

# Ikeda Esters

## ► COSMOL™ 43N

**INCI Name:** Polyglyceryl-2 Triisostearate

**Appearance:** Colorless to pale yellow liquid oil

**Properties:**

- The tri-ester of multiple branched isostearic acid and diglycerin
- High viscosity at 20°C: 35,210 mPa.s

**Applications:** Emulsions, Gels, Hot Pours

## ► COSMOL™ 43V

**INCI Name:** Polyglyceryl-2 Triisostearate

**Appearance:** Colorless liquid

**Properties:**

- High polar fatty acid ester consisting of isostearic acid and diglycerin while also containing hydroxyl groups in the molecule
- Viscosity at 20°C: 448 mPa.s.
- Alternative to castor oil
- Superior to castor oil in oxidative stability, compatibility with oils in organic solvents, miscibility, pigment dispersing ability, and sweat prevention in solid cosmetics

**Stability:** No significant change in color or odor during heat testing (120°C for 24 hours)

**Applications:** Emulsions, Gels, Hot Pours

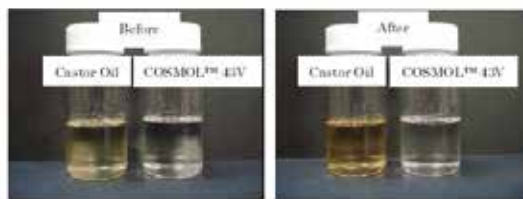


Figure 1. Effect on color during heat testing

## ► COSMOL™ 168ARV

**INCI Name:** Dipentaerythryl Hexahydroxy Stearate/Hexastearate/Hexarosinate

**Appearance:** Pale yellow to yellow paste oil

**Properties:**

- Substitute for wool-derived lanolin
- Superior oxidative stability, miscibility, water retaining ability, luster, and emollient capabilities
- Good hair conditioning ability as seen in the unity of hairs and combing ability testing
- Double ability to retain water over lanolin

**Stability:** No significant change in color or odor during heat testing (120°C for 24 hours)

**Applications:** Emulsions, Gels, Hot Pours, Powders

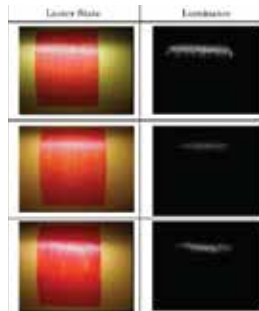


Figure 1. Luster state and luminance of lipstick on artificial skin (Top to bottom: COSMOL™ 168ARV, lanolin, control)

## ► COSMOL™ 182V

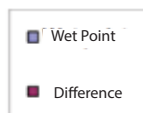
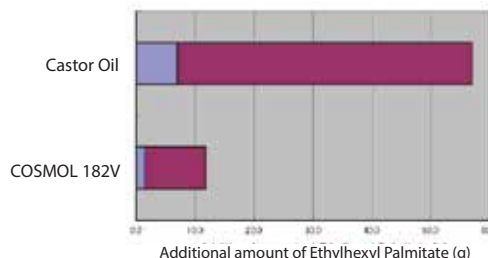
**INCI Name:** Sorbitan Sesquiisostearate

**Appearance:** Yellow or brown amber viscous liquid oil

**Properties:**

- Hydrophobic, Non-ionic emulsifier that contributes to product stability
- Good pigment dispersing ability compared to castor oil

**Applications:** Emulsions, Gels, Hot Pours



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## ▶ COSMOL™ 222

**INCI Name:** Diisostearyl Malate

**Appearance:** Colorless to pale yellow liquid

**Properties:**

- ▶ A high polar di-ester
- ▶ Viscosity at 20°C: 5,500 mPa.s.
- ▶ Substitute for castor oil
- ▶ Superior to castor oil in oxidative stability and physical properties such as compatibility, water resistance, pigment dispersing ability, gloss and luster
- ▶ Compatible with hydrocarbon oils and silicone oils
- ▶ Helps control hardness of waxes and sweating in solid cosmetics

**Stability:** No significant change in color or odor during heat testing (120°C for 24 hours)

**Applications:** Emulsions, Gels, Hot Pours, Powders

## COSMOL™ 525

**INCI Name:** Neopentyl Glycol Diethylhexanoate

**Appearance:** Pale yellow, viscous liquid

**Properties:**

- ▶ Di-ester of neopentyl glycol and branched medium chain acid
- ▶ Dissolves silicone ( $\leq 3000\text{mm}^2/\text{s}$ ) due to the many branched-chains in the ester
- ▶ Low viscosity at 20°C: 14 mPa.s

**Stability:** Excellent heat stability due to hindered ester

**Applications:** Emulsions, Gels, Hot Pours, Powders

## ▶ SALACOS® 99

**INCI Name:** Isononyl Isononanoate

**Appearance:** Colorless yellow liquid oil

**Properties:**

- ▶ Monoester of a branched medium length chain of an odd number alcohol with a branched medium lengthed chain of an odd number chain acid
- ▶ Dissolves high viscosity silicone (ability to dissolve silicone gum, viscosity > 1million  $\text{mm}^2/\text{s}$ )
- ▶ Low viscosity at 20°C: 6 mPa.s

**Applications:** Emulsions, Gels, Hot Pours, Pressed Powders

## ▶ SALACOS® 334

**INCI Name:** Caprylic/ Capric/ Myristic/ Stearic Triglyceride

**Appearance:** White to light yellow, petrolatum-like substance

**Properties:**

- ▶ Synthetic butter with superior emollience compared to shea butter
- ▶ Melts gently at below body temperature
- ▶ Provides soft texture
- ▶ Excellent oxidative stability

**Stability:** Colorless liquid before and after heating

**Applications:** Emulsions, Gels, Hot Pours



## ▶ SALACOS® 913

**INCI Name:** Isotridecyl Isononanoate

**Appearance:** Colorless to yellow liquid oil

**Properties:**

- ▶ Emollient ester
- ▶ Exhibits non-oily, nearly-dry properties
- ▶ Works to easily dissolve high viscosity silicones because of the presence of many branched methyl groups in its chemical structure

**Applications:** Emulsions, Gels, Hot Pours

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## ► SALACOS® 3318

**INCI Name:** Triisostearin

**Appearance:** Light yellow liquid oil

**Properties:**

- Low polar, high viscosity ester
- Enables enhanced adhesion and gloss in formulation
- Offers good compatibility with silicones (table 1 & figure 1)

**Applications:** Gels, Hot Pours

SALACOS® 3318 : Oil Sample =1 : 1 (wt / wt)

Oil Sample	Result	Oil Sample	Result	Oil Sample	Result
MINERAL OIL	S	COSMOL 41V	IS	DIMETHICONE/PEG-10/15 CROSSPOLYMER, DIMETHICONE	PS
HYDROGENATED POLYISOBUTENE	S	COSMOL 42V	S	PEG-15/LAURYL DIMETHICONE CROSSPOLYMER, MINERAL OIL	IS
SQUALANE	S	COSMOL 43V	S	COSMOL 82	S
JOJOBA OIL	S	COSMOL 44V	S	POLYSORBATE 80	IS
OLIVE OIL	S	CYCLOPENTASILOXANE	S	BG	IS
CASTOR OIL	S	DIMETHICONE (10 cs)	S	ETHANOL	S
T.I.O	S	DIMETHICONE (30 cs)	S	GLYCERIN	IS
COSMOL 222	S	DIMETHICONE (50 cs)	IS	WATER	IS

S = soluble, PS= partially soluble (cloudy), IS=insoluble

Table 1. Shows the compatibility of SALACOS® 3318 with other materials



Figure 1. This image shows good compatibility of SALACOS® 3318 with silicone (30 cs) versus a competing material such as hydrogenated polyisobutene

## ► SALACOS® 5418V

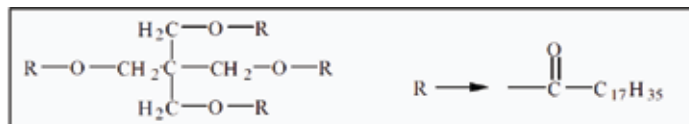
**INCI Name:** Pentaerythrityl Tetraisostearate

**Appearance:** Light yellow liquid oil

**Properties:**

- Gives rich feel to lip and skin care products
- Tetraester of Pentaerythritol and
- Isostearic Acid
- Low polarity
- Excellent heat stability

**Applications:** Emulsions, Gels, Hot Pours



## ► SALACOS® HS-6C

**INCI Name:** Polyhydroxystearic Acid

**Appearance:** Light yellow-brown liquid or petrolatum-like substance

**Properties:**

- Provides a moisturizing effect on the skin even after washing
- Gives excellent overall texture for washing
- Excellent pigment dispersing agent with low wet point and same fluidity point
- Provides smooth texture to formulations containing pigments (Figure 2)

**Applications:** Emulsions, Gels, Hot Pours

Figure 1. Elastic and stable, fine foaming properties of SALACOS® HS-6C (left) versus a control (right)

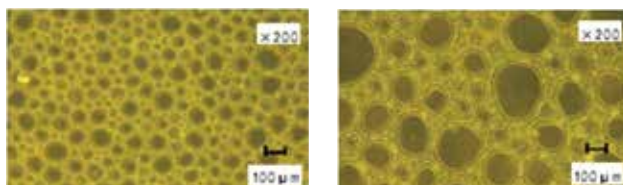


Figure 2. Effect of dispersing pigments using SALACOS® HS-6C (upper) versus control (lower), in a W/O sunscreen milk

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## ▶ SALACOS® P-8

**INCI Name:** Ethylhexyl Palmitate

**Appearance:** Colorless to pale yellow liquid

**Properties:**

- ▶ Monoester of 2-ethylhexyl alcohol and palmitic acid
- ▶ Low viscosity at 20°C: 13 mPa.s

**Applications:** Emulsions, Gels, Hot Pours, Pressed Powders

## ▶ SALACOS® WO-6

**INCI Name:** Dipentaerythrityl Tri-Polyhydroxystearate

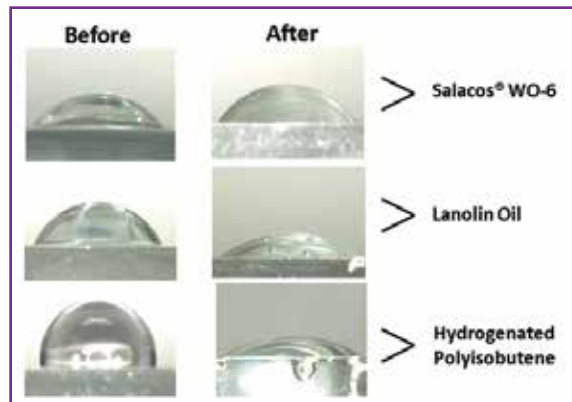
**Appearance:** Light yellow to yellow liquid

**Properties:**

- ▶ Water-retaining emollient polymer
- ▶ Stabilizing potential in W/O emulsions
- ▶ Good pigment dispersing ability
- ▶ Improves the manageability of hair such as making hair less frizzy and easier to comb

**Applications:** Emulsions, Gels, Hot Pours

Figure 1. The before state of a water droplet on an oil film and the state of the droplet after it is rinsed off with tap water show the waterproof film ability of SALACOS® WO-6. The delta of SALACOS® WO-6, lanolin oil, and hydrogenated polyisobutene are 4.3, 32.5, and 73.4 respectively



## New T.I.O.

**INCI Name:** Triethylhexanoin

**Appearance:** Colorless to pale yellow liquid oil

**Properties:**

- ▶ Triester of glycerin and branched medium chain acid
- ▶ Low congealing point due to branched alkyl. ( $\leq -30^{\circ}\text{C}$ )
- ▶ Viscosity lower than natural triglyceride (30mPa.s/20°C)
- ▶ Excellent oxidation and hydrolysis stability
- ▶ Superior to Caprylic/Capric Triglyceride in hydrolysis resistance, stability on skin and physical properties such as compatibility and cold stability

**Applications:** Emulsions, Hot Pours