

◇Natural Oil	INCI	Reach Exemption	NMPA China	COSMOS	Packing kg	Physical Form	ISO16128			
							Natural index	Natural origin index	Organic index	Organic origin index
Tsubaki Oil	CAMELLIA JAPONICA SEED OIL	✓	✓	✓	16.5Tin	Oil	1	1	0	0
Camellia Oil EXD	CAMELLIA OLEIFERA SEED OIL	✓	✓		16.5Tin 180DM	Oil	1	1	0	0
Macadamia Nut Oil	MACADAMIA TERNIFOLIA SEED OIL	✓	✓	✓	16.5Tin	Oil	1	1	0	0
Sunflower Seed Oil	HELIANTHUS ANNUUS (SUNFLOWER) SEED OIL	✓	✓	✓	16.5Tin 181.5DM	Oil	1	1	0	0
Yuzu Oil	CITRUS JUNOS SEED OIL	✓	✓	✓	1Tin	Oil	1	1	0	0
Almond Oil	PRUNUS AMYGDALUS DULCIS (SWEET ALMOND) OIL	✓	✓		15 Tin	Oil	1	1	0	0
Amla Oil	PHYLLANTHUS EMBLICA FRUIT EXTRACT	✓	✓		16.5Tin	Oil	1	1	0	0

◇Vegetable Butter	INCI	Reach Exemption	NMPA China	COSMOS	Packing kg	Physical Form	ISO16128			
							Natural index	Natural Origin index	Organic index	Organic origin index
Macadamia Nut Butter	MAKADAMIA SEED OIL / HYDROGENATED MAKADAMIA SEED OIL ESTERS		✓	✓	15 Tin	Paste	0	1	0	0
Sunflower Butter	SUNFLOWER SEED OIL / HYDROGENATED SUNFLOWER SEED OIL ESTERS		✓	✓	15 Tin	Paste	0	1	0	0
Camellia Butter	CAMELLIA OLEIFERA SEED OIL / HYDROGENATED CAMELLIA OLEIFERA SEED OIL ESTERS		✓	✓	15 Tin	Paste	0	1	0	0

◇Hydrogenated Oil	INCI	Reach Exemption	NMPA INCI	COSMOS	Packing kg	Physical Form	ISO16128			
							Natural index	Natural origin index	Organic index	Organic origin index
Hydrogenated Rapeseed Oil	HYDROGENATED RAPESEED OIL		✓		20 Bag	Flake	0	1	0	0
Hydrogenated Hi Erucic Acid Rapeseed Oil	TRIBEHENIN		✓		20 Bag	Flake	0	1	0	0
Hydrogenated Palm Oil	HYDROGENATED PALM OIL		✓		20 Bag	Flake	0	1	0	0
Hydrogenated Soybean Oil	HYDROGENATED SOYBEAN OIL		✓		20 Bag	Flake	0	1	0	0

◇Wax	INCI	Reach Exemption	NMPA China	COSMOS	Packing kg	Physical Form	ISO16128			
							Natural index	Natural origin index	Organic index	Organic origin index
Candelilla Wax MK-2	EUPHORBIA CERIFERA (CANDELILLA) WAX	✓	✓	✓	20 Bag	Pellet	1	1	0	0
Candelilla Wax MK-4	EUPHORBIA CERIFERA (CANDELILLA) WAX	✓	✓	✓	20 Bag	Pellet	1	1	0	0
Candelilla Wax MK-5	EUPHORBIA CERIFERA (CANDELILLA) WAX	✓	✓	✓	20 Bag	Pellet	1	1	0	0
Candelilla Wax MD-21	CANDELILLA WAX HYDROCARBONS	✓	✓	✓	10 Box	Pellet	1	1	0	0
Candelilla Wax de BA	EUPHORBIA CERIFERA (CANDELILLA) WAX	✓	applying		20 Bag	Pellet	1	1	0	0
Candelilla Wax de Resin	EUPHORBIA CERIFERA (CANDELILLA) WAX	✓	applying		10 Box	Pellet	1	1	0	0
Candelilla Wax Resin T-1	EUPHORBIA CERIFERA (CANDELILLA) WAX EXTRACT	✓	applying		10 Box	Pellet	1	1	0	0
Candelilla Wax Ester	CANDELILLA WAX ESTERS	✓	applying		10 Box	Pellet	1	1	0	0
Carnauba Wax R-100	COPERNICIA CERIFERA (CARNAUBA) WAX	✓	✓		20 Bag	Pellet	1	1	0	0
Sunflower Wax	HELIANTHUS ANNUUS (SUNFLOWER) SEED WAX	✓	✓		20 Bag	Pellet	1	1	0	0
Japan Wax-Y	RHUS VERNICIFLUA PEEL WAX	✓	✓	✓	10 Box	Pellet	1	1	0	0
Bees Wax CY-100	BEE SWAX	✓	✓	✓	20 Bag	Pellet	1	1	0	0
Sugarcane Wax	SACCHARUM OFFICINARUM (SUGAR CANE) EXTRACT	✓	✓		20 Bag	Pellet	1	1	0	0
	SACCHARUM OFFICINARUM (SUGARCANE) WAX	✓								
Rice Bran Wax S-100	ORYZA SATIVA (RICE) BRAN WAX	✓	✓		20 Bag	Pellet	1	1	0	0
Rice Wax R-110	ORYZA SATIVA (RICE) BRAN WAX (and) HYDROGENATED RAPESEED OIL		✓		20 Bag	Pellet	0.5	1	0	0
Jobba Seed Oil	SIMMONDSIA CHINENSIS (JOJOBA) SEED OIL	✓	✓	✓	16 Tin	Oil	1	1	0	0
Viscosity Wax U-1	SYNTHETIC JAPAN WAX		✓		10 Box	Pellet	0	0.95	0	0
Viscosity Wax C-1	SYNTHETIC JAPAN WAX		✓		10 Box	Pellet	0	0.95	0	0

◇Technol® Series	INCI	Reach Exemption	NMPA China	COSMOS	Packing kg	Physical Form	ISO16128			
							Natural index	Natural origin index	Organic index	Organic origin index
Technol® MH	HYDROGENATED CASTOR OIL HYDROXYSTEARATE		✓		16 Tin	Paste	0	1	0	0
Technol® MIS	HYDROGENATED CASTOR OIL ISOSTEARATE		✓		16 Tin	Paste	0	1	0	0
Technol® SD(Non-GMO)	HELIANTHUS ANNUUS (SUNFLOWER) SEED OIL UNSAPONIFIABLES	✓	✓	✓	16 Tin	Oil	1	1	0	0
Technol® OR/SQ	CITRUS AURANTIUM DULCIS (ORANGE) FRUIT EXTRACT, SQUALANE		applying		15 Tin	Oil	0	1	0	0
Technol® LTO	JOJOBA OIL/ CAPRYLIC/ CAPRIC TRIGLYCERIDE ESTERS		✓	✓	16 Tin	Oil	0	1	0	0
Technol® PG	LECITHIN	✓	✓		500g	Paste	0	1	0	0
	PHOSPHATIDYLGLYCEROL	✓								
Technol® PG (Non-GMO)	LECITHIN	✓	✓	✓	500g	Paste	0	1	0	0
	PHOSPHATIDYLGLYCEROL	✓		✓						

Tsubaki Oil



Origin

This product is extracted and purified from Tsubaki seeds (*Camellia Japonica*). It contains more than 83% oleic acid; therefore, this oil is a plant oil of very high oxidative stability. Especially in Japan, Tsubaki oil has been used as a hair oil to promote natural luster and moisture for centuries.

Properties

- Transparent, pale yellow in color
- Odorless
- High in oleic acid
- Dry oil
- Superior oxidative stability

Application

- Cosmetics
- Toiletries
- Skin care products
- Hair care products
- Sun care products
- Lip care products

Oxidative Stability, CDM120

About 5.5 hours



COSMOS
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INCI NAME	CAMELLIA JAPONICA SEED OIL
REACH Exemption	✓
CHINA INCI	山茶 (CAMELLIA JAPONICA) 籽油
CAS	223748-13-8
EINECS	607-020-4
NET	16.5kg/Tin can
Shelf life	2 years

Specification

Acid value	5 max.
Iodine value	78 - 83
Saponification value	189 - 194
Unsaponifiable matter, %	1.0 max.
Specific gravity, 20/20	0.910 - 0.915
Arsenic, ppm	2 max.
Heavy metal, ppm	20 max.

Fatty acid composition(%) Our measured value

Fatty acid	Our measured value	Value (%)
Palmitic acid	C16	6.3
Palmitoleic acid	C16:1	0.1
Stearic acid	C18	1.9
Oleic acid	C18:1	88.8
Linoleic acid	C18:2	2.6
Linolenic acid	C18:3	0.1
Arachidic acid	C20	-
Eicosenoic acid	C20:1	0.2
Others		0.0



YOKOZEKI

History of Tsubaki Oil



Tsubaki Oil has a long history of over 1,000 years in Japan.



It has been used as:

A cooking oil for Japanese Tempura.

•
A metal protector for Japanese “*Katana*” samurai swords.

•
A hair treatment to make hair shiner, healthier and more vibrant.

【HARVEST and EXTRACTION PROCESS】 We only use Japanese Tsubaki seeds.



Tsubaki Trees blossom from January to March.



The seeds fall and are collected by hand from October to February.



The seeds are sun-dried and sorted.



The oil is then refined in our factory to bring you the highest quality Tsubaki oil.



Tsubaki Oil is extracted by cold pressing the seeds.
※The amount of oil extracted is approximately 20%-30% of the total weight of the seeds.

YOKOZEKI

Camellia Oil EXD



Origin

This product is a natural oil, which is extracted and purified from Camellia seeds (*Camellia Oleifera Abel*). It contains more than 80% oleic acid ; therefore, this oil is a plant based oil of very high oxidative stability. Camellia grows on evergreen trees and blooms from October to January. *Camellia oleifera* is the most abundant among the camellia genus in the Theaceae family. The kernel contains around 35% of the oil. This is a dry oil and similar to Tsubaki oil because their flowers both belong to genus Camellia, family Theaceae.

Properties

- Transparent , pale yellow in color
- Odorless
- High in oleic acid
- Dry oil
- Superior oxidative stability

Application

- Cosmetics
- Toiletries
- Skin care products
- Hair care products
- Sun care products
- Lip care products

Oxidative Stability , CDM120

About 6 hours



INCI NAME	CAMELLIA OLEIFERA SEED OIL
REACH Exemption	✓
CHINA INCI	油茶(CAMELLIA OLEIFERA)籽油
CAS	225233-97-6
EINECS	—
NET	16.5kg/Tin can , 180kg/Drum
Shelf life	2 years

Specification

Acid value	0.5 max.
Iodine value	78 - 88
Saponification value	185 - 197
Moisture , %	0.1 max.
Unsaponifiable matter , %	1.0 max.
Arsenic , ppm	1 max.
Heavy metal , ppm	10 max.

Fatty acid composition(%) Our measured value

Fatty acid	Abbreviation	Measured value (%)
Palmitic acid	C16	5.5
Stearic acid	C18	1.9
Oleic acid	C18:1	82.5
Linoleic acid	C18:2	7.8
Linolenic acid	C18:3	0.3
Arachidic acid	C20	-
Eicosenoic acid	C20:1	0.5
Others		0.0

Camellia Oil



Camellia oleifera trees, which originated in China, blossom from October to December.

In China, it has been known as a longevity oil for over 1,000 years, and it was given as a gift to the emperor.

It has an excellent softening effect and is mixed with other oils to make a variety of cosmetic products.



Macadamia Nut Oil



Origin

This product is a natural oil which is a pressed and purified seed oil derived from *Macadamia Ternifolia* (F. Muell Proteaceae). Macadamia nuts have been cultivated in Hawaii, Australia, the Pacific Islands and Kenya and is commonly used as a food and cosmetic ingredient.

Properties

- Transparent , pale yellow in color
- Odorless
- High in palmitoleic acid
- Dry oil

Application

- Cosmetics
- Toiletries
- Skin care products
- Hair care products
- Sun care products
- Lip care products

Oxidative Stability , CDM120

About 5.5 hours



COSMOS
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INCI NAME	MACADAMIA TERNIFOLIA SEED OIL
REACH Exemption	✓
CHINA INCI	澳洲坚果(MACADAMIA TERNIFOLIA) 籽油
CAS	128497-20-1, 129811-19-4
EINECS	273-313-5
NET	16.5kg/Tin can
Shelf life	2 years

Specification

Acid value	0.5 max.
Iodine value	70 - 80
Saponification value	190 - 200
Moisture , %	0.1 max.
Unsaponifiable matter , %	1.5 max.
Arsenic , ppm	2 max.
Heavy metal , ppm	20 max.

Fatty acid composition(%) Our measured value

Fatty acid	Our measured value	
Myristic acid	C14	0.8
Palmitic acid	C16	8.8
Palmitoleic acid	C16:1	22.2
Stearic acid	C18	3.3
Oleic acid	C18:1	55.4
Linoleic acid	C18:2	3.2
Linolenic acid	C18:3	0.1
Arachidic acid	C20	2.7
Eicosenoic acid	C20:1	2.5
Behenic acid	C20	0.8
Others		0.2

Macadamia Nut Oil



Its main components are triglyceride of oleic acid and palmitoleic acid.

It contains nearly 25% palmitoleic acid so it makes skin and hair softer to the touch.

【Main uses】

Nourishing cream, skin cream, massage cream, milky cream, Suntan oil, emollient oil, treatment etc.



Sunflower Seed Oil



Origin

This product is a refined oil with high oleic acid content derived from the Sunflower (*Helianthus annuus Linne*(Compositae)) seed. The original sunflower seed contains about 70% linoleic acid, though the recent hybrid seed produces an oil with high oxidative stability derived from a higher oleic content (less polyunsaturated fatty acids). Our hi-oleic sunflower oil is produced from this hybrid seed.

Properties

- Transparent , pale yellow in color
- Odorless
- High in oleic acid
- High in natural vitamin E
- Dry oil
- Superior oxidative stability

Application

- Cosmetics
- Toiletries
- Skin care products
- Hair care products
- Sun care products
- Lip care products

Oxidative Stability , CDM120

About 12 hours



COSMOS
APPROVED

INCI NAME	HELIANTHUS ANNUUS (SUNFLOWER) SEED OIL
REACH Exemption	✓
CHINA INCI	向日葵(HELIANTHUS ANNUUS)籽油
CAS	8001-21-6
EINECS	232-273-9
NET	16.5kg/Tin can
Shelf life	2 years

Specification

Acid value	0.5 max.
Iodine value	78 - 88
Saponification value	185 - 195
Unsaponifiable matter , %	2.5 max.
Arsenic , ppm	2 max.
Heavy metal , ppm	20 max.
Infrared spectroscopy	PASS



Fatty acid composition(%) Our measured value

Fatty acid	Abbreviation	Measured value (%)
Palmitic acid	C16	2.8
Palmitoleic acid	C16:1	Tr
Stearic acid	C18	3.8
Oleic acid	C18:1	88.8
Linoleic acid	C18:2	3.5
Linolenic acid	C18:3	0.1
Arachidic acid	C20	0.3
Eicosenoic acid	C20:1	0.3
Others		0.0

Sunflower Seed Oil

【History】

Sunflowers were introduced to Europe from the United States in the 16th century. It is said that cultivation of the oil began around the 18th century.

It is widely cultivated now in the Soviet Union, Argentina, Eastern Europe, the United States and others.

It is superior in transparency, the touch.
The oil is rich in vitamin E.

Over 40% of the Sunflower's seed's weight is oil.

Yuzu Oil



**COSMOS
APPROVED**

INCI NAME	CITRUS JUNOS SEED OIL
REACH Exemption	✓
CHINA INCI	香橙 (CITRUS JUNOS) 籽提取物
CAS	—
EINECS	—
NET	1kg/Tin can
Shelf life	2years

Specification

Acid value	1 max.
Iodine value	90 – 105
Saponification value	185 – 200
Moisture , %	—
Arsenic , ppm	1 max.
Heavy metal , ppm	10 max.



Origin

This product is extracted and purified from Citrus junos seeds (Japanese Yuzu).

It is a citrus fruit and plant in the family Rutaceae.

Yuzu is also known for its characteristically strong aroma, and the oil from its skin is marketed as a fragrance. In Japan, bathing with yuzu, is a custom that dates to at least the early 18th century. The yuzu bath is said to guard against colds, treat the roughness of skin, warm the body, and relax the mind.

Properties

- Transparent , pale yellow in color
- Odorless
- Japanese Origin
- Prevent skin from transepidermal water loss
- Inhibitory effect of tyrosinase activity
- Relief of itching
- Effect on the anti-aging

Application

- Cosmetics
- Toiletries
- Skin care products
- Hair care products
- Sun care products
- Lip care products



Fatty acid composition(%) Our measured value

Fatty acid	Carbon Chain	Our measured value (%)
Palmitic acid	C16	20.0
Palmitoleic acid	C16:1	0.5
Stearic acid	C18	4.1
Oleic acid	C18:1	37.0
Linoleic acid	C18:2	36.1
Linolenic acid	C18:3	2.0
Arachidic acid	C20	0.3
Others		0.0

Yuzu Oil



Japanese waterfall & Autumn leaves



Japanese "YUZU_BATH"

YOKOZEKI

Amla Oil



Origin

This product is extracted and purified from Amla seeds(Phyllanthus emblica). It contains high linolenic acid. It has been used for Ayurveda which is a system of medicine with historical roots in India.

Properties

Transparent, pale yellow color

Characteristic

High in linoleic acid

INCI NAME	PHYLLANTHUS EMBLICA FRUIT EXTRACT
CHINA INCI	余甘子 (PHYLLANTHUS EMBLICA) 果提取物
CAS	90028-28-7
EINECS	289-817-3
NET	16.5kg/Tin can
Shelf life	2 years

Almond Oil



Origin

This product is oil extracted and refined from Almond (Prunus amygdalus dulcis) seeds. Oleic acid accounts for more than half of the fatty acids and is expected to have an emollient effect.

Properties

Transparent, pale yellow color

Characteristic

High in oleic acid

INCI NAME	PRUNUS AMYGDALUS DULCIS (SWEET ALMOND) OIL
CHINA INCI	甜扁桃 (PRUNUS AMYGDALUS DULCIS) 油
CAS	8007-69-0 / 90320-37-9
EINECS	—
NET	15kg/Tin can
Shelf life	2 years



Application

Skin care & Body care products
Hair care products

Fatty acid composition(%) Our measured value		
Palmitic acid	C16	10.7
Palmitoleic acid	C16:1	0.1
Stearic acid	C18	4.8
Oleic acid	C18:1	23.8
Linoleic acid	C18:2	52.3
Linolenic acid	C18:3	6.3
Arachidic acid	C20	0.5
Eicosenoic acid	C20:1	0.7
Behenic acid	C22	0.5
lignoceric acid	C24	0.2
Others		0.1



Application

Skin care & Body care products
Hair care products

Fatty acid composition(%) Our measured value		
Palmitic acid	C16	6.5
Palmitoleic acid	C16:1	0.8
Stearic acid	C18	1.5
Oleic acid	C18:1	66.4
Linoleic acid	C18:2	23.3
Linolenic acid	C18:3	0.0
Arachidic acid	C20	0.3
Eicosenoic acid	C20:1	0.5
Behenic acid	C22	0.0
lignoceric acid	C24	0.0
Others		0.7



Candelilla Wax MK-2, MK-4, MK-5, MD-21



Origin

Candelilla wax is a natural wax derived from the Candelilla shrub which is found in arid zones in northern Mexico to the southwestern United States. The Candelilla shrub stems have a thin wax film and almost no leaves. They grow in arid areas where the temperature difference between the summer and winter season is 65 degrees. Harvested candelilla shrubs are sun dried and then boiled to obtain slack waxes.

Properties

Yellow solid with slight with a characteristic scent

Application

Lipsticks, Foundations, Hair styling products, Emulsion, Exfoliating agent

Grade

- ◆ **Candelilla wax MK-2**
General
- ◆ **Candelilla wax MK-4**
Peculiar smell is improved, comparing to general grade.
- ◆ **Candelilla wax MK-5**
Light color, comparing to general grade.
- ◆ **Candelilla Wax MD-21**
This products is a fraction of Candelilla wax hydrocarbon portion to higher concentration.
Melting point 66°C, Hydrocarbon content approx. 80%



COSMOS
APPROVED

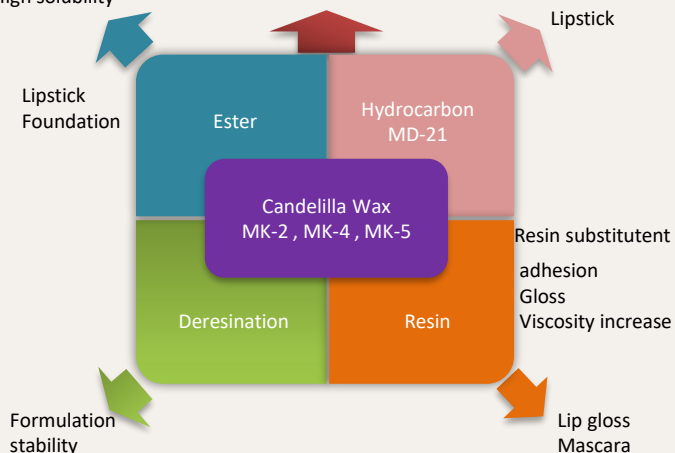
	MK-2	MK-4	MK-5	MD-21
INCI NAME	EUPHORBIA CERIFERA(CANDELILLA)WAX			CANDELILLA WAX HYDROCARBONS
REACH Exemption	✓	✓	✓	✓
CHINA INCI	小烛树(EUPHORBIA CERIFERA)蜡			小烛树(EUPHORBIA CERIFERA)蜡烃
CAS	8006-44-8			
EINECS	232-347-0			
NET	20kg/Bag			10kg/Box
Shelf life	3 years			

Specification	MK-2	MK-4, MK-5	MD-21
Acid value	14 - 24	14 - 24	2 - 15
Iodine value	10 - 22	10 - 22	1 - 18
Saponification value	46 - 65	46 - 65	5 - 20
Color , Gardner	12 max.	9 max.	4 max.
Melting point , °C	68 - 72	68 - 72	60 - 70
Loss on drying , %	0.3 max.	0.3 max.	0.3 max.
Residue on Ignition , %	0.3 max.	0.3 max.	0.1 max.
Arsenic , ppm	2 max.	2 max.	2 max.
Heavy metal , ppm	20 max.	20 max.	20 max.

High performance
High solidification ability
High solubility

Silicone solubility High

Long lasting
Lipstick



Candelilla Wax de BA



INCI NAME	EUPHORBIA CERIFERA (CANDELILLA) WAX
CHINA INCI	小烛树 (EUPHORBIA CERIFERA) 蜡
CAS	8006-44-8
EINECS	232-347-0
NET	20kg / Bag
SHELF LIFE	3 years

Specification

Acid Value	14 - 24
Iodine Value	10 - 22
Saponification Value	46 - 65
Color, Gardner	-
Melting Point (°C)	68 - 72
Loss on Drying	0.3% max.
Residue on Ignition	0.3% max.
Arsenic	2 ppm max.
Heavy Metal	20ppm max.
Benzyl alcohol	10 ppm max.

Origin

This product contains reduced amounts of benzyl alcohol in candelilla wax. Benzyl alcohol is an ingredient on the list of regulations regarding fragrance allergen labeling in EU cosmetics, and candelilla wax is known to contain several hundred ppm. By developing technology to reduce benzyl alcohol, we are now able to provide you with a safe candelilla wax.

Properties

Benzyl alcohol 10ppm max. Below detection limit by GC-MS
Yellow to Brown solid with slightly characteristic scent.

Applications

- ◆ Lip sticks
- ◆ Foundations
- ◆ Hair styling products
- ◆ Emulsion
- ◆ Mascara
- ◆ Eyebrow
- ◆ Exfoliating agent

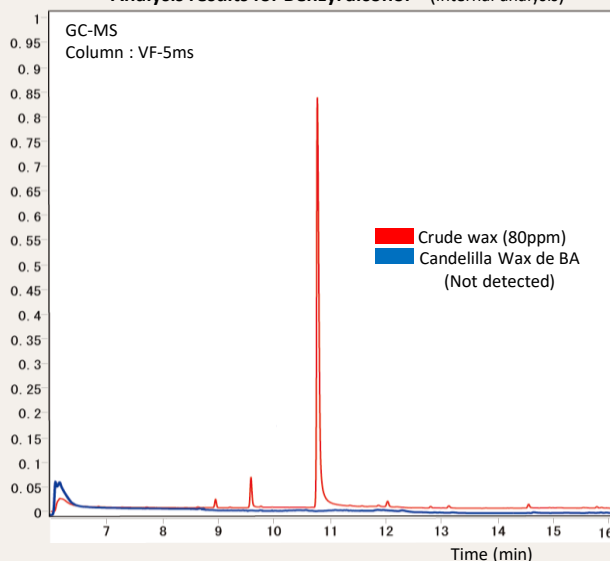
ISO16128 (%)

Natural index	100
Natural origin index	100
Organic index	0
Organic origin index	0

Regulation

It is a CITES class 2 raw material.
Government-issued documents are required for import and export.

Analysis results for Benzyl alcohol (Internal analysis)



Candelilla Wax MD-21, Ester, de Resin, Resin T-1



Various Candelilla Waxes

This product is made by fractionating the hydrocarbon, ester, and resin components of candelilla wax, respectively. Each product has unique characteristics and can expand the range of makeup formulations.

Properties

Yellow solid with slight with a characteristic scent

Grade

◆ Candelilla Wax MD-21

This product is a fraction of Candelilla wax hydrocarbon portion to higher concentration.

Melting point 66°C, Hydrocarbon content approx. 80%

◆ Candelilla Wax Ester

This product is the ester component of Candelilla wax.

High melting point 79°C

It can achieve high hardness.

◆ Candelilla Wax de Resin

This product is made by removing the resin component from Candelilla wax. It has a very light color tone. It can achieve high hardness.

◆ Candelilla Wax Resin T-1

This product is the resin component of candelilla wax.

No hardness.

It has a skin film effect.

Applications

Lipsticks, Lip gloss, Hair styling products, mascara

	MD-21	Ester	de Resin	Resin T-1
INCI NAME	CANDELILLA WAXHYDROCARBONS	CANDELILLA WAX ESTERS	EUPHORBIA CERIFERA (CANDELILLA) WAX	EUPHORBIA CERIFERA (CANDELILLA) WAX EXTRACT
REACH Exemption	✓			
CHINA INCI	小烛树(EUPHORBIA CERIFERA)蜡烃	小烛树(EUPHORBIA CERIFERA)蜡类	小烛树(EUPHORBIA CERIFERA)蜡	小烛树(EUPHORBIA CERIFERA)蜡提取物
CAS	8006-44-8			
EINECS	232-347-0			
NET	10kg/Box			
Shelf life	3 years	5 years		

Specification	MD-21	Ester	De Resin	Resin T-1
Acid Value	2 - 15	5 - 24	14 - 24	30 max.
Iodine Value	1 - 18	-	-	-
Saponification Value	5 - 20	70 - 100	40 - 60	-
Color, Gardner	4 max.	12 max.	6 max.	-
Melting Point , °C	60 - 70	75 - 85	70 - 75	-
Loss on Drying , %	0.3 max.	-	-	-
Residue on Ignition , %	0.1 max.	0.3 max.	0.3 max.	-
Arsenic , ppm	2 max.	1 max.	1 max.	1 max.
Heavy Metal , ppm	20 max.	10 max.	10 max.	10 max.



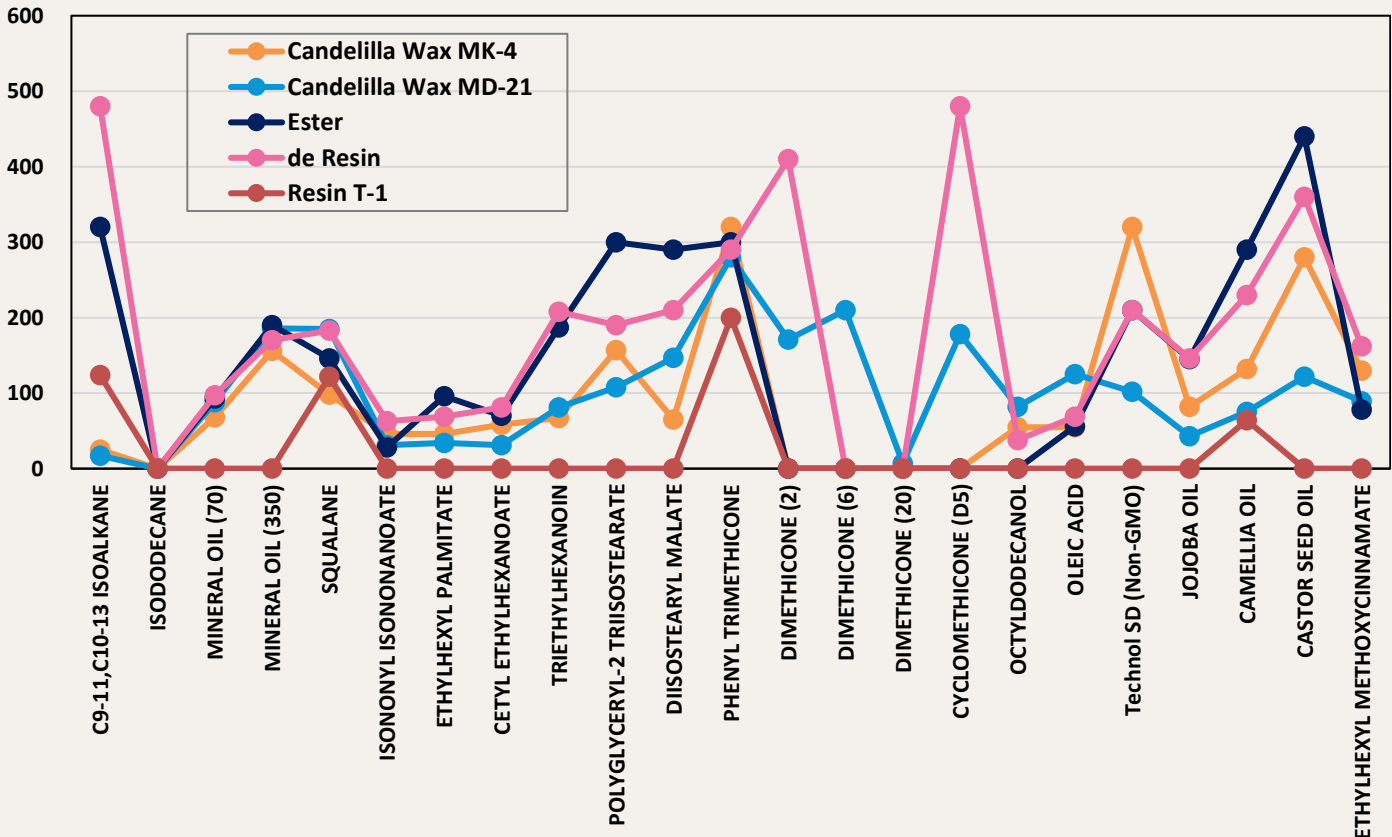
Solubility

		MK-2, 4, 5, de BA	MD-21	Ester	de Resin	Resin T-1
Hydrocarbons	C9-11,C10-13 ISOPARAFFIN	S	S	S	D	S
	ISODODECANE	S	S	S	S	S
	MINERAL OIL (70)	D	S	S	S	S
	MINERAL OIL (350)	D	S	S	S	S
	SQUALANE	D	S	D	S	S
Ester	ISONONYL ISONONANOATE	S	D	S	S	S
	ETHYLHEXYL PALMITATE	S	D	S	S	S
	CETYL ETHYLHEXANOATE	S	S	S	S	S
	TRIETHYLHEXANOIN	S	S	S	S	S
	POLYGLYCERYL-2 TRIISOSTEARATE	S	S	S	S	S
	DIISOSTEARYL MALATE	S	S	S	S	S
Silicone	PHENYL TRIMETHICONE	D	S	S	S	D
	DIMETHICONE (2)	I	S	I	D	I
	DIMETHICONE (6)	I	D	I	I	I
	DIMETHICONE (20)	I	D	I	I	I
	CYCLOMETHICONE (D5)	I	S	D	S	I
Vegetable Oil	Technol SD (Non-GMO)	S	S	S	S	S
	JOJOBA OIL	S	S	S	S	S
	CAMELLIA OIL	S	S	S	S	S
	CASTOR OIL	S	S	S	S	S
Alc.	OCTYLDODECANOL	S	S	S	S	S
FA	OLEIC ACID	S	S	S	S	S
UV	ETHYLHEXYL METHOXYCINNAMATE	S	S	S	S	S

[Ratio] Oil : Wax = 80 : 20, Temp. 80°C, [Evaluation method] Visually observe the appearance

Soluble	Dispersion	Insoluble
---------	------------	-----------

Gelling Ability



Carnauba Wax R-100



Origin

This product is a natural wax derived from leaves and leaf buds of palm plant. (Carnauba Palm *Copernicia cerifera*)

Properties

Light yellow to light brown solid with peculiar smell

Application

High melting point hard wax

Excels in emulsifiability and dispersibility

Lipsticks, foundation, hair wax, emulsion, scrub agent

Others

Shape Pellet

INCI NAME	COPERNICIA CERIFERA (CARNAUBA) WAX
REACH Exemption	✓
CHINA INCI	巴西棕榈树(COPERNICIA CERIFERA)蜡
CAS	8015-86-9
EINECS	232-399-4
NET	20kg/Bag
Shelf life	3 years



Specification

Acid value	10 max.
Iodine value	5 - 14
Saponification value	78 - 95
Color , Gardner	12 max.
Melting point , °C	80 - 86
Loss on drying , %	0.3 max.
Residue on Ignition , %	0.1 max.
Arsenic , ppm	2 max.
Heavy metal , ppm	20 max.

Carnauba Wax R-100



The Height of the Carnauba tree is approximately from 7m to 18m.



The growth of Carnauba tree is slow, it is said that it takes about 15 years until the wax can be collected.



Sunflower Wax



Origin-overview

This product is a natural wax derived from sunflower seed.

This products is mono-esters of C42-62, which consists of Long chain fatty acids C20-30 and long chain alcohols C22-32

Excels in solubility and foam hard gels.

Properties

Pale yellow solid with slight peculiar smell

Applications

Lipsticks, Foundations, Hair waxes, Emulsion, Scrubbing agent

Summary

- Light color , less smell
- Excellent solubility
- High gelling ability
- Dissolve in Cyclomethicone(D5)
- Wide application

INCI NAME	HELIANTHUS ANNUUS(SUNFLOWER)SEED WAX
REACH Exemption	✓
CHINA INCI	向日葵(HELIANTHUS ANNUUS)籽蜡
CAS	1286686-34-7
EINECS	310-127-6
NET	20kg/Bag
Shelf life	3 years

Specification

Properties	Pale yellow to yellow solid with peculiar smell
Acid value	5 max.
Iodine value	10 max.
Saponification value	75 - 95
Color , Gardner	6 max.
Melting point , °C	74 - 80
Residue on Ignition , %	0.3 max.
Arsenic , ppm	2 max.
Heavy metal , ppm	20 max.

Ester composition(%)	Our measured value
C42	2.5
C44	13.1
C46	20.6
C48	17.0
C50	10.8
C52	9.6
C54	7.1
C56	4.7
C58	2.8
C60	2.0
C62	1.0
Others	8.8

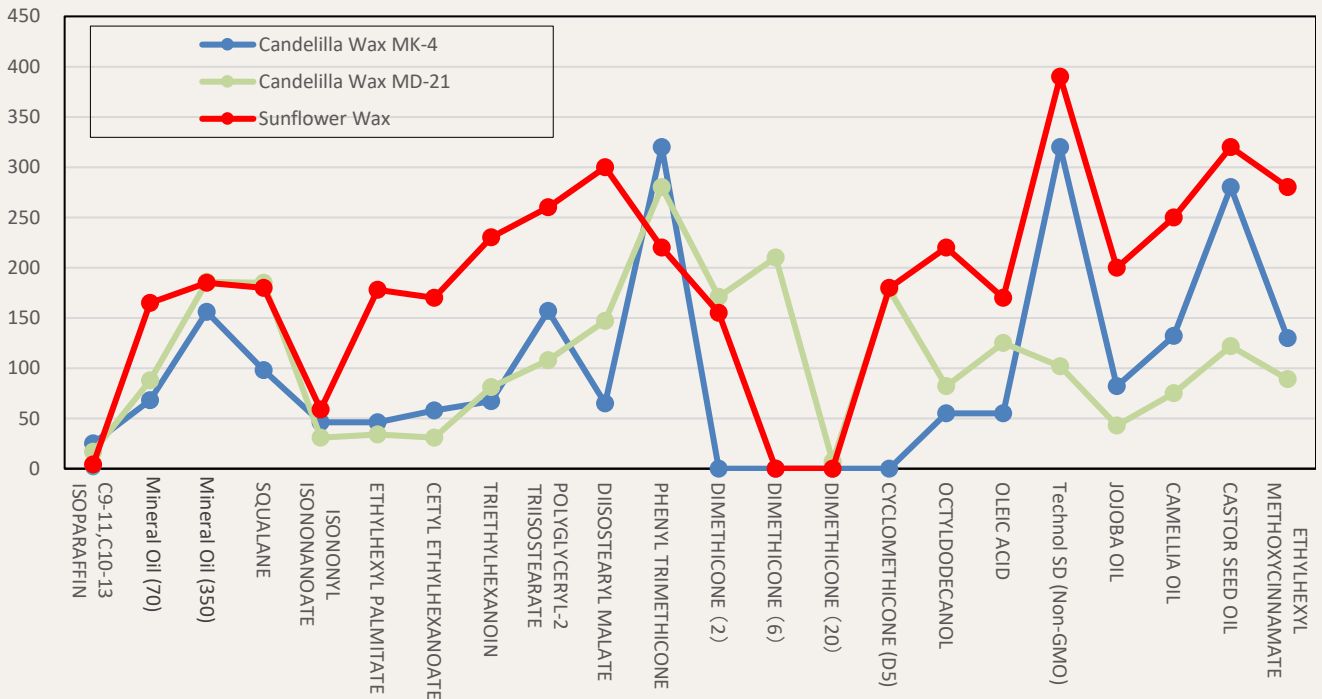
Sunflower Wax

Formula of Balm , colorless

- Soft touch
- Smooth & light texture

	PRODUCT NAME	INCI NAME	%
1	MACADAMIA NUT BUTTER 40	MACADAMIA TERNIFOLIA SEED OIL (and) C10-18 TRIGLYCERIDES	82.95
2	MACADAMIA NUT BUTTER 50	MACADAMIA TERNIFOLIA SEED OIL (and) C10-18 TRIGLYCERIDES	10.00
3	SUNFLOWER WAX	HELIANTHUS ANNUUS (SUNFLOWER) SEED WAX	7.00
4	-	TOCOPHEROL	0.05
		TOTAL	100.00

Wax Gelling Ability



Wax Solubility

Product	Formula	Ester		Hydrocarbons			Ester					Silicone			Vegetable Oil			Alc. FA	UV	Other								
		S	D	S	D	D	S	S	S	S	S	S	S	S	S	S	S	S	S									
Candelilla Wax	MK-4	S	S	S	D	D	D	S	S	S	S	S	S	D	I	I	I	I	S	S	S	S	S	S	S	I	I	
Candelilla Wax	MD-21	S	S	S	S	S	S	S	D	D	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I
Sunflower Wax		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I

Oil : Wax = 80 : 20 S Soluble D Dispersion I Insoluble

Rice Bran Wax S-100 , Rice Wax R-110



Origin

This product is a natural wax derived from rice bran. This is a hard wax and main components are esters of higher alcohols and higher fatty acids.

Properties

Yellow to brown solid with peculiar smell

Application

Mascara, Foundations, Eyeliner, Emulsion, Scrubbing agent

Others

Shape Pellet

Grade

- ◆ **Rice Bran Wax S-100**
General grade Melting point 78°C
- ◆ **Rice Wax R-110**
Hydrogenated oil mixture.
(Rice bran wax, Hydrogenated rapeseed oil) Melting point 73°C



RPSO-2-0887-18-100-00

	S-100	R-110
INCI NAME	ORYZA SATIVA (RICE) BRAN WAX	ORYZA SATIVA (RICE) BRAN WAX (and)HYDROGENATED RAPESEED OIL
REACH Exemption	✓	
CHINA INCI	稻 (ORYZA SATIVA) 糠蜡	稻 (ORYZA SATIVA) 糠蜡, 氢化菜籽油
CAS	8016-60-2	8016-60-2 / 84681-71-0
EINECS	232-409-7	232-409-7 / 283-532-8
NET	20kg/Bag	
Shelf life	3 years	

	S-100	R-110
Acid value	10 max.	7 max.
Iodine value	13 max.	7 max.
Saponification value	70 - 95	120 - 150
Color , Gardner	13 max.	15 max.
Melting point , °C	77 - 83	73 - 80
Loss on drying , %	1 max.	1 max.
Residue on Ignition , %	0.3 max.	0.3 max.
Arsenic , ppm	2 max.	2 max.
Heavy metal , ppm	10 max.	10 max.

Rice Bran Wax S-100 , R-110



Bees Wax CY-100



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INCI NAME	BEESWAX
REACH Exemption	✓
CHINA INCI	蜂蜡
CAS	8006-40-4
EINECS	232-383-7
NET	20kg/Box
Shelf life	2 years

Origin

This product is a bleached and refined wax derived from bees nest.

Properties

White to pale yellow solid with slight peculiar smell

Characteristics

Animal wax and makes fine crystal.
Shows viscosity and easy emulsify.

Application

High melting point hard wax
Excels in emulsifiability and dispersibility
Cream, Lipsticks, foundation, emulsion, Mascara

Others

Shape Pellet



Specification

Acid value	17 - 22
Iodine value	5 - 15
Saponification value	80 - 100
Color , Gardner	5 max.
Peroxide Value	5 max.
Melting point , °C	60 - 67
Residue on Ignition , %	0.05 max.
Arsenic , ppm	2 max.
Heavy metal , ppm	20 max.

Bees Wax CY-100

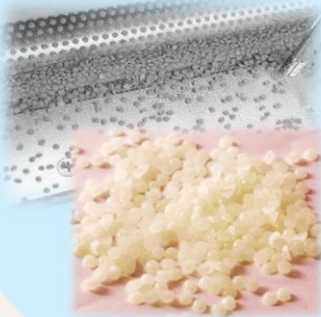
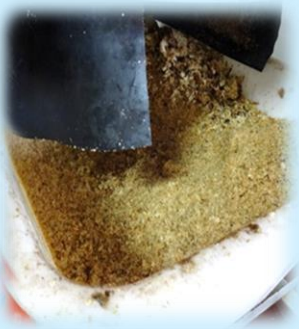
【Processing Beeswax From Honeycomb】



Honey



Bees Wax



Beeswax is said to have been used to preserve the mummy in the Egyptian Empire era.

Beeswax is natural wax produced by honey bees. It is edible and is used a variety of food products as well as cosmetics.

Beeswax has played an important role in the survival of mankind for many years.



Sugarcane Wax



INCI NAME	SACCHARUM OFFICINARUM (SUGAR CANE) EXTRACT	SACCHARUM OFFICINARUM (SUGARCANE) WAX
CHINA INCI	甘蔗(SACCHARUM OFFICINARUM)提取物	—
CAS	91722-22-4	
EINECS	294-424-5	
NET	20kg / Bag	
SHELF LIFE	3 years	

Specification

Appearance	Brown, Solid
Odor	Characteristic odor
Acid Value	50 max.
Saponification Value	50 ~ 110
Melting Point	70 ~ 80°C
Loss on Drying	0.3% max.
Residue on Ignition	0.3% max.
Arsenic	1 ppm max.
Heavy Metal	10ppm max.

Solubility

Hydrocarbons	Mineral oil (70)	S
	Squalane	S
Estes	Ethylhexyl Palmitate	S
	Cetyl Ethylhexanoate	S
	Triethylhexanoin	S
	Polyglyceryl-2 Triisostearate	S
	Diisostearyl Malate	S
Silicone	Dimethicone (2)	I
	Dimethicone (6)	I
	Cyclomethicone (D5)	I
Vegetable Oil	Camellia Seed Oil	S

Oil : Wax = 80 : 20 Temp.80°C S Soluble I Insoluble

Origin

It is obtained by separation and purification from the residue of the juice of the stalk of the grass cane (*Saccharum officinarum* LINNE). The main component is Myristyl palmitate. It contains a large amount of policosanol.

Properties

Brown solid with slight peculiar smell
Melting point 77°C

Characteristics

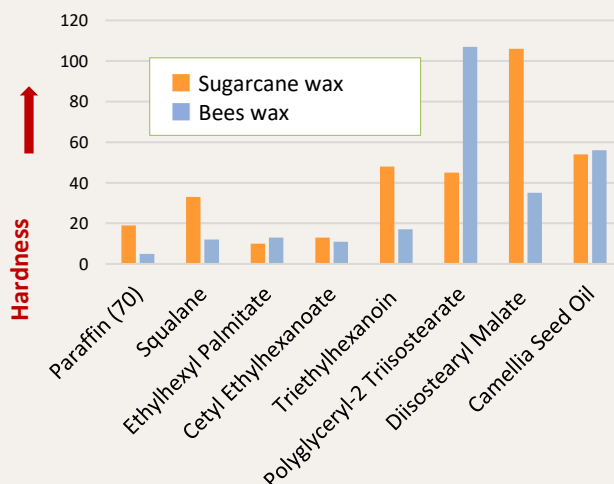
- ◆ Alternative to Bees wax
- ◆ Plant -derived
- ◆ Non-GMO
- ◆ Sustainability ingredients
- ◆ China INCI approved
- ◆ Reach exemption

Applications

- ◆ Lip sticks
- ◆ Mascara
- ◆ Eyebrow
- ◆ Hair styling products



Gelling ability



Viscosity Wax U-1, C-1



Introduction

We focused on viscosity of Japan wax and revealed its effective molecule. You can supply superior stick cosmetics in texture and properties by controlling such molecule.

Feature

- Application to stick type cosmetics Effects
- Increment of strength with elasticity (not easy to break)
- Texture improvement (adhesion increment)
- Bloom less after time passing (stable wax)
- Prevention of quality fluctuation between LOTS (quality stabilization of products)

Identify

	U-1	C-1
INCI NAME	SYNTHETIC JAPAN WAX	SYNTHETIC JAPAN WAX
CHINA INCI	合成日本蜡	
CAS	68424-59-5	68424-59-5
EINECS	270-310-0	270-310-0
Melting Point	52°C	54°C
Net	10kg/Box	10kg/Box
Shelf life	3 years	3 years
Main origin	RHUS VERNICIFLUA PEEL WAX	RAPESEED OIL

Blooming test : Pencil



After 3 months , at RT

Formula : Eyebrow

	PRODUCT NAME	INCI NAME	%
1	Viscosity wax U-1	SYNTHETIC JAPAN WAX	12
2		HYDROGENATED CASTOR OIL	5
3		STEARIC ACID	10
4		SUCROSE TRIBEHENATE	5
5		DIISOSTEARYL MALATE	6
6		HYDROGENATED PALM OIL	10
7		CETYL ETHYLHEXANOATE	10.96
8		TOCOPHEROL	0.04
9		MICA	5.5
10		TALC	0.5
11		IRON OXIDES	19
12		TITANIUM DIOXIDE	16
		TOTAL	100

Viscosity Wax U-1, C-1

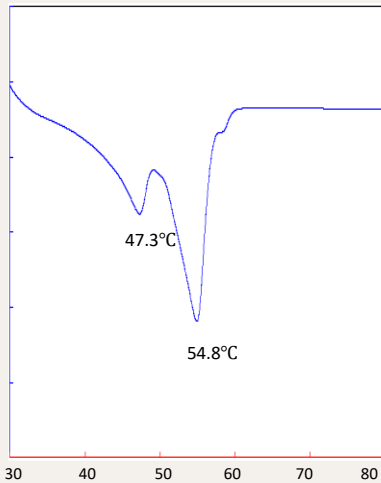
Tempering

Stabilization of crystal



Flexible

Before

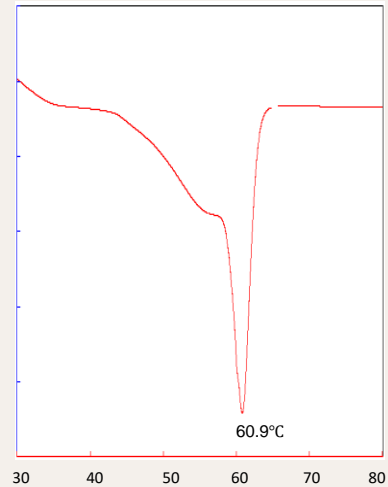


40°C, 4hr



Tempering

After



Temperature °C



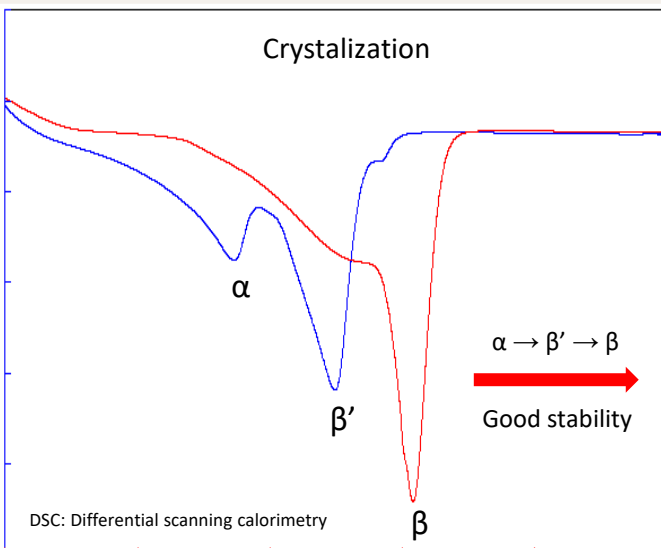
Break

Temperature °C



Bend

Formula : Lip Stick



	PRODUCT NAME	INCI	
1	Sunflower Wax	Helianthus Annuus (Sunflower) Seed Wax	8
2	Candelilla WaxMK-4	CANDELLILLA (EUPHORBIA CERIFERA) WAX	2
3	Viscosity WaxU-1	SYNTHETIC JAPAN WAX	5
4	Technol®LTO	JOJOBA OIL/ CAPRYLIC/ CAPRIC TRIGLYCERIDE ESTERS	5
5	Technol®SD (Non-GMO)	HELIANTHUS ANNUUS (SUNFLOWER) SEED OIL UNSAPONIFIABLES	10
6	Technol®MH	HYDROGENATED CASTOR OIL HYDROXYSTEARATE	20
7	Camellia Butter	CAMELLIA OLEIFERA SEED OIL / HYDROGENATED CAMELLIA OLEIFERA SEED OIL ESTERS	20
8		Polyglyceryl-2 Triisostearate	14
9		Diisostearyl Malate	9.7
10		Color Pigments	6.3
		TOTAL	100

Jojoba Seed Oil



Origin

This product is a natural ester. The oil is produced from cold pressed and purified Jojoba seeds (*Simmondsia Chinensis* or *Californica Nuttall* (*Euphorbiaceae*)).

Jojoba grows naturally or is cultivated in the southern United States of America and the arid regions of Mexico. Its seeds ripen 6 months after fertilization and are harvested once a year.

Properties

- Transparent , colorless
- Odorless
- Highest oxidative stability

Application

- Cosmetics
- Toiletries
- Skin care products
- Hair care products
- Sun care products
- Lip care products

Oxidative Stability , CDM120

About 15 hours



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INCI NAME	SIMMONDSIA CHINENSIS (JOJOBA) SEED OIL
REACH Exemption	✓
CHINA INCI	霍霍巴(SIMMONDSIA CHINENSIS)籽油
CAS	61789-91-1
EINECS	289-964-3
NET	16kg/Tin can
Shelf life	3 years

Specification

Acid value	0.5 max.
Iodine value	70 - 100
Saponification value	80 - 110
Color , APHA	100 max.
Peroxide value	0.5 max.
Arsenic , ppm	2 max.
Heavy metal , ppm	20 max.
Infrared spectroscopy	PASS

Composition(%) Our measured value

	FFA	ALC
C16	1.1	0.1
C16:1	0.2	-
C18	-	-
C18:1	10.2	1.0
C18:2	-	-
C18:3	-	-
C20	-	0.2
C20:1	72.3	42.1
C22	-	1.1
C22:1	14.7	45.8
Others	1.5	9.9

Jojoba Seed Oil



【History】

Native Americans extracted the oil from jojoba seeds to use in their daily lives. They used it to remove dirt, treat sores and wounds and prevent acne and dandruff. It also made the skin soft.

【Harvest】

Jojoba Trees blossom in February, fruit from May to June, a few month later, the seeds are collected.

Jojoba oil is used to make moisturizing cream that keeps skin from drying, and helps become healthy.

In addition, It is used for lipstick and hair care products.



The average height of the trees are approximately 2m.

Most Jojoba trees are over 100 years old and some trees are 200 years old.




Wax Lineup

	Candelilla Wax	Carnauba Wax	Rice Wax	Bees Wax
Products Melting point Feature INCI Name	MK-2 71°C, general grade EUPHORBIA CERIFERA(CANDELILLA)WAX MK-4 71°C, low smell EUPHORBIA CERIFERA(CANDELILLA)WAX MK-5 71°C, light color EUPHORBIA CERIFERA(CANDELILLA)WAX MD-21 66°C Hydrocarbons approx. 80% CANDELILLA WAX HYDROCARBONS	R-100 83°C general grade COPERNICIA CERIFERA(CARNAUBA) WAX	S-100 78°C general grade ORIZA SATIVA (RICE) BRAN WAX R-110 73°C Hydrogenated oil mixture ORIZA SATIVA (RICE) BRAN WAX HYDROGENATED RAPESEED OIL	CY-100 64°C general grade BEES WAX
Origin	Candelilla shrub	Carnauba palm leaves	Rice bran	Bee hives
Components	Esters 22% Free Fatty acids 10% Free alcohols 10% Hydrocarbons 40% (C31) Resins 18%	Esters 50% Hydroxyl acid esters 33% Free fatty acids 3% Free alcohols 10% Hydrocarbons 1%, Resins 3%	Esters 94% Free fatty acids 4% Free alcohols 1% hydrocarbons 1%	Esters 70% Free Fatty acids 15% Free alcohols 12% Hydrocarbons 13%
Properties	Good balance of hardness and Brittleness Less bloom Nice gloss, less smell Many odd number hydrocarbons Lipsticks, lip liners	High melting point, Hard Emulsify easily Nice gloss Rise melting point on mix Lipsticks	High melting point, large crystal Supple hardness ,less brittle Sharp DSC carve Highly safety Mascaras	Animal wax, microcrystalline Viscosity, Emulsify easily
Application	Foundations Hair styling agents	Mascaras, Concealers Hair styling agent	Make up foundations Foundation	Foundations Lip cares Creams

	Sugarcane Wax	Japan Wax-Y	Sunflower Wax	Viscosity Wax
Products Melting point Feature INCI Name	77 °C • general grade SACCHARUM OFFICINARUM (SUGARCANE) WAX • SACCHARUM OFFICINARUM (SUGARCANE) EXTRACT	51°C general grade RHUS VERNICIFLUA PEEL WAX	77°C general grade HELIANTHUS ANNUUS (SUNFLOWER) SEED WAX	U-1R 50°C general grade SYNTHETIC JAPAN WAX C-1R 55°C Inexpensive grade SYNTHETIC JAPAN WAX
Origin	Sugarcane stalks	Peel of fruit of Rhus verniciflua	Sunflower seeds	U-1 : RHUS VERNICIFLUA PEEL WAX, Chemicals C-1 : RAPESEED OIL, Chemicals
Components	Myrcyl palmitate	Triglycerides of Monoprotic acid Triglycerides of Diprotic acid Free fatty acids	Esters Free fatty acids Free alcohols	Triglycerides of Monoprotic acid Triglycerides of Diprotic acid Free fatty acids Free alcohols
Properties	• Alternatives to beeswax • It is effective in making thickening gel and improving keeping power	Viscosity Dense crystalline	High melting point hard wax Well soluble to solvents, and gelling	• Increment of strength with elasticity (not easy to break) • Texture improvement (adhesion increment)
Application	Lipsticks, Mascaras, Eyebrow, Hair Wax	Cosmetic pencils Eyeliner Lip sticks	Lipsticks Mascaras Hair styling agents	Mascaras Make up foundations Foundation

Vegetable Butter

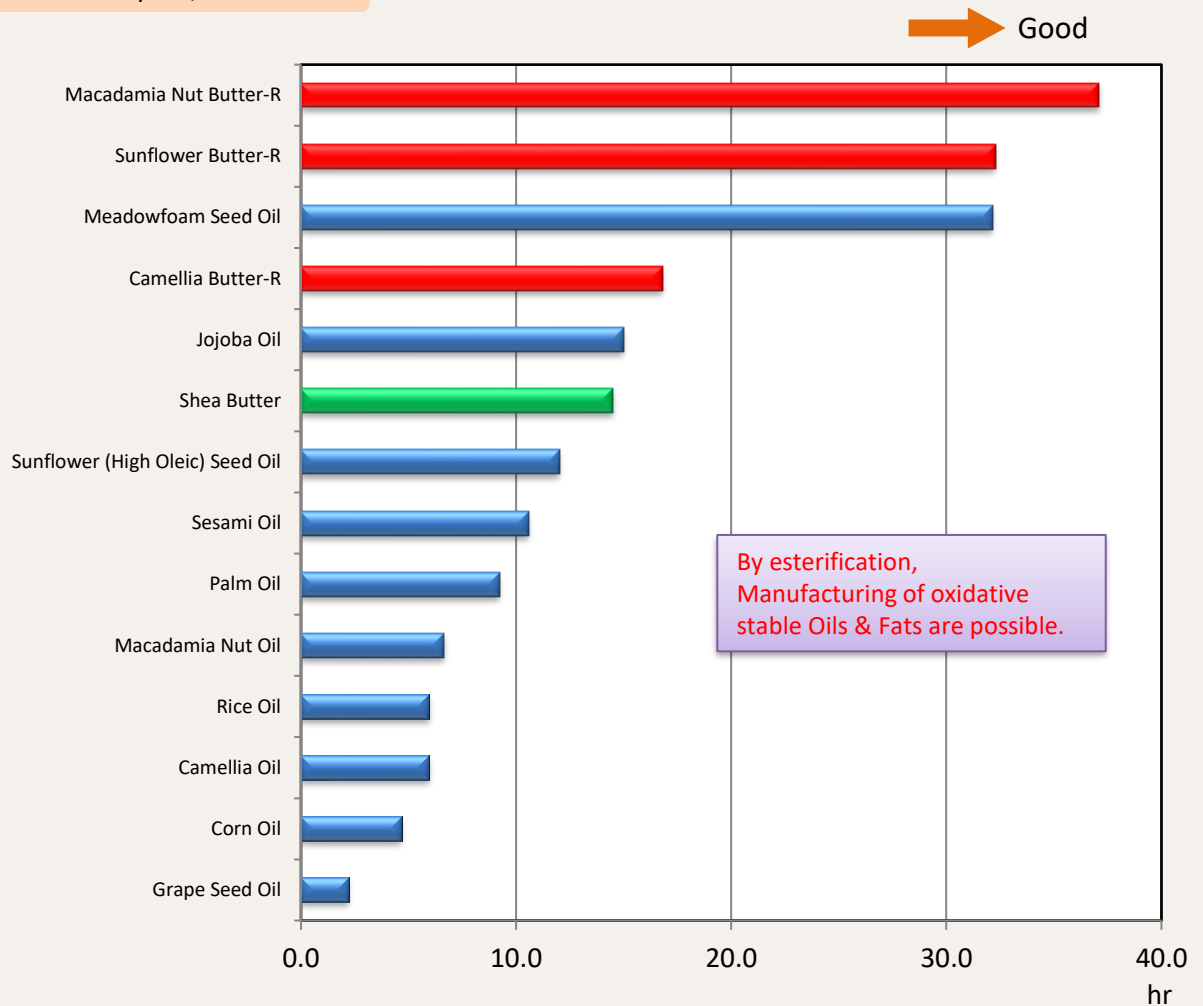


	Macadamia Nut Butter	Sunflower Butter	Camellia Butter
			
Origin	This product is a interesterified oil between Macadamia nut oil and hydrogenated macadamia nut oil. Application of interesterification technic enables to produce unique fats and oils, which cannot be achieved by hydrogenation technic.	This product is a interesterified fats between sunflower seed oil and hydrogenated sunflower seed oil. Application of interesterification technic enables to produce unique fats and oils, which cannot be achieved by hydrogenation technic.)	This product is a interesterified fats between Camellia seed oil and hydrogenated Camellia seed oil. Application of interesterification technic enables to produce unique fats and oils, which cannot be achieved by hydrogenation technic.)
Properties	Light yellow to white fat with odorless of slight peculiar odor		
Application	Skin care, Body care, Baby care, Hair care, Lip balm, Cleansing cream		

	Macadamia Nut Butter	Sunflower Butter	Camellia Butter
INCI NAME	MACADAMIA SEED OIL /HYDROGENATED MACADAMIA SEED OIL ESTERS	SUNFLOWER SEED OIL /HYDROGENATED SUNFLOWER SEED OIL	CAMELLIA OLEIFERA SEED OIL /HYDROGENATED CAMELLIA OLEIFERA SEED OIL ESTERS
REACH Exemption	×	×	×
CHINA INCI	—	—	—
CAS	97593-45-8	97593-45-8	97593-45-8
EINECS	307-350-6	307-350-6	307-350-6
NET	15kg/Tin can	15kg/Tin can	15kg/Tin can
Shelf life	2 years	2 years	2 years
MP	40°C	50°C	40°C

Vegetable Butter

Oxidative stability list , CDM120°C



Aging test (surface) RT , after 1 week



Technol[®]MH, MIS



Origin

Technol MH, MIS are derived from Fully Hydrogenated Castor Oil that was developed and manufactured for the raw material, especially for the cosmetics. Castor Oil has unique structure. It has 3 hydroxyl groups in the molecule (and 1 ether bond).

Due to this unique structure and high safety characters, Castor Oil is well known and used as raw material for the cosmetics for a long time. It is perform high viscosity and get to fit the pigment and dye.

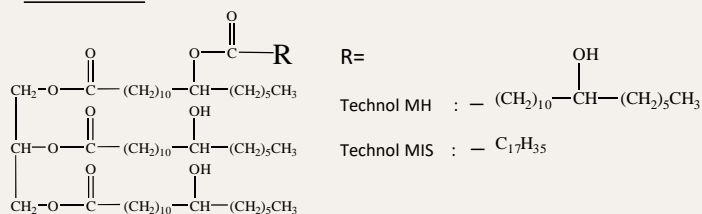
Properties

High polarity oil, High Stability to oxidation, Glossy, semitransparent paste and High dispersion force of pigment.

Application

Pale yellow paste and lightly smell. High polarity oil, High Stability to oxidation, Glossy, semitransparent paste, Glossy, semitransparent paste

Structure:



	Technol [®] MH	Technol [®] MIS
INCI NAME	Hydrogenated Castor Oil Hydroxystearate	Hydrogenated Castor Oil Isostearate
REACH Exemption	—	—
CHINA INCI	氢化蓖麻油羟基硬脂酸酯	氢化蓖麻油异硬脂酸酯
CAS	921608-21-1	868047-49-8
EINECS	—	—
NET	16kg/Tin can	16kg/Tin can
Shelf life	3 years	3years

Specification	Technol [®] MH	Technol [®] MIS
Acid value	6.0 max.	6.0 max.
Iodine value	10.0 max.	8.0 max.
Saponification value	175.0 - 195.0	175.0 - 195.0
Hydroxy value	100.0 - 130.0	70.0 - 95.0
Melting point, °C	-	43.0 - 48.0
Loss on drying, %	2.0 max.	1.0 max.
Residue on Ignition, %	0.5 max.	0.1 max.
Arsenic, ppm	2 max.	2 max.
Heavy metal, ppm	20 max.	20 max.

Technol[®]MH, MIS

The test of cover power to hair

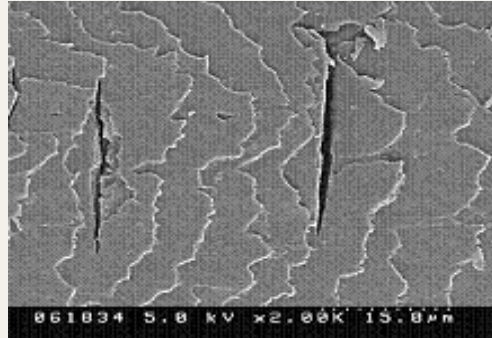
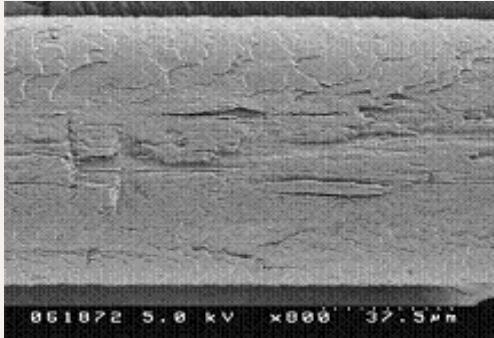
Sample : 10% ethanol solution

Apparatus : HITACHI S-4500(FE-SEM).

Object : Hair obtained from about 29 inches ponytail

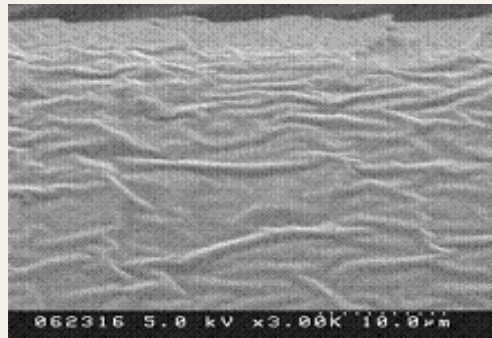
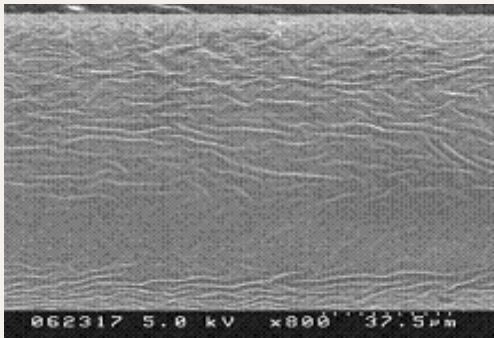
(Since human's hair extends 0.5 inches in one month, it means that these hair ends were exposed for about five years.)

①Blank



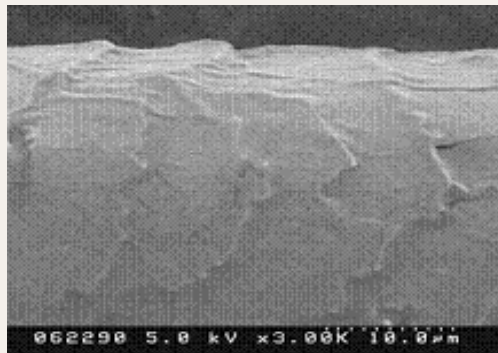
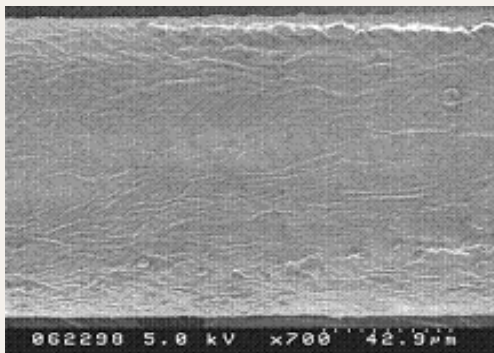
The surface has considerable damage.
There is crack, or the surface cuticle has separated and fallen.

②Sample dipping hair for 2 minutes, stirring gently.
After that, dried with a drier without rinsing.



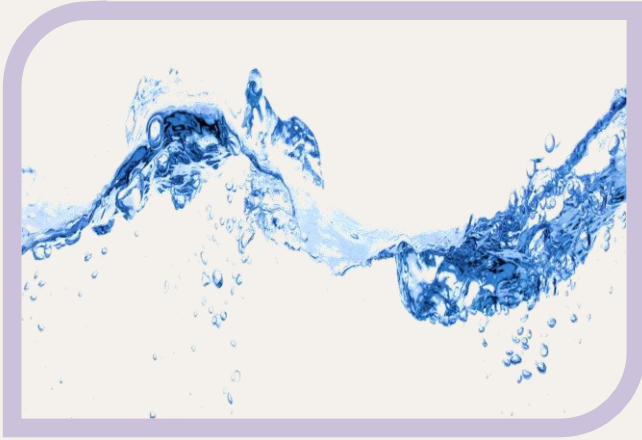
A crack and peeling are buried and it turns out
that the irregular surface is covered smoothly.

①After ②, The hair rinsed for 2 minutes with water was observed.



The surface seems to have rippled slightly. But the effect remains
and the whole can be covered.

Technol[®] LTO



COSMOS
APPROVED

Characteristics

- Light weight
- Alternative to Silicone
- High oxidation stability
- Plant derived

Applications

- Skin & Body care
- Hair care
- Massage oil
- Liquid foundation

INCI NAME	JOJOBA OIL/ CAPRYLIC/ CAPRIC TRIGLYCERIDE ESTERS
REACH Exemption	—
CHINA INCI	—
CAS	97593-46-9
EINECS	307-351-1
NET	16kg/Tin can
Shelf life	2 years

Specification

Appearance	Clear to Light Yellow Liquid
Acid value	0.5 max.
Iodine value	15 – 25
Saponification value	270 - 300
Moisture , %	0.1 max.
Arsenic , ppm	2 max.
Heavy metal , ppm	20 max.

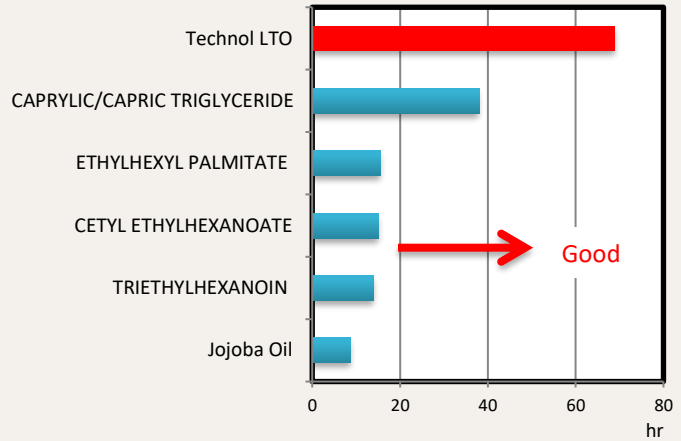
Introduction

Technol LTO is 100% plant derived.

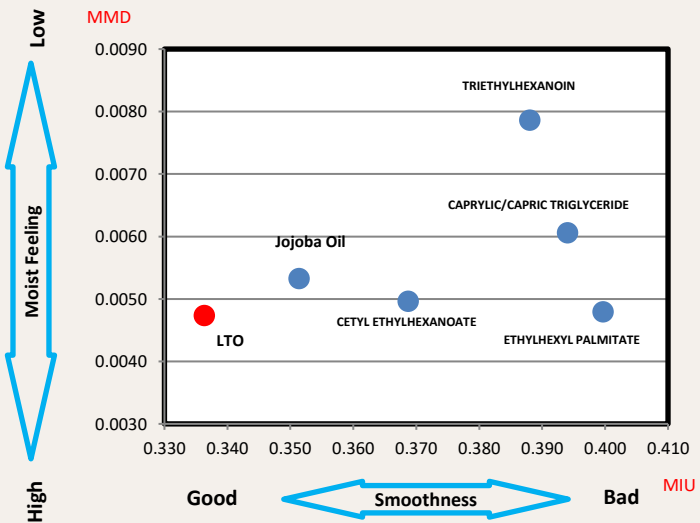
This product absorbs into the skin well, similar to a low – viscosity silicone or cyclometicone.

The high oxidation stability of Technol LTO produces a more highly stable cosmetic.

Oxidative stability list , CDM120°C



Friction test: Spreadability of Oil



Technol[®] LTO is more spreadable than other oils.

MIU is correlated with the slipperiness and non-slipperiness which we feel while touching objects. The larger MIU the less slippery it is.

MMD is correlated with the smoothness and roughness that we feel while rubbing objects. The bigger MMD value is, the rougher it is.

Evaluation of cleansing oil using the Technol®LTO

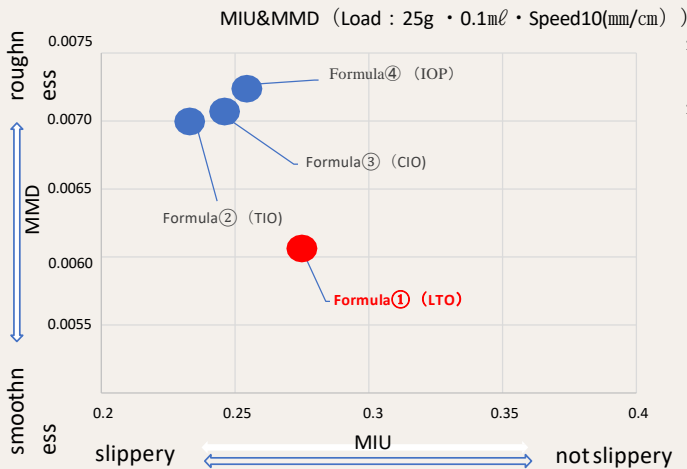
Cleansing oils of formulation ① to ④ were prototyped and measured for friction count, makeup loss, TEWL.

	Formula ① (%)	Formula ② (%)	Formula ③ (%)	Formula ④ (%)
Technol®LTO	37.99			
Triethylhexanoïn		37.99		
Cetyl Ethylhexanoate			37.99	
Ethylhexyl Palmitate				37.99
Tocopherol	0.01	0.01	0.01	0.01
Mineral Oil	25	25	25	25
Cyclopentasiloxane	5	5	5	5
PEG-7 Glyceryl Cocoate	20	20	20	20
Polyglyceryl-2 Oleate	12	12	12	12
	100	100	100	100



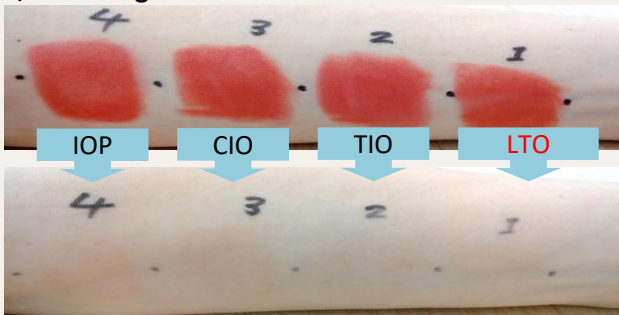
[Measurement condition]
 Temperature : 20°C Humidity : 50%
 Measuring equipment : Tewameter
 Measuring part : Inner arm Coated amount : 0.1g
 Area (length × width) : 3cm × 3cm

1, MIU&MMD(Friction Tester)



[Method] MIU and MMD were measured.
 Smoothness improves when LTO is used.

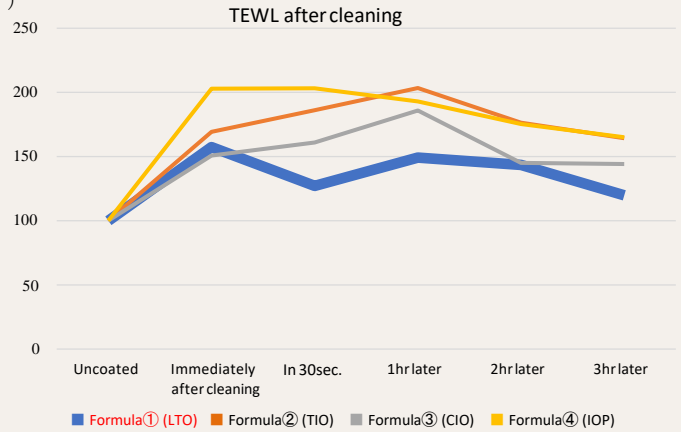
2, Cleansing



[Method]
 Apply lipstick and let it stand for 10 minutes, drop 1 drop of formulation ① ~ ④, Rubbed like a circle ten times with the finger's belly, rinse with water and observe the falling condition.
 Using LTO improves make-up fade.

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 Also, there are expressions that are not appropriate under the Pharmaceutical Affairs Law.

3, TEWL



[Method] Apply formulations ① to ④ to the inner arm and measure the change in the amount of transpiration of water over time. ※ Calculate the change in water transpiration amount over time, with the moisture transpiration amount before application being 100, respectively.
 After oil cleansing, as the prescription ② to ④ usually cleans up to the necessary sebum of the skin, the TEWL value rises sharply.
 There is a tendency to suppress excessive degreasing by using LTO. For this reason, Suppresses the rapid rise of TEWL after cleaning.

By using TECHNOL LTO as a base for oil cleansing, it is possible to make a preparation that has a smooth feeling, excellent makeup removal, and suppresses water evaporation after washing.

Technol[®]SD(Non-GMO)



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INCI NAME	HELIANTHUS ANNUUS (SUNFLOWER) SEED OIL UNSAPONIFIABLES
REACH Exemption	✓
CHINA INCI	向日葵 (HELIANTHUS ANNUUS) 籽油不皂化物
CAS	68476-80-2
EINECS	270-700-0
NET	16kg/Tin can
Shelf life	3 years

Specification

Appearance	Yellow to Light Brown, liquid
Acid value	1 max.
Moisture , %	1 max.
Arsenic , ppm	1 max.
Heavy metal , ppm	10 max.

Other

Technol SD(Non-GMO) is plant derived raw material, such as sunflower. Technol SD(Non-GMO) creates a high-luster lipstick formulation by high refractive index.

Since Technol SD(Non-GMO) is very high viscosity and high adhesive property, it is recommendable for hair wax and mascara formulations.

Applications

- Lip sticks
- Mascara
- Hair styling products
- Skin & Body care

Grade

- [Technol SD \(Non-GMO\)](#)

Derived from Sunflower

Characteristics

- High refractive index **1.52**
- Excellent solubility
- High sticky
- Plant derived
- REACH free
- China INCI approved



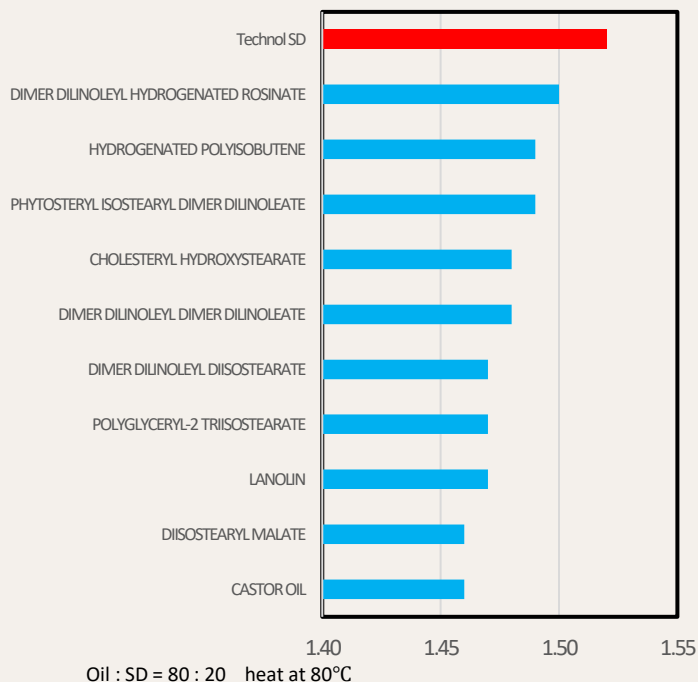
Technol[®]SD (Non-GMO)

Solubility

Hydrocarbons	C9-11,C10-13 ISOPARAFFIN	S
	MINERAL OIL (70)	S
	MINERAL OIL (350)	S
	SQUALANE	S
Ester	ISONONYL ISONONANOATE	S
	ETHYLHEXYL PALMITATE	S
	CETYL ETHYLHEXANOATE	S
	TRIETHYLHEXANOIN	S
	POLYGLYCERYL-2 TRIISOSTEARATE	S
	DIISOSTEARYL MALATE	S
Silicone	PHENYL TRIMETHICONE	S
	DIMETHICONE (2)	S
	DIMETHICONE (6)	D
	DIMETHICONE (20)	I
	CYCLOMETHICONE (D5)	S
Vegetable Oil	JOJOBA OIL	S
	CASTOR SEED OIL	S
UV	ETHYLHEXYL METHOXYCINNAMATE	S

Soluble Dispersion Insoluble

Refractive index



Lipstick

INCI	Blank YLPHG 2	SD YLPHG 1
Technol SD	0	20
Bees Wax CY-100	2	2
Hydrogenated Polyisobutene	40	20
Polyethylene	8	8
Carnauba Wax R-100	3	3
Cetyl Ethylhexanoate	45	45
Pigment Paste	2	2
	100	100

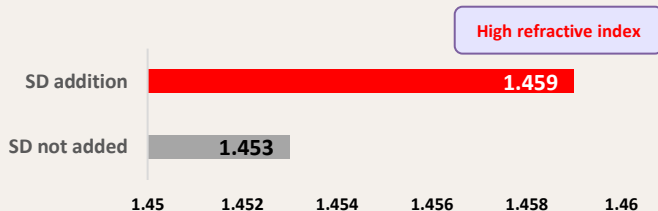
Expected effects

Gives shiny appearance, Improvement of adhesion, Suppression of transpiration of moisture.

① Gloss, coloring



② Refractive index





Other

Technol[®] OR/SQ is a mixture of orange peel polymerization and squalane. It is an upcycling product that utilizes orange peel and sugarcane bagasse. It is a cosmetic ingredient with a very high refractive index, making it ideal for formulating lipsticks and lip glosses with excellent gloss properties. It is also a high viscosity liquid, which helps in the development of formulations into mascaras and hair styling products.

Applications

- Lip sticks
- Mascara
- Hair styling products
- Skin & Body care

Characteristics

- High refractive index **1.52**
- Excellent solubility
- High sticky
- Plant derived
- China INCI approved

INCI NAME	CITRUS AURANTIUM DULCIS (ORANGE) FRUIT EXTRACT, SQUALANE
REACH Exemption	<3.3t/y
CHINA INCI	酸橙 (CITRUS AURANTIUM DULCIS) 果提取物、角鲨烷
CAS	8028-48-6, 111-01-3
EINECS	232-433-8, 203-825-6
NET	15kg /Tin can
Shelf life	3 years

Specification

Refractive index 25°C	1.51 - 1.52
Viscosity 20°C, mPa·s	1,500,000 - 2,500,000
Arsenic, ppm	1 max.
Heavy metal, ppm	10 max.

Solubility

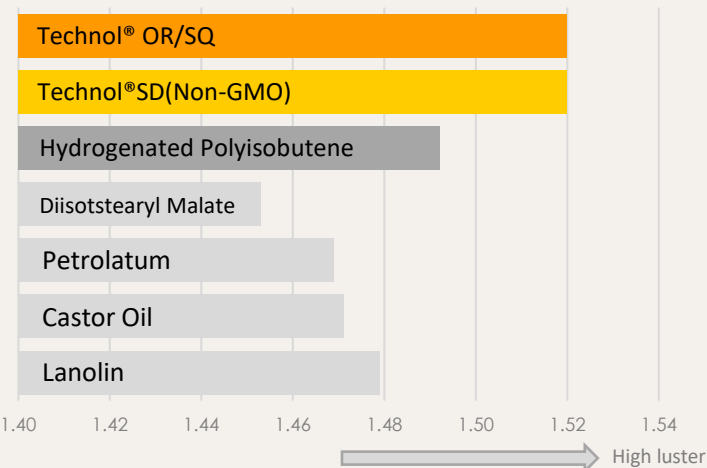
Hydrocarbons	C9-11,C10-13 ISOPARAFFIN	S
	MINERAL OIL (70)	S
	MINERAL OIL (350)	S
	SQUALANE	S
Ester	ISONONYL ISONONANOATE	S
	ETHYLHEXYL PALMITATE	S
	CETYL ETHYLHEXANOATE	S
	TRIETHYLHEXANOIN	S
	POLYGLYCERYL-2 TRIISOSTEARATE	S
	DIISOSTEARYL MALATE	S
Silicone	PHENYL TRIMETHICONE	S
	DIMETHICONE (2)	I
	DIMETHICONE (6)	I
	DIMETHICONE (20)	I
	CYCLOMETHICONE (D5)	D
Vegetable Oil	JOJOBA OIL	S
	CASTOR SEED OIL	S
UV	ETHYLHEXYL METHOXYCINNAMATE	S

Oil : SD = 80 : 20 heat at 80°C

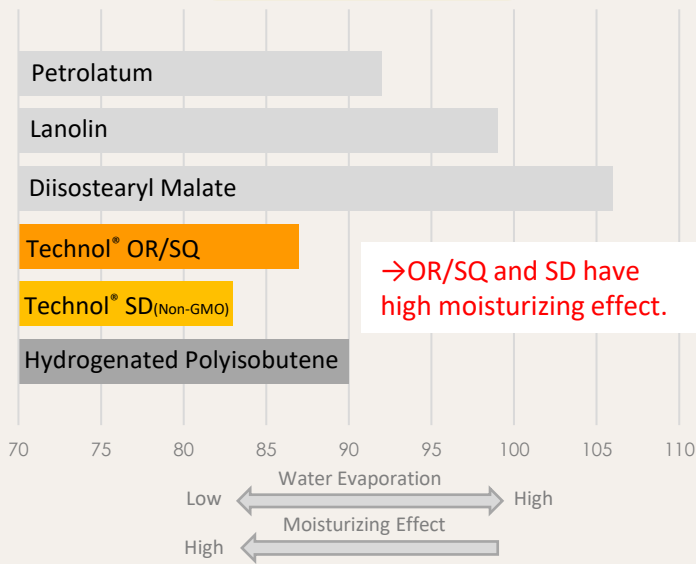
Soluble Dispersion Insoluble

Technol[®] OR/SQ

Refractive

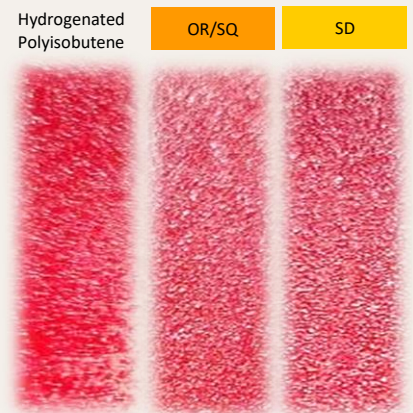


TEWL

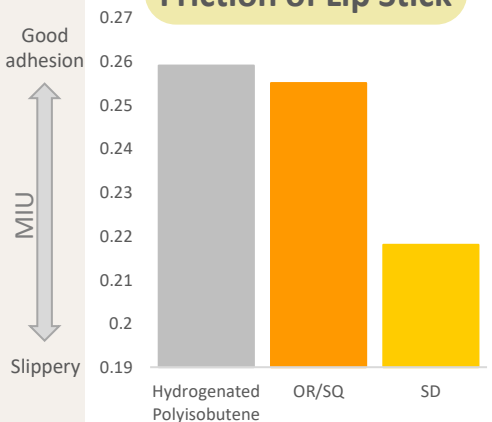


Reference Formulation of Lip Stick

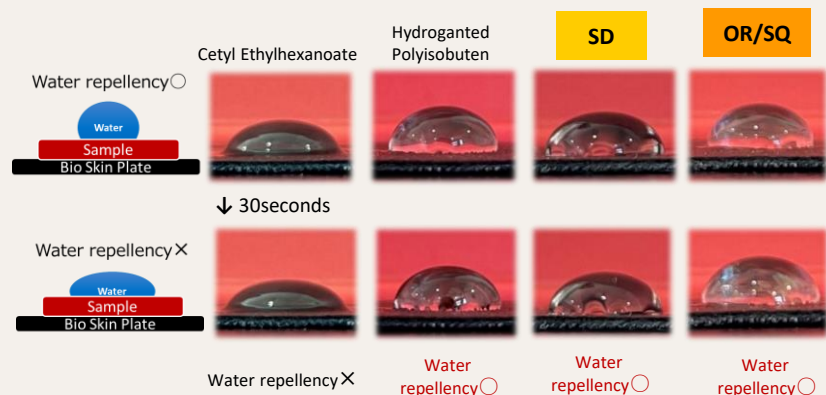
INCI	(%)		
	Hydrogenated Polyisobutene	OR/SQ	SD
Hydrogenated Polyisobutene	30	-	-
Technol[®] OR/SQ	-	30	-
Technol[®] SD(Non-GMO)	-	-	30
Sunflower Wax (Helianthus Annuus (Sunflower) Seed Wax)	11.6		
Hydrogenated Hi Erucic Acid Rapeseed Oil (Tribehenin)	1.45		
Hydrogenated Jojoba Oil	1.45		
Squalane	5		
Technol[®] LTO-R (C10-18 Triglycerides (and)Simmondsia Chinensis (Jojoba) Seed Oil)	10		
Camellia Butter-R (Camellia Oleifera Seed Oil (and) C10-18 Triglycerides)	10		
Octyldodecanol	10.2		
Polyglyceryl-2 Triisostearate	14		
Color Pigments	6.3		



Friction of Lip Stick



Water repellency



Sample amount 0.01g, 5 drops of water, photograph immediately after drop, Rephotographed after 30 seconds to confirm the shape of water droplets.

→OR/SQ has similar adhesion to hydrogenated polyisobutene and SD has higher slipperiness than that.

Technol[®] PG



COSMOS
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✳️ Non-GMO

INCI Name	Lecithin	Phosphatidylglycerol
REACH Exemption	✓	
CHINA INCI	卵磷脂	—
CAS	8002-43-5	92347-24-5
EINECS	232-307-2	296-212-8
Net	500g	
Shelf life	2 years	

Specification

Appearance	Yellow , Paste	
Iodine Value	75min , 65min (Non-GMO)	
Moisture (%)	1 max.	
Residue on Ignition (%)	9 max.	
Phosphatidylglycerol (%)	85 min.	
Arsenic , ppm	1 max.	
Heavy metal , ppm	10 max.	

Vesicle	PC	PG
Phase A		
Phosphatidylcholine (PC)	2	-
Phosphatidylglycerol (PG)	-	2
Glycerin	9	9
Propanediol	10	10
Phase B		
water	79	79
Particle size	445nm	198nm

Introduction

PG is a rare natural ingredient present in plant lecithin. It is composed of Lecithin. It is contained high Phosphatidylglycerol (PG).

It can work as a booster to permeate active ingredients through the skin. PG works as an emulsifier that can create small emulsified particles.

PG has the effect to activate genes related to keratinocyte differentiation and it can improve rough skin.

PG can also repair oxidative damage caused by ultraviolet rays.

Characteristics

- Phosphatidylglycerol
- Plant-derived
- Emulsifier
- Keratinocyte differentiation
- Anti-Oxidative stress
- REACH free
- China INCI approved

Applications

- Skin & Body care
- Sun care
- Cream

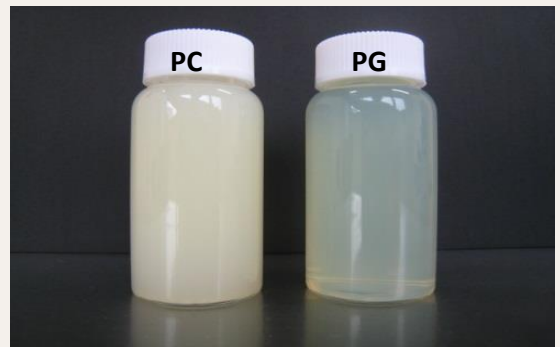
Grade

➤ Technol PG

Derived from soybean

➤ Technol PG (Non-GMO)

Derived from Sunflower



70°C, 3000rpm, 10min

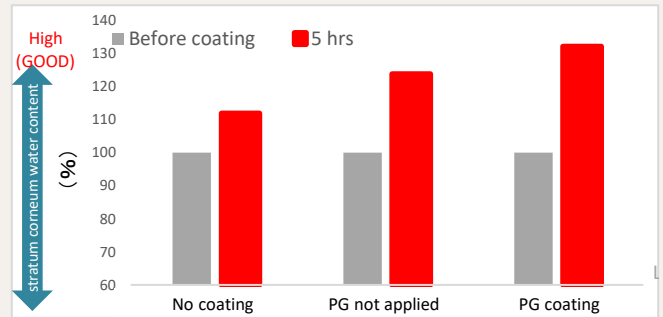
Improving effect on rough skin

Evaluation method: Tape stripping was applied to the inner arm, preparations with or without Technol PG were applied to this state, and the state after a certain period of time was observed.

Prescription example

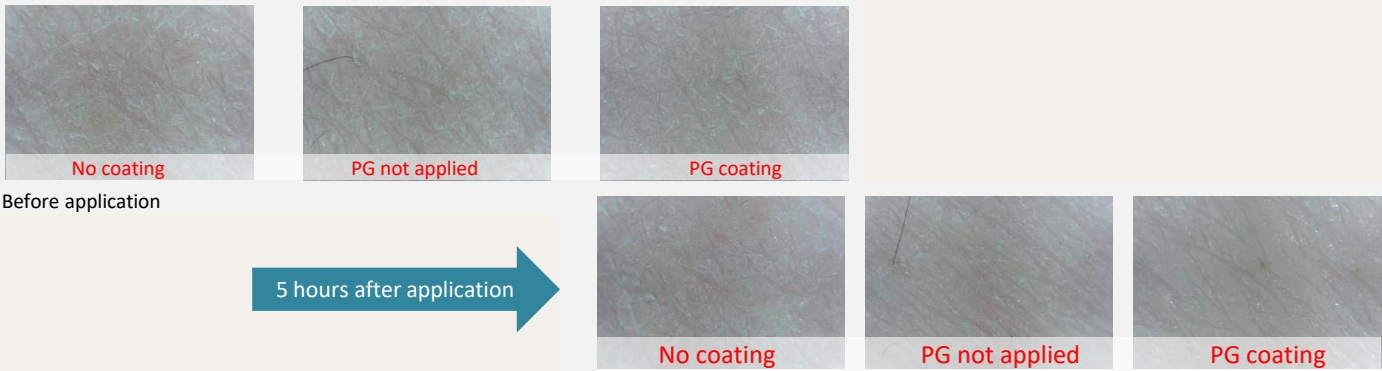
表示名称	Placebo (%)	PG addition (%)
Technol PG(lecithin)	0	0.3
Glycerin	5	5
BG	7	7
Water	Make to 100	Make to 100

stratum corneum water content



Improving effect on rough skin

Evaluation method: A preparation with or without Technol PG was applied to the shin, which was originally rough skin, and the condition after a certain period of time was observed.



By adding Technol PG to the formula, it can be expected to improve rough skin, such as the ability to suppress water evaporation, increase the amount of moisture, and reduce redness.

Visual Expected Effect

- Irradiation on 2.0 MED UV (A+B*) on the zones defined on forearms
- Treated irradiated zone (2 μl /cm² application) / Non-treated irradiated zone
- Comparison between the products by Spectrophotometer[®] and macrograph

24h

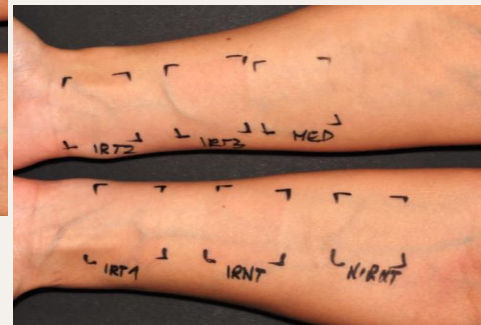
Hydrogenated lecithin (0.03%)

PG (0.003%)

Non-treated

32h

48h



After irradiation (h)

The fatty acid composition list of oils and fats (%)

Numerical Symbol	12	14	16	16:1	18	18:1	18:2	18:3	20	20:1	22	22:1	24
Fatty acid	Lauric acid	Myristic acid	Palmitic acid	Palmitoleic acid	Stearic acid	Oleic acid	Linoleic acid	Linolenic acid	Arachidic acid	Eicosenic acid	Behenic acid	Erucic acid	Lignoceric acid
Palm oil		0.9	44.4	0.2	3.9	40.1	9.4	0.2	0.3	0.1			
Cacao butter		0.1	24.1	0.1	37.5	34.0	2.6	0.1	1.0		0.2	0.1	
Shea butter			5.7		43.0	43.3	6.1		1.4	0.3			
Mango Seed Oil	7.0	3.1	4.7		42.8	33.4	5.5	0.2	0.5		0.6		0.2
Avocado oil			18.3	7.5	0.7	63.4	9.4	0.5		0.2			
Macada minut oil		0.8	8.38	22.2	3.3	55.4	3.2	0.1	2.7	2.5	0.8		
Hazelnut oil			5.4		2.7	82.7	9.2						
Olive oil			10.1	0.1	2.7	77.7	7.2	0.4	0.3	0.2	0.1		0.3
Tsubaki oil			6.9	0.1	2.1	86.5	3.8	0.1		0.3			
Camellia oil			7.4	0.1	1.8	82.5	7.6	0.2		0.5			
Tou-Tsubaki oil			10.2	0.1	2.4	78.8	7.7	0.3		0.4			
High oleic sunflower seed oil			3.2	0.1	2.7	87.5	5.1	0.1	0.2	0.2	0.8		0.2
Sunflower seed oil			5.9		5.5	16.6	70.9	0.5	0.3	0.3			
Sesame oil			9.1	0.1	5.4	39.6	44.2	0.3	0.6	0.2	0.1	0.1	
Argan oil			12.9		5.6	45.5	35.2		0.3	0.4			
Peanut oil			11.1		2.9	42.2	34.7	2.6	1.3			0.7	
Corn oil			10.5	0.2	2.0	31.8	52.8	1.8	0.5	0.4			
Cotton seed oil		0.7	18.7	0.6	2.3	16.9	59.1	0.7	0.4	0.1	0.2		
Cotton seed stearin		0.4	33.9	0.4	2.5	17.6	44.3	0.2	0.2	0.2	0.2	0.1	
Safflower oil			7.1		2.4	12.8	77.9	0.6	0.1				
Grape seed oil			7.9		3.9	20.1	67.2	0.4	0.3				
Soybean oil		0.1	9.9	0.1	4.1	22.6	55.3	6.7	0.4	0.3	0.4		
Rapeseed oil		0.1	4.3	0.2	1.5	60.7	21.4	9.8	0.4	1.0	0.2		
High erucic rapeseed oil			2.4	0.2	0.9	14.6	11.8	8.2	0.8	7.4	0.6	50.5	0.1
Rosehip oil			3.1	0.1	1.6	14.3	45.8	33.7	0.7	0.3	0.1		
Perilla ocimoides oil			6.7		2.0	22.4	12.5	56.4					
Meadowfoam seed oil			0.2			2.0	0.3		0.8	61.8		17.3	
Jjoba fatty acid			1.1	0.2		10.2				72.3		14.7	
Jjoba alcohol			0.1			1.0			0.2	42.1	1.1	45.8	
Human		3.0	25.0	9.0	4.0	48.0	11.0						

Wax Solubility

Product	Code	Ester			Hydrocarbons			Ester						Silicone			Vegetable Oil				Alc.		UV	Other																										
		S	D	I	S	D	I	S	D	I	S	D	I	S	D	I	S	D	I	S	FA																													
Candelilla Wax	MK-4	S	S	S	D	D	D	S	S	S	S	S	S	S	D	I	I	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I										
Candelilla Wax	MD-21	S	S	S	S	S	S	D	D	S	S	S	S	S	S	S	S	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I												
Carnauba Wax	R-100	S	S	S	S	S	S	D	D	S	S	S	D	D	I	I	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Sunflower Wax		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Rice Bran Wax	S-100	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Sugarcane Wax		S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Bees Wax	CY-100	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Polyethylene wax		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	D	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Fischer-Tropsch Wax		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I	I	S	S	S	I	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Ceresin Wax		S	S	S	S	S	S	S	S	S	S	S	S	S	D	S	I	I	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I													
Microcrystalline Wax		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	I	I	S	S	S	S	I	S	S	S	S	S	S	S	S	S	S	S	S	I	I													

Oil : Wax = 80 : 20

S Soluble **D** Dispersion **I** Insoluble