OKINAWAN HERB EXTRACTS

EXOTIC HERB EXTRACTS AS COSMETICS INGREDIENTS

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CAMPO® Multi-Purpose Cosmetic Base Chemicals & Active Ingredients
CAMPO® Novel Functional Active Cosmetic Ingredient & Raw Materials
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Citisu
Royal Jelly Shitake formula

Engosaku
Corydalis yanhusuo

Ryutan
Gentiana scabra

Shako Nakai
Paeonia lactiflorum Pall.

Tohasaku
Morus alba

Okinawan Herbs Photo Gallery
OKINAWAN HERB EXTRACTS

APPLICATION DECODE

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADT</td>
<td>anti-dandruff treatment</td>
</tr>
<tr>
<td>AGH</td>
<td>against greasy hair</td>
</tr>
<tr>
<td>AGHT</td>
<td>against greasy hair tonic</td>
</tr>
<tr>
<td>ARAC</td>
<td>all round hair care</td>
</tr>
<tr>
<td>BLH</td>
<td>brittle light hair</td>
</tr>
<tr>
<td>DLH</td>
<td>dull loose/light hair</td>
</tr>
<tr>
<td>DPC</td>
<td>dandruff preventative cares</td>
</tr>
<tr>
<td>GHC</td>
<td>greasy hair conditions</td>
</tr>
<tr>
<td>NSH</td>
<td>normal hair conditions</td>
</tr>
<tr>
<td>PAD</td>
<td>prevention of dandruff</td>
</tr>
<tr>
<td>PCP</td>
<td>pre-cold perm</td>
</tr>
<tr>
<td>RVH</td>
<td>revitalisation of hair &amp; sheen</td>
</tr>
<tr>
<td>THR</td>
<td>thinning hair restorative</td>
</tr>
<tr>
<td>UV A&amp;B</td>
<td>UV filter / absorber</td>
</tr>
</tbody>
</table>
OKINAWAN HERB EXTRACTS

TECHNICAL DATA SHEETS

And

SPECIFICATIONS
**OKINAWAN HERB EXTRACTS**

CAMPO RESEARCH

**OKINAWAN MEDICINAL HERBAL EXTRACTS FOR COSMETICS FORMULATIONS**

**PRODUCT TECHNICAL DATA SHEET**

<table>
<thead>
<tr>
<th>PRODUCT Name (Campo Research)</th>
<th>CAMPO CITISU HYDROGLYCOL EXTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Trade Names (Campo Research)</td>
<td>Chitisu-Chinese; Chitisu-Aino; Chitisu-Okinawan; Chitisu-Japanese</td>
</tr>
</tbody>
</table>

**CTFA TRADE NAME**

CAMPO CITISU

**Existing CTFA/INCI Name**

Lentinus edodes; Camellia japonica seed; Corydallis Ambigua.

**CAMPO PRODUCT #**

940.0060

**CAS#**

N/A

**EINECS#**

N/A

**EINECS Name :**

N/A

**English name:**

Royal Jelly Shitake formula

**Other names:**

Chitisu - Chinese
Chitisu - Aino
Citisu - Okinawan vernacular
Chitisu - Japanese

**Reference literature:**

Chinese Herbs, their Botany, Chemistry & Pharmacodynamics, John D. Keys, (1976), Tokyo, Japan (Eng.)
Chuyaku Daijiten, 1970, Tokyo (Japanese)

**Active substances:**

tannin astrignent
phytosterols protective cares
vegetable sulphur protective & antimycotic agent
vitamins regenerative
essential oils stimulation of scalp metabolism
γ-linoleic acid restorative
UVzines UV A&B filter / absorption

**Ethnobotany:**

This is an endemic remedy known locally to Okinawans and inhabitants on other proximal offshore islands now belonging to Taiwan.

Crude plant drugs in the proportions described above are used to produce lotions for remedial action against problematic hair, particularly thinning hair and hair susceptible to dandruff. The lotions are normally used to stimulate and vitalise the hair and exhibit a very pronounced anti-seborrhoeic effect.

**Applications and dosage recommendations:**

This particular remedy is recommended specifically for use in hair restorative formulations, particularly that intended to ameliorate conditions of thinning hair, and for treating hair with a tendency to develop dandruff.

- Anti-thinning lotions & sprays 10 - 15% as required
- Anti dandruff preventative products 5 -10%
Hair restorative tonics 25-50%

Application codes: PAD, THR, RVH

SPECIES
Lentinus edodes; Camellia japonica seed; Corydallis Ambigua Syn: Lentinus edodes; Camellia japonica seed; Corydallis Ambigua

PARTS USED
Royal Jelly - 80%
Lentinus evodes L.(shitate) - 10%
Cakemnia japonica L. - (Ban Cha Tea Seed) - 5%
Corydalis yanhusuo (Cham et. Schlect) root bark - 5%

RAW MATERIAL -ORIGIN OKINAWA
CONCENTRATION 1.0 kg extract = 25.5 kg Chitisu

<table>
<thead>
<tr>
<th>Specification Parameter Analysis</th>
<th>Specification Range</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
<td>Visual</td>
</tr>
<tr>
<td>Colour</td>
<td>Yellowish</td>
<td>Visual</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic Oil factory</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity(20deg.C)</td>
<td>1.040 - 1.065</td>
<td>USP XXIV / Paar, DMA35</td>
</tr>
<tr>
<td>Refractive Index(20deg.C)</td>
<td>1.370 - 1.387</td>
<td>USP XXIV / DGF IV C (52)</td>
</tr>
<tr>
<td>pH(20deg.C.) (100% concentrate)</td>
<td>5.9 - 6.5</td>
<td>USP XXIV / DGF H III(92)</td>
</tr>
</tbody>
</table>

Carrier Menstrual (Vehicle)
Water 45 - 85%
Propylene Glycol 25 - 50%

Saponification Value Soluble -
Viscosity - -
Dry Residue (160 Deg. C / 2hrs) 1 - 15% Mettler 16J
Preservation Nil -
Pesticide Content Nil Pflanzianiaschuttal 1989
Total Germs <100cfu/ml USP XXIV / Ph.Eur2.6.12 (97)
Total Yeast/Mold <100cfu/ml-non-pathogenic USP XXIV / Ph.Eur2.6.12 (97)
Heavy Metals(Total)As,Pb,Hg <0.10ppm USP XXIV / Ph.Eur2.6.12 (97)

Comments:
This material has not been animal tested for efficiency, bioavailability or therapeutic content. This botanical material is wildcrafted from Okinawa, Japan and Tur Hua Island (Taiwan).

External use only.

NOT FOR DRUG USE
OKINAWAN HERB EXTRACTS

CAMPO RESEARCH

PRODUCT #940.0030

OKINAWAN MEDICINAL HERBAL EXTRACTS FOR COSMETICS FORMULATIONS

PRODUCT TECHNICAL DATA SHEET

PRODUCT Name (Campo Research) CAMPO ENGOSAKU HYDROGLYCOL EXTRACT

Other Trade Names(Campo Research) Yanhusuo, Ingme Extract

CTFA TRADE NAME CAMPO ENGOSAKU

Existing CTFA/INCI Name Corydalis Ambigua

CAMPO PRODUCT # 940.0030

User's/Client's Name: N/A

CAS# N/A

EINECS# N/A

EINECS Name : N/A

English name: Yanhusuo, Hu Suo Hua - Chinese

Ing kuru - Aino

Ingme, Engosaku - Okinawan vernacular

Engemeisu Engzok - Japanese

Other names: Chinese Herbs, their Botany, Chemistry & Pharmacodynamics, John D. Keys, (1976), Tokyo, Japan (Eng.)

Chuyaku Daijiten, 1970, Tokyo (Japanese)

Reference literature: Chinese Herbs, their Botany, Chemistry & Pharmacodynamics, John D. Keys, (1976), Tokyo, Japan (Eng.)

Chuyaku Daijiten, 1970, Tokyo (Japanese)

Active substances: thymol anti-septic

phytosterols protective care

vegetable sulphur anti-mycotic agent

vitamins regenerative

salicylic acid strengthening & keratolytic effects

esential oils stimulates scalp metabolism

isocorydine stimulating

UVzymes TM UV A&B filter / absorption

Isocorydine and bulbocapnine are present in very small quantities; their actions are to subtly stimulate the follicles and peripheral scalp circulation in a very specific and spontaneous way.

Ethnobotany:

Engosaku is used medicinally as an analgesic for headaches, gastralgia and menstrual colic. It is also prescribed as a sedative and antispasmodic.

In traditional hair care remedies, a lotion prepared from the rootlets and flowers, generally as a one year old infusion, is used for a period of 45 days to stimulate the scalp and remove dandruff effectively preventing its recurrence.

Applications and dosage recommendations:

In hair care preparations, the combination of vegetable sulphur and salicylic acid make this a very effective addition to anti-dandruff formulations and formulations for the treatment of greasy hair and scalp conditions. It can also be used effectively as a general protective and improver of hair and scalp conditions through its ability to stimulate and improve the peripheral blood circulation of the scalp.
Anti-dandruff lotions & sprays 10 -15% as required
Anti-dandruff shampoos & conditioners 5 -10%
General hair care and degreasing 1 -3%

**Application codes:** ADT, PAD, GHC, AGH

**SPECIES**
Corydalis ambigua
Syn: Corydalis ambigua Cham et. Schlect (Corydalis yanhusuo (Cham et. Schlect))

**PARTS USED**
Prepared and cured rootlets and flowers

**RAW MATERIAL - ORIGIN**
OKINAWA

**CONCENTRATION**
1.0 kg extract = 12.5 kg Engosaku

### Specification Parameter Analysis

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification Range</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
<td>Visual</td>
</tr>
<tr>
<td>Colour</td>
<td>Dark brown</td>
<td>Visual</td>
</tr>
<tr>
<td>Odour</td>
<td>Thyme like aroma</td>
<td>Oil factory</td>
</tr>
<tr>
<td>Odour derived from the flowers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity(20deg.C)</td>
<td>1.010 - 1.050</td>
<td>USP XXIV / Paar, DMA35</td>
</tr>
<tr>
<td>Refractive Index(20deg.C)</td>
<td>1.450 - 1.490</td>
<td>USP XXIV / DGF IV C (52)</td>
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<tr>
<td>pH(20°C.)(100% concentrate)</td>
<td>2.0 - 4.0</td>
<td>USP XXIV / DGF H III (92)</td>
</tr>
</tbody>
</table>

### Carrier Menstrual (Vehicle)

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification Range</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>60 - 85%</td>
<td></td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>30 - 40%</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Soluble</td>
<td></td>
</tr>
<tr>
<td>Dry Residue (160 Deg. C / 2hrs)</td>
<td>1 - 15%</td>
<td>Mettler 16J</td>
</tr>
<tr>
<td>Saponification Value</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Preservation</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>Pesticide Content</td>
<td>Nil</td>
<td>Pflanzaniaschuttal 1989</td>
</tr>
<tr>
<td>Total Germs</td>
<td>&lt;100cfu/ml</td>
<td>USP XXIV / Ph.Eur2.6.12 (97)</td>
</tr>
<tr>
<td>Total Yeast/Mold</td>
<td>&lt;100cfu/ml-nongen</td>
<td>USP XXIV / Ph.Eur2.6.12 (97)</td>
</tr>
<tr>
<td>Heavy Metals(Total)As,Pb,Hg</td>
<td>&lt;0.10ppm</td>
<td>USP XXIV / Ph.Eur2.6.12 (97)</td>
</tr>
</tbody>
</table>

### Comments:
This material has not been animal tested for efficiency, bioavailability or therapeutic content. This botanical material is wildcrafted from Okinawa, Japan, and Tur Hua Island (Taiwan).

External use only.

**NOT FOR DRUG USE**
OKINAWAN HERB EXTRACTS

CAMPO RESEARCH

PRODUCT #940.0090

OKINAWAN MEDICINAL HERBAL EXTRACTS FOR COSMETICS FORMULATIONS

PRODUCT TECHNICAL DATA SHEET

PRODUCT Name (Campo Research)  CAMPO RYUTAN HYDROGLYCOL EXTRACT
Other Trade Names(CampoResearch)  Long Dan Yao - Chinese; Eitsi - Aino; Eitsitan, Ryutan - Okinawan Vernacular; Kenkon - Japanese
CTFA TRADE NAME  CAMPO RYUTAN
Existing CTFA/INCI Name  Gentiana scabra Bunge
CAMPO PRODUCT #  940.0090
CAS#  N/A
EINECS#  N/A
EINECS Name  N/A
English name:  gentian root
Other names:  Long Dan Yao - Chinese
              Eitsi - Aino
              Eitsitan, Ryutan - Okinawan vernacular
              Kenkon – Japanese
Reference literature  Chinese Herbs, their Botany, Chemistry & Pharmacodynamics,
  John D. Keys, (1976), Tokyo, Japan (Eng.)
  Chuyaku Daijiten, 1970, Tokyo (Japanese)
Active substances:  tannins  astringent
                   phytosterols  protective care
                   saponins  cleansing
                   vitamins  regenerative
                   essential oils  stimulates scalp metabolism
                   UVzymes™  UV A&B filter / absorption
Ethnobotany:

Ryutan has traditionally been used in folk hair care remedies to prepare a lotion for the daily maintenance of sheen and vitality.

The various methods used to prepare the roots, which may effectively be viewed as crude plant drugs, provide different functionality specific to the preparative treatment and curing process to which the root is subject.

The use of Ryutan will normally stimulate and vitalise the hair, at the same time providing a very pronounced sheen and vitality. Although Ryutan is a normally used name, according to the Kampo system of traditional medicine it should be qualified by the name Ryutan Sho Zen.

Applications and dosage recommendations:

Ryutan has a broad-spectrum effect on normal hair in terms of manageability, sheen, and vitality and also offers preventative hair care and maintenance.

General hair cares  10 - 15%
Shampoos for sheen & vitality 5 - 10%
Rinses for manageability 5%

**Application code**
ARHC, SLH, & RVH

**SPECIES**
Gentiana scabra Bunge
Syn: Gentiana scabra Bunge

**PARTS USED**
Prepared roots

**RAW MATERIAL - ORIGIN**
OKINAWA

**CONCENTRATION**
1.0 kg extract = 6.62 kg Ryutan

### Specification Parameter Analysis

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification Range</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
<td>Visual</td>
</tr>
<tr>
<td>Colour</td>
<td>Brownish</td>
<td>Visual</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic spicy aroma</td>
<td>Oil Factory</td>
</tr>
<tr>
<td>Specific Gravity (20deg.C)</td>
<td>1.020 - 1.040</td>
<td>USP XXIV / Paar,DMA35</td>
</tr>
<tr>
<td>Refractive Index (20deg.C)</td>
<td>1.356 - 1.376</td>
<td>USP XXIV / DGF IV C (52)</td>
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<tr>
<td>pH (20°C) (100% Concentrate)</td>
<td>5.5 - 6.5</td>
<td>USP XXIV / DGF H III (92)</td>
</tr>
<tr>
<td>Carrier Menstrual (Vehicle)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>50 - 80%</td>
<td>-</td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>30 - 40%</td>
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<tr>
<td>Water Solubility</td>
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<tr>
<td>Saponification Value</td>
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<td>-</td>
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<tr>
<td>Viscosity</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Dry Residue (160deg.C / 2hrs)</td>
<td>1 - 15%</td>
<td>Mettler 16J</td>
</tr>
<tr>
<td>Preservation</td>
<td>None</td>
<td>Pflanzaniaschuttal 1989</td>
</tr>
<tr>
<td>Pesticide Content</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Total Germs</td>
<td>&lt;100 Cfu/ml - Non-Pathogenic</td>
<td>USP XXIV / Ph.Eur2.6.12 (97)</td>
</tr>
<tr>
<td>Total Yeast/Mold</td>
<td>&lt;100 Cfu/ml</td>
<td>USP XXIV / Ph.Eur2.6.12 (97)</td>
</tr>
<tr>
<td>Heavy Metals (Total) As, Pb, Hg</td>
<td>&lt;0.10 ppm</td>
<td>USP XXIV / Ph.Eur2.6.12 (97)</td>
</tr>
</tbody>
</table>

**Comments:**
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External use only.

NOT FOR DRUG USE
# OKINAWAN HERB EXTRACTS

**CAMPO RESEARCH**

**PRODUCT # 940.0010**

OKINAWAN MEDICINAL HERBAL EXTRACTS FOR COSMETICS FORMULATIONS

**PRODUCT TECHNICAL DATA SHEET**

<table>
<thead>
<tr>
<th>PRODUCT Name (Campo Research)</th>
<th>CAMPO SHAKO NAKAI HYDROGLYCOL EXTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Trade Names (CampoResearch)</td>
<td>Shao Yao, Bai Shao, and Pei Shao - Chinese</td>
</tr>
<tr>
<td>Shako Nakai, Shako - Okinawan Vernacular</td>
<td></td>
</tr>
<tr>
<td>Shaku Yaku, Shakoyaku - Japanese</td>
<td></td>
</tr>
</tbody>
</table>

**CTFA TRADE NAME**

CAMPO SHAKO NAKAI

**Existing CTFA/INCI Name**

Paeonia lactiflora

**CAMPO PRODUCT #**

940.0010

**CAS#**

N/A

**EINECS#**

N/A

**EINECS Name:**

N/A

**English name:**

Chinese White Peony

**Other names:**

Shao Yao, Bai Shao, and Pei Shao - Chinese
Sha Nogo, Nogo Kuru - Aino
Shako Nakai, Shako - Okinawan vernacular
Shaku Yaku, Shakoyaku - Japanese

**Reference literature:**

Chinese Herbs, their Botany, Chemistry & Pharmacodynamics, John D. Keys, (1976), Tokyo, Japan (Eng.)

Chuyaku Daijiten, 1970, Tokyo (Japanese)

**Active substances:**

- paeonol - anti-septic
- phytosterols - protective care
- vitamin E - protective
- vitamins - regenerative
- showa nagi* - strengthening
- UVzymes™ - UV A&B filter / absorption

* Showa nagi is a proprietary name for a complex of hydrolysates similar in structure to human hair isolated from keratin compounds found in the fresh root bark sap of Paeonia.

**Ethnobotany:**

Shaku Yaku is used medicinally for gastric disorders, as an internal anti-septic, expectorant, emmenagogue and as a hair strengthener and manageability aid in traditional hair care formulations.

**Applications and dosage recommendations:**

The presence of *Showa nagi* makes Shaku Yaku ideal for incorporation in many hairs strengthening formulations particularly those used for treatment and structural improvement of the hair, especially fine and fly away hair, prior to cold perm treatment. The other uses are as a protective and general improver of hair in order for it to withstand the effects of cold perms and other treatments. A pre-treatment with Shaku Nakai strengthens the hair and facilitates its styling.

In general hair care, Shaku Yaku will offer structural strengthening improved manageability of fine and fly away hair and uniquely improve the hair lustre.
Pre-cold perm lotions 10 - 15% as required
Shampoos & rinses 3 - 5%
Structural strength washoff lotions 1 - 3%
General hair cares products 1 - 3%

Application codes: NSH, BLH, PCP, and DLH

SPECIES Paeonia lactiflora
Syn: Paeonia lactiflora (Paeonia lactiflorum Pall. Var. Pelluanens (Nagai))

PARTS USED Prepared and cured bark peeling and tree sap (lacto-sap gum ersin filtered from succulent bark inner peel and prepared and cured as a botanical drug).

RAW MATERIAL - ORIGIN OKINAWA
CONCENTRATION 1.0 kg extract = 2.5kg Shaku Yaku

<table>
<thead>
<tr>
<th>Specification Parameter Analysis</th>
<th>Specification Range</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
<td>Visual</td>
</tr>
<tr>
<td>Colour</td>
<td>Clear, Yellow</td>
<td>Visual</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic sap</td>
<td>Oil Factory</td>
</tr>
<tr>
<td>Specific Gravity(20deg.C)</td>
<td>1.040 - 1.060</td>
<td>USP XXIV / Paar, DMA35</td>
</tr>
<tr>
<td>Refractive Index(20deg.C)</td>
<td>1.360 - 1.380</td>
<td>USP XXIV / DGF IV C (52)</td>
</tr>
<tr>
<td>pH (20° C) (100% Concentrate)</td>
<td>4.0 - 7.0</td>
<td>USP XXIV / DGF H III (92)</td>
</tr>
</tbody>
</table>

Carrier Menstrual (Vehicle)
Water 55.5 - 95.5%
Propylene Glycol 15.5 - 30.5%

Water Solubility Soluble -
Saponification Value - -
Viscosity - -
Dry Residue (160deg.C / 2hrs) 1-15% Mettler 16J
Preservation None -
Pesticide Content None Pflanzaniaschuttal 1989
Total Germs <100 Cfu/ml - Non-Pathogenic USP XXIV / Ph.Eur2.6.12 (97)
Total Yeast/Mold <100 Cfu/ml USP XXIV / Ph.Eur2.6.12 (97)
Heavy Metals(Total) As, Pb, Hg <0.10 ppm USP XXIV / Ph.Eur2.6.12 (97)

Comments:
This material has not been animal tested for efficiency, bioavailability or therapeutic content. This botanical material is wildcrafted from Okinawa, Japan, and Tur Hua Island (Taiwan).

External use only.

NOT FOR DRUG USE
# OKINAWAN HERB EXTRACTS

**CAMPO RESEARCH**

**PRODUCT# 940.0050**

**OKINAWAN MEDICINAL HERBAL EXTRACTS FOR COSMETICS FORMULATIONS**

**PRODUCT TECHNICAL DATA SHEET**

<table>
<thead>
<tr>
<th>PRODUCT Name (Campo Research)</th>
<th>CAMPO TOHASAKU HYDROGLYCOL EXTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Trade Names(CampoResearch)</td>
<td>White Mulberry; Sang Bi Shan Pi Fen - Chinese;</td>
</tr>
<tr>
<td>Tosikuru - Aino ;Tohia, Tohasaku - Okinawan vernacular ; Sohakuhi - Japanese (related drugs)</td>
<td></td>
</tr>
</tbody>
</table>

**CTFA TRADE NAME**

CAMPO TOHASAKU

**Existing CTFA/INCI Name**

Mulberry (Morus Alba)

**CAMPO PRODUCT #**

940.0050

**CAS#**

N/A

**EINECS#**

N/A

**EINECS Name**

White mulberry

**English name:**

White mulberry

**Other names:**

Sang Bi Shan Pi Fen - Chinese

Tosikuru - Aino

Tohia, Tohasaku - Okinawan vernacular

Sohakuhi - Japanese (related drugs)

**Reference literature:**

Chinese Herbs, their Botany, Chemistry & Pharmacodynamics, John D. Keys, (1976), Tokyo, Japan (Eng.)

Chuyaku Daijiten, 1970, Tokyo (Japanese)

**Active substances:**

- tannins
- phytosterols
- vegetable sulphur
- vitamins
- essential oils
- saponins
- UVzymes™

- astringent
- protective care
- anti-mycotic agent
- regenerative
- stimulates scalp metabolism
- cleansing
- UV A&B filter / absorption

**Ethnobotany:**

Tohasaku is used medicinally as a tonic, anti-phlogistic and hypotensor.

On tradition folk hair care remedies; a lotion prepared from stem cuttings and leaves is prepared as a degreasing wash. It also serves to stimulate the scalp effectively minimising the recurrence of the greasy conditions.

Other uses of Tohasaku employ a preparation of the stem bark as a skin whitener.

**Applications and dosage recommendations:**

In hair care preparations, the combination of vegetable sulphur and tannins combine to make this a very effective addition to anti-dandruff formulations and formulations for the treatment of greasy hair and scalp conditions.

Degreasing hair tonics 4 - 6%
Specific degreasing shampoos 2 - 5%
Degreasing conditioner 2 - 5%

**Application codes:** AGH, AGHT, and PAD

**SPECIES**
Mulberry (Morus Alba)
Syn: Mulberry (Morus Alba) (Morus alba L.)

**PARTS USED**
Prepared and cured stems and leaves

**RAW MATERIAL - ORIGIN**
OKINAWA

**CONCENTRATION**
1.0 kg extract = 10.5 kg Tohasaku

### Specification Parameter Analysis

<table>
<thead>
<tr>
<th>Specification Parameter Analysis</th>
<th>Specification Range</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
<td>Visual</td>
</tr>
<tr>
<td>Colour</td>
<td>Dark brown</td>
<td>Visual</td>
</tr>
<tr>
<td>Odour</td>
<td>Woody aroma</td>
<td>Oil Factory</td>
</tr>
<tr>
<td>Specific Gravity(20deg,C)</td>
<td>1.017 - 1.120</td>
<td>USP XXIV / Paar,DMA35</td>
</tr>
<tr>
<td>Refractive Index(20deg,C)</td>
<td>1.456 - 1.490</td>
<td>USP XXIV / DGF IV C (52)</td>
</tr>
<tr>
<td>pH(20°C)(100% Concentrate)</td>
<td>2.0 - 3.0</td>
<td>USP XXIV / DGF H III (92)</td>
</tr>
</tbody>
</table>

**Carrier Menstrual (Vehicle)**

| Water                           | 50.5 - 90.5%         | -       |
| Propylene Glycol                | 15.5 - 30.5%         | -       |
| Water Solubility                | Soluble              | -       |
| Saponification Value            | -                    | -       |
| Viscosity                       | -                    | -       |
| Dry Residue (160deg,C / 2hrs)   | 1 - 15%              | Mettler 16J |
| Preservation                    | None                 | -       |
| Pesticide Content               | None                 | Pflanzaniaschuttal 1989 |
| Total Germs                     | <100 Cfu/ml - Non-Pathogenic |

**Total Yeast/Mold**

| <100 Cfu/ml                       | USP XXIV / Ph.Eur2.6.12 (97) |

**Heavy Metals(Total)As,Pb,Hg**

| <0.10 ppm                         | USP XXIV / Ph.Eur2.6.12 (97) |

**Comments:**
This material has not been animal tested for efficiency, bioavailability or therapeutic content.
This botanical material is wildcrafted from Okinawa, Japan, and Tur Hua Island (Taiwan).

External use only.

NOT FOR DRUG USE
Okinawan Herbs Gallery

Engosaku
Corydalis yanhusuo

Ryutan
Gentiana scabra

Tohasaku
Morus Alba

Shako nakai
Paeonia lactiflorum Pall.
The botanical extracts described in this brochure have not been animal tested for efficiency, bioavailability nor therapeutic content.

They are for EXTERNAL use only is NOT FOR DRUG USE.

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