHNICAL SPECIFICATION

Botanical Origin	:	Plantservative WMr is an extract of flowers of Lonicera Caprifolium (Caprifoliacee) and Lonicera Japonica (Caprifoliacee)
Part Used	:	Flowers Buds
Primary Extraction solvent	:	Carbon Dioxide
Final carrier Vehicle	:	Simmondsia Chinensis (Jojoba) Seed Oil

Approx Raw Material Extraction Composition

INCI Names	*CAS*	*EINECS*	*Composition %*
Lonicera Caprifolium Extract	84603-62-3	283-263-6	65
Lonicera Japonica Extract	223749-799-9	N/A	25
Simmondsia Chinensis (Jojoba) Seed Oil	61789-91-1	N/A	10

INIC Name	:	Lonicera Caprifolium Extract Lonicera Japonica Extract Simmondsia Chinensis (Jojoba) Seed Oil
CTFA Name	:	Lonicera Caprifolium (Honeysuckle) Flower Extract Lonicera Japonica (Honeysuckle) Flower Extract Simmondsia Chinensis (Jojoba) Seed Oil
Product #	:	2004-190-3002 PLANT WMr (JO)
USA FDA Code	:	54FYY99
USA FDA Registration #	:	15706999776
Cosmetics use	:	Astringent, skin conditioning
Suggested usage concentration	:	2.5 - >3.5%

Specification		
Parameter Analysis	*Specification Range*	*Methods*
Physical Form	Oily Liquid	Visual
Colour	Clear Colorless to Light Honey, Viscous	Visual
Odour	Faint characteristics	Oilfactory
Specific Gravity (20°C)	0,890 – 0,990	Paar, DMA35
Refractive Index (20°C)	1,300 – 1,500	DGF IV C (52)
pH(20°C) (100% Concentrate)	4,50 – 6,50	DGF H III (92)
Dry Residue (160deg.C/ 2hrs)	Max.5%	Mettler 16J
Solubility	In most cosmetics oils. Insoluble in water	-
Pesticide Content	None	Pflanzaniaschuttal 1989
Heavy Metals (Total) As, Pb, Hg	< 0,005 ppm	Ph.Eur2.6.12 (97)
Total Germs	<100 Cfu/ml – Non-Pathogenic	Ph.Eur2.6.12 (97)
	<100 Cfu/g – Non-Pathogenic	Ph.Eur2.6.12 (97)
Total Yeast/Mold	<100 Cfu/ml	Ph.Eur2.6.12 (97)
	<100 Cfu/g	Ph.Eur2.6.12 (97)
Preservation	None	-