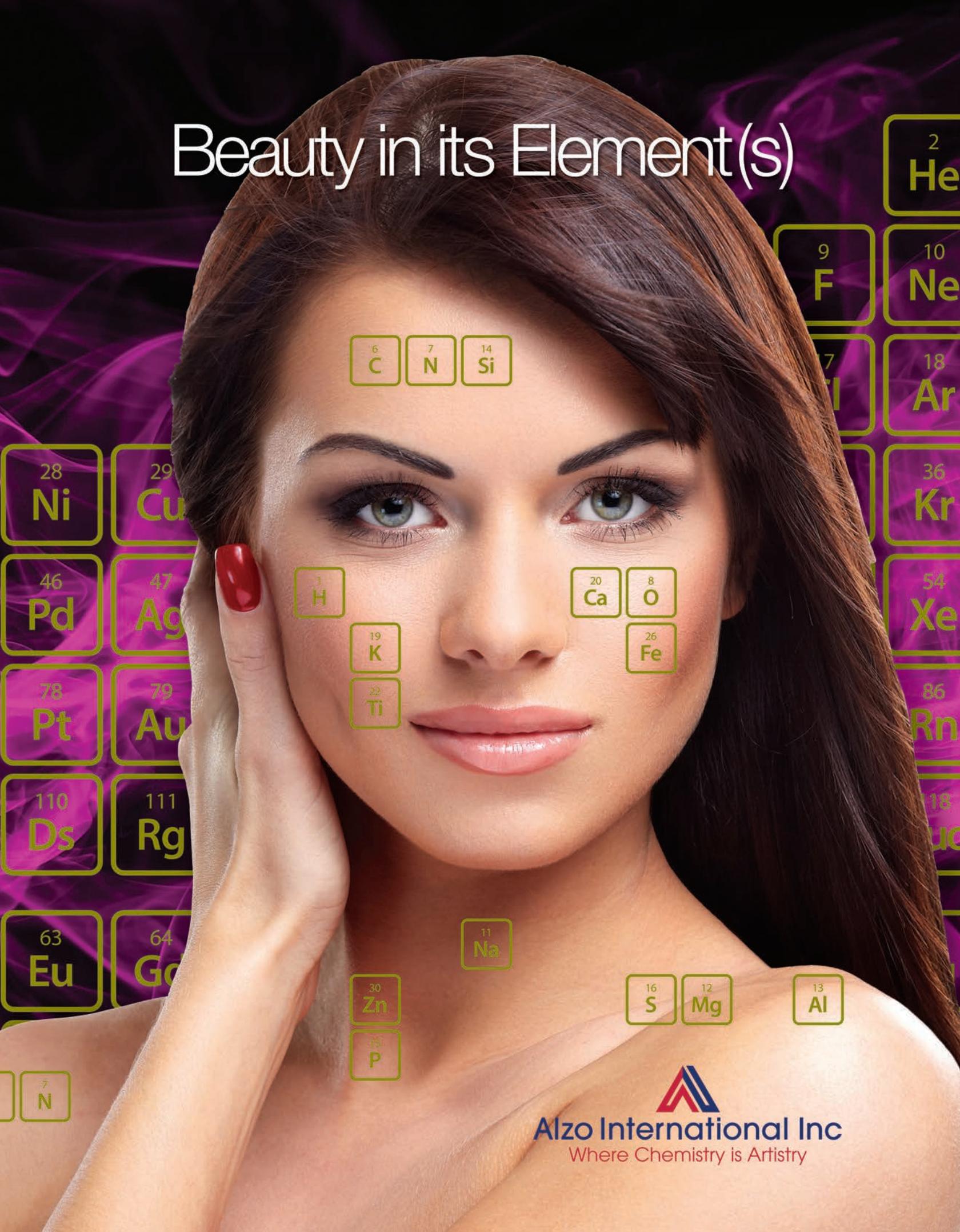


Beauty in its Element(s)




Alzo International Inc
Where Chemistry is Artistry

A Global Leader
Respecting
the Past,
Embracing
the Present and
Committing to
the Future



Commitment to Succeed

Founded in 1975, Alzo International has established an outstanding reputation for creating and supplying unique and multifunctional ingredients to the cosmetic and personal care industries.

Alzo International is a family owned organization with a staff of more than 40 employees in functions of Research and Development, Quality, Regulatory, Administration, Sales and Marketing, Customer Service and Distribution. Alzo International and Pharmetics Mfg., LLC, its manufacturing division are located on 14 acres in Sayreville, New Jersey.

Commitment to Technology and Innovation

Alzo International is the owner and co-owner of more than 50 patents with several pending. The experienced staff of scientists possess expertise in all facets of technical support including product synthesis, process development and product formulation.

Commitment to Quality

Alzo continues to maintain the highest standards of quality of its products and services supported by quality assurance, quality control, analytical and document support professionals, who as the "gatekeepers" ensure that Alzo's products meet the stringent specifications of its customers.



Commitment to Service

In addition to its US based sales force, Alzo maintains a distribution network strategically located around the world to provide its local, regional and multinational customers access to its products and services.

Commitment to the Environment

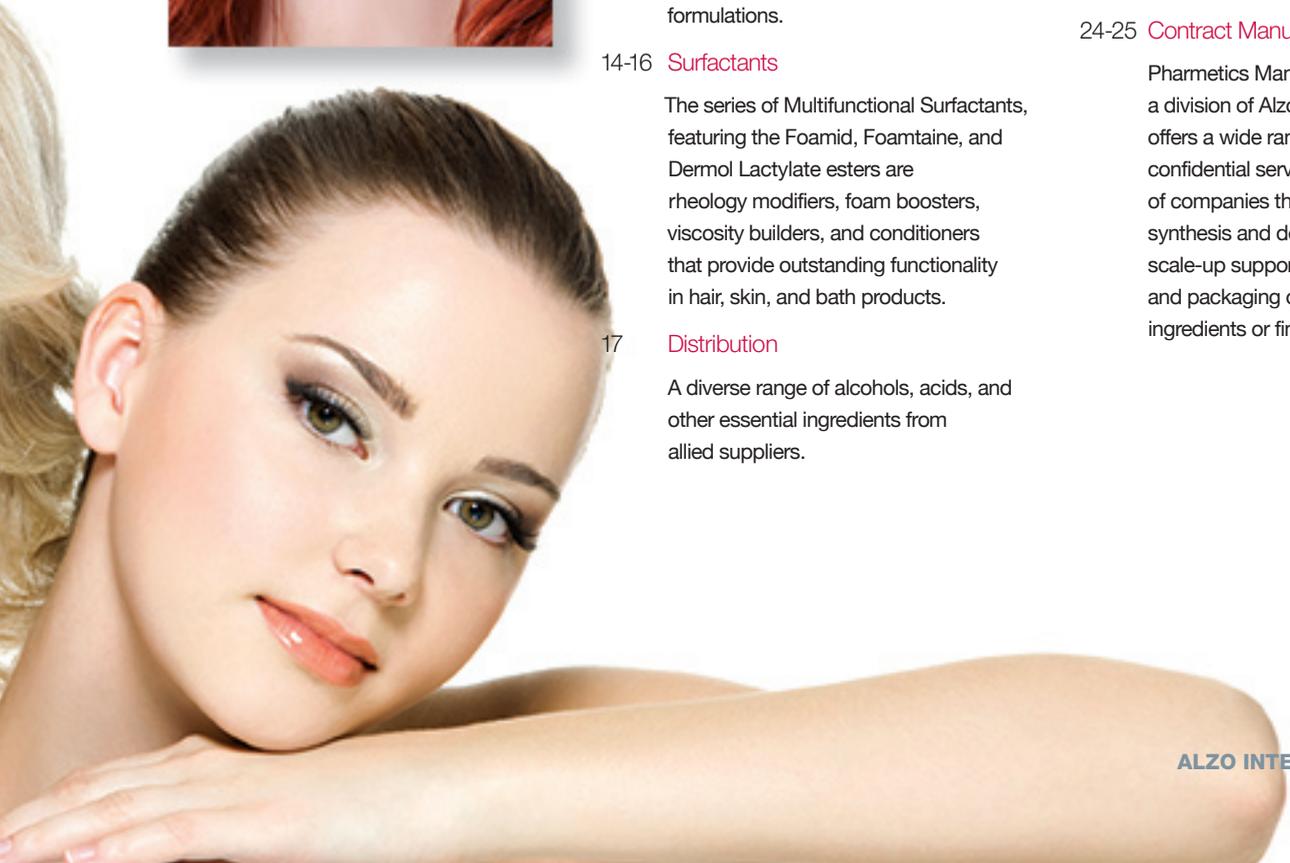
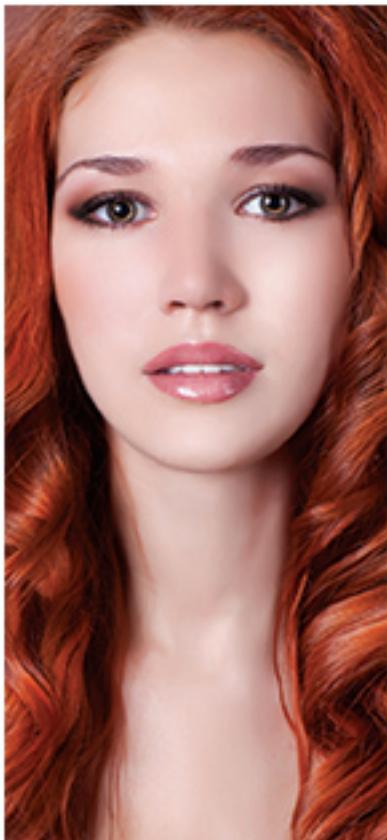
Alzo continues to formulate products based on natural ingredients derived from renewable vegetable sources such as corn, soybean, coconut, castor oil and palm oil. Alzo is Supply Chain Certified by RSPO (Roundtable for Sustainable Palm Oil) and uses Mass Balance certified palm oil whenever possible.

Commitment to the Future

Alzo is committed to providing our customers with the highest level of support, service and respect they have come to expect over the years. Alzo also remains committed to providing our employees with opportunities for career growth and job satisfaction. We are confident that our innovative products backed by dedicated and service oriented people will allow Alzo International to achieve continued future growth and success.



Table of Contents



Emollients, Emulsifiers, Conditioners and Surfactants

2-12 Emollient Esters

Alzo's multifunctional esters sold under the Dermol, Wickenol, Bernel, Trivent, Elefac® and Hetester trade names provide features and benefits that address market needs and industry trends with a wide range derived from vegetable and other natural sources.

12 Naturally Derived Emulsifiers

Dermowax Emulsifiers derived from vegetable feed stocks result in stable and versatile o/w and w/o creams and lotions that can also suspend high levels of solids for use in pigmented formulations.

13 Specialty Cationic Conditioners

The patented Necon, Nequat, and PolyNecon cationic complexes and polymers provide substantivity and lubricity in shampoos, conditioners, styling aids, and hair color systems, as well as long lasting emolliency in creams, lotions, and aqueous formulations.

14-16 Surfactants

The series of Multifunctional Surfactants, featuring the Foamid, Foamtaine, and Dermol Lactylate esters are rheology modifiers, foam boosters, viscosity builders, and conditioners that provide outstanding functionality in hair, skin, and bath products.

17 Distribution

A diverse range of alcohols, acids, and other essential ingredients from allied suppliers.

Polymers and Polymeric Innovations

18-19 Polyurethane Specialties

The Polyderm Polyurethane series is based on the reaction of cosmetic polyols, esters, silicones and amines with Isophorone Diisocyanate, with unique properties including enhanced adhesion durability, film forming as well as thermal and chemical stability.

20-21 Polyurethane Rheology Modifiers

The Dermothix line of Polyurethane Rheology Modifiers and Emulsifiers build viscosity, provide crystal clear clarity in surfactant and aqueous systems, are salt tolerant and stable in the pH range of 2-12.

22-23 Silicone Elastomers

The series of NuLastic emollient gels are patented siliconic crosspolymers, swollen in cosmetic solvents which due to its "scaffold" structure allows the controlled release of high levels of water soluble and water insoluble additives and provide outstanding skin feel.

24-25 Contract Manufacturing Services

Pharmetics Manufacturing LLC, a division of Alzo International, offers a wide range of customized and confidential services to meet the needs of companies that require laboratory synthesis and development, pilot scale-up support or full batch production and packaging of chemical specialty ingredients or finished formulations.

Emollients



Naturally Derived Esters

made from totally natural feedstocks, these esters range from light to heavy emolliency with emulsification, pigment wetting and spreading properties

Product	INCI Name	Feel	Description
Beantree	*Methylheptyl Isostearate	L	Cosmos/ ECOCERT, light dry non-oily feel; volatile silicone alternative
Bernel Ester TCC	*Tricaprylyl Citrate	M	waterproofing emollient; alternative for jojoba oil and squalane
Dermol 1818	*Isostearyl Isostearate	H	substantive and film forming for lip and eye
Dermol CCAP	Coco Caprylate	L	fast spreading emollient and alternative to volatile silicone
Dermol CO-CA	Coco Caprylate/Caprates	L	non-greasy skin conditioning with excellent moisturizing properties
Dermol DG-318	*Polyglyceryl-2 Triisostearate	H	excellent pigment disperant; prevents "sweating" of lipsticks and oil based make-up
Dermol DGDIS	*Polyglyceryl-2 Diisostearate	H	viscous and substantive; polar and non-polar solubility, adds sheen and luster
Dermol GRC	*Glyceryl Ricinoleate	M	velvety texture; adds body, opacity and sheen to hair and skin
Dermol GTIS	Glyceryl Triisostearate	H	viscous and substantive; polar and non-polar solubility, adds sheen and luster
Dermol LL	*Lauryl Lactate	L	emolliency with penetration; excellent carrier for actives; viscosity boosting
Dermol M-5	*Caprylic/Capric Triglyceride	M	cost effective co-solvent and coupler, non-oily, penetrating with low irritation
Dermol MBDD	Mango Butter Dimer Dilinoleyl Esters/Dimer Dilinoleate Copolymer	M	viscous high mw polymeric ester; outstanding pigment wetting; substantive and enhanced shine
Dermol OE	*Oleyl Erucate	H	liquid wax; pigment spreading, adds sheen and luster to color cosmetics
Dermol TISC	*Triisostearyl Citrate	H	low freeze point with high viscosity; sheen, lubricity and gloss
Trivent OC-G	*Tricaprylin	M	powdery feel; exceptional pigment wetter and binder
Wickenol 535	*Wheat Germ Glycerides	M	low HLB, self-emulsifying; exceptionally mild
Wickenol 545 PF	Glucose Glutamate	M	humectant based on sugar and amino acid; water soluble; substantive

Naturally Derived Waxes

Dermol 1212	*Lauryl Laurate	M	30°C melt point slip agent, and skin-penetrating agent with non-greasy feel. Increases the stability of stick products
Dermowax BB	*Behenyl Behenate	M	73°C melt point emulsifier; adds thickening, body and texture
Dermowax GB	*Glyceryl Behenate	M	35°C melt point liquifies near body temperature; substantive with silky after feel
Dermowax MM Waxenol 810	*Myristyl Myristate	M	43°C melt point wax; adds substantivity, body and velvety feel
Dermowax SB	*Stearyl Behenate	H	68°C melt point; bodying agent; high mw suggests low irritation
Dermowax SP	*Stearyl Palmitate	M	59°C melt point thickener with emollient properties, enhanced whiteness in creams & lotions, improves payoff characteristics in stick
Dermowax SS Hetester® 412	*Stearyl Stearate	H	58°C melt point; emulsifier, opacifier and thickener; adds sheen to hair and skin
Mulls 2218	*Behenoyley Stearic Acid	H	70°C melt point; w/o emulsifier; adds temperature stability in o/w emulsions;
Trivent Mango Butter	*Mangifera Indica	M	31°C melt point; non-tacky; alternative to shea and cocoa butters

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Dermol MBDD

INCI Name: Mango Butter Dimer
Dilinoleyl Esters/Dimer Dilinoleate Copolymer

Unique Vegetable Based Polymeric Emollient

Description

- naturally derived polyester
- made from mango butter and rapeseed oil



Mango Fruit



Rapeseed Plant, Seeds and Oil

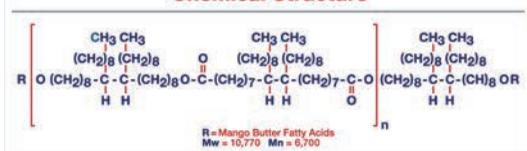
Features

- viscous emolliency
- enhanced shine
- adhesion and tack
- water resistance
- effective pigment wetting and dispersing
- natural alternative for synthetic and petroleum based ingredients
- REACh compliant

Applications

- skin care
- lip care
- hair care
- foot care
- sun care
- beauty care

Chemical Structure



Typical Properties

Appearance @ 25C	Clear viscous liquid
Odor	Typical, mild
Color	Yellow
Taste	Mild, fatty
Refractive Index	1.4810
Soluble	Esters, oils
Insoluble	Silicones, water, glycols

Comparing Dermol MBDD to Polyisobutene

Ingredient	Viscosity (cP)	Refractive Index
Polyisobutene	18,000	1.455
Dermol MBDD	12,000	1.481

Emollients



Fatty Acid Esters

derived from natural and synthetic feedstocks, these emollients impart skin feel ranging from heavy and lubricious to light and dry

Product	INCI Name	Feel	Description
Bernel Ester DISM Dermol DISM	<i>*Diisostearyl Malate</i>	H	imparts gloss, sheen and lubricity; great pigment dispersant
Dermol 2014 Wickenol 142	<i>*Octyldodecyl Myristate</i>	M	liquid wax with elegant emolliency and enhanced 'playtime'
Dermol 16-SS Hetester® HSS	<i>*Isocetyl Stearoyl Stearate</i>	M	outstanding slip without excessive sheen and luster
Dermol 2022	<i>*Octyldodecyl Behenate</i>	H	C22 acid adds substantive silkiness and softness
Dermol 20-S	<i>Octyldodecyl Hydroxystearate</i>	M	castor oil derived; substantive without sheen and luster
Dermol 20-SS	<i>*Octyldodecyl Stearoyl Stearate</i>	M	castor oil derived; substantive without sheen and luster
Dermol 816 Wickenol 155	<i>*Ethylhexyl Palmitate</i>	M	cost effective, all purpose emollient; adds sheen without greasiness
Dermol 818 Wickenol 156	<i>*Ethylhexyl Stearate</i>	M	excellent slip properties without excessive sheen and luster
Dermol BS	<i>*Butyl Stearate</i>	M	adds slip to mineral oil formulations; excellent pigment wetter
Dermol DO	<i>*Decyl Oleate</i>	H	substantive, moisturizing, non-greasy; ease of emulsification
Dermol GTR	<i>*Glyceryl Triacetyl Ricinoleate</i>	M	excellent pigment wetting and co-solvency properties; softens resins and waxes
Hetester® HCA	<i>*Glyceryl Triacetyl Hydroxystearate</i>	H	film forming viscous emollient; adds body, gloss and wear to mascaras and foundations
Dermol ICB	<i>Isocetyl Behenate</i>	H	odorless and tasteless; adds slip, lubricity for solids and barrier creams
Dermol ICM	<i>*Isocetyl Myristate</i>	M	non-greasy silky skin feel; soluble in silicone and waxes
Dermol ICP	<i>*Isocetyl Palmitate</i>	H	elegant silk conditioning for use in emulsions
Dermol ICS	<i>*Isocetyl Stearate</i>	H	unique combination of high molecular weight and low freeze point
Dermol IDO Wickenol 144	<i>*Isodecyl Oleate</i>	H	spreading agent for bath oils, binder for pressed powders
Dermol IPIS Wickenol 131	<i>*Isopropyl Isostearate</i>	M	popular penetrating and substantive emollient for emulsions and solids
Dermol IPM Wickenol 101	<i>*Isopropyl Myristate</i>	M	widely used cost effective solubilizer, film forming; non-oily after feel
Dermol IPP Wickenol 111	<i>*Isopropyl Palmitate</i>	M	popular cost effective solubilizer, film forming; non-oily after feel

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Emollients



Fatty Acid Esters

derived from natural and synthetic feedstocks, these emollients impart skin feel ranging from heavy and lubricious to light and dry

Product	INCI Name	Feel	Description
Dermol ISP	*Isostearyl Palmitate	M	lubricious emolliency; non-greasy; softness and spreadability in wipes
Dermol OLO Wickenol 143	*Oleyl Oleate	H	substantive after feel; adds luster and softness in emulsions
Dermol PGML	*Propylene Glycol Laurate	M	emulsifier, solvent and plasticizer for polymers, resins and waxes
Dermol PGR	*Propylene Glycol Ricinoleate	H	castor oil derived pigment dispersant for color and skin care
Hetester® ISS	*Isostearyl Stearoyl Stearate	M	substantive pigment binder, adds softness and silkiness to hair and skin
Wickenol 139	*Octyldodecyl Erucate	H	excellent replacement for jojoba oil; lubricious skin feel
Wickenol 171	*Ethylhexyl Hydroxystearate	H	replenishes skin lipids stripped away by surfactants; "refatting" emollient

Alpha Hydroxy Acid Esters

high purity emollients with superior softness and silkiness for hair and skin; reduces tackiness and drag of polymers

Product	INCI Name	Feel	Description
Citmol 316	Triisocetyl Citrate	H	viscous mineral oil and castor oil replacement; pigment dispersant
Citmol 320	*Trioctyldodecyl Citrate	H	viscous mineral oil and castor oil replacement; pigment dispersant
Dermol 23L	*C12-13 Alkyl Lactate	L	alcohol soluble for use in colognes and after shaves: adds luster to hair
Dermol 25L	*C12-15 Alkyl Lactate	L	luster and body to hair and skin; plasticizer with low cloud and freeze points
Dermol CL	*Cetyl Lactate	M	soft wax; builds viscosity in emulsions; ideal for lip and make-up
Dermol ISL	*Isostearyl Lactate	M	ester for make-up remover formulations, soluble in silicones
Dermol ML Wickenol 506	*Myristyl Lactate	H	30°C melt point wax; adds increased viscosity in emulsions
Dermol OL	Oleyl Lactate	M	OH groups facilitate spreading; and cushioning to skin

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Emollients



Glycerin Derived Esters

water and oil soluble emollients derived from fruits with gloss enhancement, humectancy and solvency properties

Product	INCI Name	Feel	Description
Dermol GL-7A	*Glycereth-7 Triacetate	M	water soluble solubilizer for DHA
Dermol GL-7CC	Glycereth-7 Caprylate/Caprates	M	non-ionic emulsifier and solubilizer for hydrophobic ingredients; provides high foam and smooth skin feel
Dermol G-7CT	Glycereth-7 Citrate	M	water soluble o/w emulsifier imparts gloss, sheen and humectancy
Dermol G-7DI	Glycereth-7 Diisononanoate	M	imparts gloss, sheen and lubricity; coupling agent in hydro-alcoholic system, solubilizer and o/w emulsifier
Dermol G-7GL	Glycereth-7 Glycolate	M	excellent coupling agent for hydro-alcoholic systems
Dermol G-7LC	Glycereth-7 Lactate	M	soluble in polar and non-polar solvents; velvety skin feel
Dermol G-7ML	Glycereth-7 Malate	M	excellent pigment wetting and dispersing properties
Dermol L-45	*Glycereth-5 Lactate	M	water soluble, penetrating, ideal for hydro-alcoholic formulations

Benzoate and Salicylate Esters

aromatic structures with high refractive indices that have clarifying, plasticizing and solvency features

Product	INCI Name	Feel	Description
Bernel Ester 126	*Laureth-2 Benzoate	L	RI (1.464) coupling agent for hydro-alcoholic systems and fragrances
Dermol 25-B	*C12-15 Alkyl Benzoate	M	RI (1.483) cost effective solvent and solubilizer for skin care and color
Dermol BOSA	*Butyloctyl Salicylate	M	RI (1.491) multifunctional ingredient and dispersing agent ideal for sun care, skin care, and color cosmetics
Dermol DPG-2B	*Dipropylene Glycol Dibenzate	M	RI (1.527) outstanding solvency for use in clear antiperspirants
Dermol G-76	Glycereth-7 Benzoate	M	RI (1.493); water dispersible coupler for hydro-alcoholic systems
Dermol ICOSA	Isocetyl Salicylate	M	RI (1.487); plasticizer for polymers, waxes and organic sunscreens
Dermol IDSA	*Isodecyl Salicylate	M	RI (1.493); plasticizer for polymers, waxes and organic sunscreens
Dermol PGB	*Propylene Glycol Benzoate	M	RI (1.526); unique plasticizing properties for resins, polymers, and waxes
Dermol TDSA	*Tridecyl Salicylate	M	RI (1.492); unique solvency; plasticizer for resins, polymers and sunscreens

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Emollients



Branched Chain Esters

derived from non-linear alcohols and/or acids which facilitate rub-in and impart spreading, slip and lubricity

Product	INCI Name	Feel	Description
Bernel Ester CO Dermol 168 Trivent OC-16	*Cetyl Ethylhexanoate	M	safe for eye area; silky feel; ideal for eye shadows and mascaras
Dermol 89	*Ethylhexyl Isononanoate	L	popular quick drying cost effective alternative for volatile silicones
Dermol 99 Wickenol 151	*Isononyl Isononanoate	L	quick drying silky feel ester; alternative for volatile silicones
Dermol 109 Wickenol 152	*Isodecyl Isononanoate	L	quick drying alternative for volatile silicones, reduces greasiness
Dermol 138 Trivent OC-13	Tridecyl Ethylhexanoate	L	light moisturizing; low viscosity with good penetration properties
Dermol 139 Wickenol 153	*Isotridecyl Isononanoate	L	adds matte finish in make-up, quick drying skin feel
Dermol 189	Isostearyl Isononanoate	M	penetrating; excellent solubilizer and plasticizer
Dermol 689	*Cetearyl Isononanoate	H	odorless and colorless; adds adhesion and waterproofing
Dermol G-38-E	Triethylhexanoin	M	non-tacky film former; penetration and co-solvency
Dermol HD	*Hexyl Decanoate (proposed)	M	low mw alternative for volatile silicones; detackifying properties
Dermol JOBA	*Cetearyl Ethylhexanoate	H	replacement for jojoba oil, adds adhesion and waterproofing
Hetester® FAO	*C12-15 Alkyl Ethylhexanoate	L	alternative to IPM; electrolyte stability; reduces stick hardness
Trivent OC 16 HP	*Cetyl Ethylhexanoate	M	high purity colorless emollient: imparts silky after feel with excellent adhesion properties

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Emollients



Monohydric Alcoholic Esters

multifunctional esters ranging from light and fast drying solvency and plasticizing to heavy and lubricious emolliency

Product	INCI Name	Feel	Description
Bernel Ester DCA	<i>*Dicapryl Adipate</i>	L	dry after-feel; excellent delivery solvent for actives delivery
Bernel Ester DCM	<i>*Dicaprylyl Maleate</i>	L	cost effective solubilizer for avobenzene and oxybenzone
Bernel Ester DID Dermol DID	<i>*Diisopropyl Dimer Dilinoleate</i>	H	viscous skin barrier and film forming properties for lip, eye and skin
Dermol DCC	<i>*Dicaprylyl Carbonate</i>	L	light, dry after feel, excellent solubilizer for sunscreen actives
Dermol DIA	<i>*Diisopropyl Adipate</i>	L	cost effective dry emolliency for use in hydro-alcoholic and AP/Deo products
Dermol DIBA	<i>*Diisobutyl Adipate</i>	L	light, dry emollient for use in hydro-alcoholic and AP/Deo products
Dermol DIPS	<i>*Diisopropyl Sebacate</i>	M	solvency, lubricity, fast spreading and penetration properties
Dermol DISD	<i>*Diisostearyl Dimer Dilinoleate</i>	H	viscous skin barrier properties for skin and color formulations
Bernel Ester DOM Dermol DOM	<i>*Diethylhexyl Malate</i>	M	solubilizer for benzophenones; coupler for fragrance and hydro-alcoholic systems
Dermol DOM-E	<i>Diethylhexyl Maleate</i>	L	plasticizer and emollient; skin-conditioning agent for moisturizers, cleansers, and make-up
Dermol 135 Trivent NP-13	<i>*Tridecyl Neopentanoate</i>	M	carbomer wetter; dispersant for inorganic sunscreens and solubilizer for organic sunscreens
Hetester® PCA	<i>*Propylene Glycol Ceteth-3 Acetate</i>	M	forms o/w emulsions at room temperature; anti-chalking agent in AP/Deo
Hetester® PHA	<i>*Propylene Glycol Isoceteth-3 Acetate</i>	L	o/w or w/o emulsifier; emulsifies 2x its weight in oil
Hetester® PMA	<i>*Propylene Glycol Myristyl Ether Acetate</i>	M	cost effective with light dry feel; solvency and plasticizing
Bernel Ester 105 Trivent NP-10 Wickenol 177	<i>*Isodecyl Neopentanoate</i>	L	volatile silicone alternative, reduces greasiness of mineral oil
Bernel Ester 185 Wickenol 150	<i>*Isostearyl Neopentanoate</i>	M	mineral oil alternative; substantive; ideal for eye products due to low irritation
Dermol OPG Wickenol 160	<i>*Ethylhexyl Pelargonate</i>	M	oil-free option to reduce greasiness of mineral oil and petrolatum
Dermol 145	<i>*Myristyl Neopentanoate</i>	M	low freeze point, non-greasy mineral oil alternative
Elefac® I-205	<i>*Octyldodecyl Neopentanoate</i>	L	ELINCS, SPF booster; organic sunscreens solubilizer; TiO ₂ and ZnO pigment wetter.
Wickenol 159	<i>*Diethylhexyl Succinate</i>	L	imparts soft and non-greasy skin feel: adds lubricity to shave products

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Emollients



Polyhydric Alcohol Esters

long carbon chain emollients with solvency and emulsification properties, adds playtime and cushioning after feel

Product	INCI Name	Feel	Description
Bernel Ester NPDC Dermol NGDC	<i>*Neopentyl Glycol Dicaprate</i>	M	low viscosity solubilizer; plasticizer for polymers and resins
Dermol M-20	<i>*Propylene Glycol Dicaprylate/Dicaprate</i>	M	popular solvent, emulsifier and fragrance coupler
Dermol NGDI	<i>*Neopentyl Glycol Diisostearate</i>	M	low viscosity solubilizer; plasticizer for polymers and resins
Dermol NGDH	<i>*Neopentyl Glycol Diheptanoate</i>	M	good alternative to silicones which leaves a light and velvety feel on the skin with excellent spreadability
Dermol NGDO	<i>*Neopentyl Glycol Diethylhexanoate</i>	M	low viscosity solubilizer; plasticizer for polymers and resins
Dermol PDH	<i>*PEG-4 Diheptanoate</i>	M	wetting and coupling agent; low freeze point; pigment dispersant
Dermol PETIS	<i>*Pentaerythrityl Tetraisostearate</i>	M	heavy rich emolliency; ideal for wipes and make up removers
Dermol PETO-E Trivent PE-48	<i>*Pentaerythrityl Tetraethylhexanoate</i>	M	popular substantive ester with extended wear properties; adds "wet" look in anhydrous products
Dermol PGDP	<i>Propylene Glycol Dipelargonate</i>	M	solvent for oils, fragrances and make-up

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Emollients



Specialty Pastes and Waxes

low to high melt point emollients and emulsifiers which add body, texture and structure to emulsions, gels and sticks

Product	INCI Name	Feel	Description
Cupl PIC	*PPG-2 Isoceteth-20 Acetate	M	38°C melt point; water and oil soluble o/w emulsifier; unique fragrance solubilizer
Dermol CA	*Cetyl Acetate	M	25°C melt point; adds body to low oil phase emulsions with sheen and luster
Dermol CP Waxenol 816	*Cetyl Palmitate	M	52°C melt point; spermaceti alternative; adds body and structure to sticks and emulsions
Dermol CTR	*Cetyl Ricinoleate	M	30°C point; semi solid; ideal for pigmented products
Dermol M-27	*Glyceryl Triundecanoate	H	30°C melt point; consistency of cocoa butter
Dermolan GLH	Glycereth-8 Hydroxystearate	H	39°C melt point; soft paste; lanolin alternative; self-emulsifying; coupler for hydro-alcoholic products
Dermowax A33	*PEG-8 Stearate (and) Glyceryl Stearate	M	50°C melt point; emollient and emulsifier; alternate for natural waxes; melt point modifier for solids
Dermowax EGDS	*Glycol Distearate	M	62°C melt point; popular emulsifier, opacifier, pearlizing agent and thickener
Dermowax EGMS	*Glycol Stearate	M	58°C melt point; popular emulsifier, opacifier, pearlizing agent and thickener
Dermowax ISB	Isostearyl Behenate	H	45°C melt point; odorless and tasteless; adds slip and lubricity to skin and hair
Dermowax PGHS	*Propylene Glycol Hydroxystearate	M	45°C melt point; water and alcohol miscible
Dermowax PGMS	*Propylene Glycol Stearate	M	37°C melt point; water and alcohol miscible o/w emulsifier
Hetester® SSS	*Stearyl Stearoyl Stearate	M	53°C melt point; solid emollient for use in stick products
Marrix SF	*Di-C12-15 Alkyl Fumarate	M	ELINCS; melts at 37°C, non-irritating; thick to thin viscosity upon rub out
Waxenol 801	*Arachidyl Propionate	M	37°C melt point; alternative to lanolin; enhanced pigment payout
Waxenol 821	*Synthetic Beeswax	M	62°C melt point; replacement for beeswax; adds structure and body

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel

Emollients



Specialty Blended Esters

custom mixtures which serve as alternatives to silicones, mineral oil and isopropyl esters

Product	INCI Name	Feel	Description
Dermacet AC	*Cetyl Acetate (and) *Acetylated Lanolin Alcohol	M	exceptional emollient and lubricant blend; adds sensory properties to skin care formulations
Dermol 489	*Diethylene Glycol Diethylhexanoate/ Diisononanoate	M	cost effective; excellent solubility and good penetration; reduces tack
Dermol 866	Diethylene Glycol Diethylhexanoate/ Diisononanoate (and) Ethylhexyl Isononanoate	L	non-oily feel with excellent solubility in silicones, oils and esters
Dermol 867	*Isocetyl Stearate and Ethylhexyl Isononanoate	L	non-oily emollient with excellent spreading properties
Dermol 899	*Isonononyl Isononanoate (and) Ethylhexyl Isononanoate	L	fast absorbing blend of two popular esters; alternative for volatile silicone feel
Dermol ALFA	Isostearyl Citrate/ Glycolate/Lactate/Malate	M	blend of AHA acids esters, imparts sheen and lubricity
Dermol JOBA Mod-7	*Cetearyl Ethylhexanoate (and) Isopropyl Myristate (and) Stearyl Ethylhexanoate	M	mineral oil alternative; dry emolliency; forms a water repellent film
Dermol MOS	*Isostearyl Neopentanoate/ (and) Isocetyl Stearate	M	mimics feel of mineral oil; non-greasy and non-oily
Minno® 21	*Neopentyl Glycol Diethylhexanoate (and) Neopentyl Glycol Diisostearate	H	pigment wetter for TiO ₂ and ZnO; aids in SPF boosting; mineral oil replacement
Minno® 41	*Neopentyl Glycol Diisostearate (and) Neopentyl Glycol Diethylhexanoate	H	pigment wetter for TiO ₂ and ZnO; aids in SPF boosting; mineral oil replacement
Trivasperse 31	*Polyglyceryl-2 Diisostearate (and) Octyldodecyl Neopentanoate	M	excellent pigment wetting for lip and make-up products
Wickenol 161	*Diethylhexyl Adipate (and) Ethylhexyl Palmitate (and) Ethylhexyl Stearate	M	cost effective IPM alternative; colorless and odorless
Wickenol 163	*Ethylhexyl Stearate (and) Ethylhexyl Palmitate (and) Diethylhexyl Adipate	M	cost effective IPM alternative; excellent fragrance extender; replacement for mineral spirits

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel



Emollient Specialties

versatile materials that provide conditioning and functionality to skin and hair

Product	INCI Name	Feel	Description
Aloxe MG-20	*Methyl Gluceth-20	M	popular and cost effective emollient and emulsifier
Dermol CG	*Caprylyl Glycol	M	formulation stabilizer and viscosity regulator; used as part of a preservative blend
Paramul J	*Cetearyl Alcohol (and) Ceteareth 20	L	popular and cost effective non-ionic emulsifier
Sodium Lactate Solution	Sodium Lactate-50	M	moisturizer and humectant for use in skin and hair care
Trivalin SF Dermol EDG	*Ethoxydiglycol	L	oil and water soluble solvent; spreading agent for DHA; aids in actives delivery
Wickenol 707	*PPG-30 Cetyl Ether	L	emollient for hydro-alcoholic formulations; adds body to foam

Naturally Derived Emulsifiers

derived from natural feedstocks these ingredients produce a range of stable and elegant o/w and w/o creams and lotions

Product	INCI Name	Feel	Description
Dermofat 4919	*Stearic Acid	M	56°C melt point; o/w emulsifier; suitable for many personal care formulations
Dermowax BB	*Behenyl Behenate	H	73°C melt point; adds significant viscosity in o/w emulsions
Dermowax SB	*Stearyl Behenate	H	68°C melt point; bodying agent; high mw suggests low irritation
Dermowax SP	*Stearyl Palmitate	M	59°C melt point; thickener with emollient properties; enhanced whiteners in creams and lotions; improves payoff in sticks
Dermowax SS Hetester® 412	*Stearyl Stearate	H	58°C melt point; emulsifier, opacifier and thickener; adds sheen to hair and skin
Mulls 2218	*Behenoyle Stearic Acid	H	70°C melt point; w/o emulsifier; adds temperature stability in o/w emulsions
Wickenol 535	*Wheat Germ Glycerides	M	low HLB, self-emulsifying; exceptionally mild

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

L Light Feel
M Medium Feel
H Heavy Feel



Specialty Cationic Conditioners

unique quaternaries, amido-amine salts and polymers derived from natural feed stocks which provide substantive conditioning, emolliency and lubricity

Product	INCI Name	Description
Foamquat BAS	*Behenamidopropyl Ethyldimonium Ethosulfate	C ₂₂ group provides excellent cationic conditioning; adds substantivity, silkiness and luster
Foamquat CHP Mod	*Water (and) Linoleamidopropyl Ethyldimonium Ethosulfate (and) Dimethyl Lauramine Isostearate	conditioner for leave-on and rinse-off products, cationic emulsifier, excellent wet comb; anti-static properties
Foamquat RCAS	*Ricinoleamidopropyl Ethyldimonium Ethosulfate	water soluble liquid quat derived from castor oil; substantive conditioner for hair and skin
Foamquat SAQ-90	*Linoleamidopropyl Ethyldimonium Ethosulfate	water soluble liquid quat derived from sunflower oil; substantive conditioner for hair and skin
Necon BAB	*Behenamidopropyl Dimethylamine Behenate	amido-amine salt derived from rapeseed oil; excellent conditioner and cationic emulsifier
Necon LIS	Dimethyl Lauramine Isostearate	derived from natural feed stocks; substantive to hair; softens, detangles and reduces flyway
Necon LO	Dimethyl Lauramine Oleate	unique conditioner; barrier properties prevent moisture loss, shine agent for hair; adds lubricity to shave products
Necon LO-80	*Linoleamidopropyl Dimethylamine Dimer Dilinoleate	excellent conditioner derived from natural feed stocks; forms a monomolecular layer on skin; outstanding conditioner in hair dyes
Necon SAS	Stearamidopropyl Dimethylamine Stearate	substantive cationic conditioner for hair and skin products
Necon SL	*Stearamidopropyl Dimethylamine Lactate (and) Water	water soluble surfactant and conditioner derived from natural feed stock for hair and skin care formulations
Necon SUN-LC	*Sunflowerseedamidopropyl Dimethylamine Lactate (and) Water	water soluble surfactant derived from sunflower seed oil; outstanding substantivity and conditioning properties
Nequat DAS-D	Quaternium-88	liquid conditioner derived from dimer acid; substantive anti-stat; excellent wet and dry combing; adds softness to hair and skin
Nequat DBS	*Stearyl Alcohol (and) Behenylamidopropyl Ethyldimonium Ethosulfate (and) Dimethyl Palmitamine (and) Dimer Acid	exceptional hair softening, wet combing and detangling; cationic emulsifier; repairs damaged bleached hair
Parapel® HC Parapel® HC-85	*Linoleamidopropyl Ethyldimonium Ethosulfate (and) Dimethyl Lauramine Isostearate	water soluble conditioner; anti-static and detangling properties; cationic emulsifier

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

Surfactants



Multifunctional Surfactants

A diverse range of liquid alkyl lactylates derived from natural feedstocks which offer many unique performance and formulation benefits

Product	INCI Name	Description
Dermol SLLC-L	<i>*Sodium Lauroyl Lactylate</i>	Novel liquid form of a natural surfactant; functions as emulsifiers, foam booster and cleanser with excellent conditioning properties, antimicrobial activity and ready biodegradable; COSMOS approved
Dermol SLLC-LF	<i>*Sodium Lauroyl Lactylate</i>	low foam liquid version of Dermol SLLC-L with novel functionality; excellent conditioning properties for hair and skin
Dermol SLLS	<i>*Sodium Lauroyl Lactylate</i>	solid form of Dermol SLLC-L which offers unsurpassed skin moisturization and a smooth feel on application.
Dermol SCLL-L	<i>*Sodium Caproyl Lactylate</i>	sodium salt of the capryl ester of lactyl lactate which function as natural surfactant and emulsifier

Dermol SLLC-L Foam Boosting



DERMOL SLLC-L body wash immediately after shaken



DERMOL SLLC-L body wash 1 hour after shaken

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

Dermol SLLC-L

INCI Name: Sodium Lauroyl Lactylate

A Natural Surfactant in An Unnatural Liquid Form

Properties

- water soluble anionic surfactant
- derived from sodium salt of lauric acid
- extremely mild
- enables cold processing
- o/w emulsifier
- coupling agent and solubilizer

Features

- adds rich long-lasting foam
- ideal for sulfate free and soap free systems
- moisturizing skin after feel
- thickening and viscosity building
- biodegradable
- biorenewable
- bio-alternative to petroleum based surfactants
- REACh and China compliant

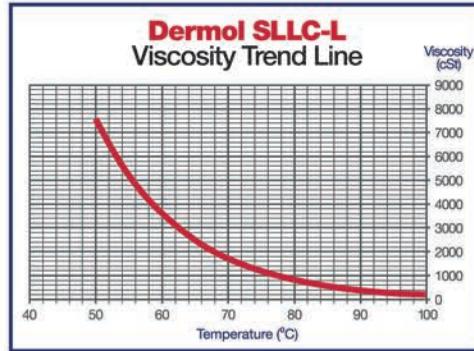
Applications

- baby products
- shampoos
- liquid and bar soaps
- facial cleansers
- body washes
- shave creams
- acne preparations

Antimicrobial Activity

- USP/NF testing methods showed 1:10 dilution of Dermol SLLC-L met recovery of the growth of organisms
- met USP category 2 requirements for reproduction for bacteria by day 14
- no increase on day 28

Dermol SLLC-L is a thick, viscous liquid and flowable at room temperature. The material exhibits a near Newtonian behavior and its viscosity drops by half with every 10°C rise in temperature. At 100°C, its viscosity is about 200 cst.



Comparison of Dermol SLLC-L with Sodium Lauroyl Lactylate Solid Appearance and Flow Characteristic

Sample temperature and description
Room temperature 25°C
The sample on the left is Sodium Lauroyl Lactylate solid.
The sample on the right is Dermol SLLC-L.



Appearance and flow characteristics
The material on the left is a solid at room temperature.
The material on the right Dermol SLLC-L is pourable at room temperature.

Comparison of Dermol SLLC-L with Sodium Lauroyl Lactylate Solid Appearance and Flow Characteristic

Samples heated to 50°C
The sample on the right Dermol SLLC-L is readily pourable (viscosity about 7,500 cst).
The sample on the left Sodium Lauroyl Lactylate solid is a soft gel (non-pourable).



Dermol SLLC-L at 50°C.

Dermol SLLC-L USP <51> Antimicrobial Effectiveness Test

Validation

Dilution	E. Coli TAMC % Recovery	P. Aeruginosa TYMC % Recovery	S. Aureus TAMC % Recovery	C. Albicans TYMC % Recovery	A. Brasiliensis TYMC % Recovery	Specifications	Conforms
1:10	87	113	100	91	79	USP <151>	Yes

AET

Test Interval	E. Coli TAMC (cfu/g)	P. Aeruginosa TAMC (cfu/g)	S. Aureus TAMC (cfu/g)	C. Albicans TYMC (cfu/g)	A. Brasiliensis (cfu/g)	Specifications	Conforms
0 days	5.5x10 ⁸	2.3x10 ⁸	4.1x10 ⁸	3.7x10 ⁸	2.3x10 ⁸	USP <151>	Yes
14 days	<10	<10	<10	<10	<10	USP <151>	Yes
28 days	<10	<10	<10	<10	<10	USP <151>	Yes

Dermol SLLC-L Appearance

Dermol SLLC-L is an easy to use liquid. It is a 100% actives concentrate.



*IECIC listed (Inventory of Existing Cosmetic Ingredients in China)

Surfactants



Specialty Surfactants

vegetable derived foam boosters, detergents, viscosity builders, and conditioners for hair, skin and bath

Product	INCI Name	Description
Foamid AME-70	*Acetamide MEA	70% activity; low viscosity and good wetting properties; solvent for organics and inorganics
Foamid AME-75	*Acetamide MEA	75% activity; low viscosity and good wetting properties; solvent for organics and inorganics
Foamid AME-100	*Acetamide MEA	100 % activity; low viscosity and good wetting properties; broad solvent power for organic and inorganic materials
Foamid C	*Cocamide DEA	thickener, foam builder and stabilizer for surfactant systems; emulsifier for aliphatic and chlorinated hydrocarbons; 77% amide content
Foamid G-65	*Cocamide DEA	excellent thickener, foam builder and stabilizer for anionic and amphoteric surfactants; self-emulsifiable: 70% minimum amide content
Foamid LME	*Lauramide MEA	super amide results in dense copious foam with excellent viscosity and stability; excellent for aqueous and surfactant systems
Foamine C	*Cocamidopropyl Dimethylamine	cationic emulsifier; imparts lubricity to hair; when neutralized it enhances substantivity to hair and skin
Foamine B	*Behenamidopropyl Dimethylamine	cationic derived from behenic acid; imparts lubricity to hair; when neutralized it enhances substantivity to hair and skin
Foamine 0-80	Linoleamidopropyl Dimethylamine	cationic amine derived from safflower oil; imparts softening to hair and skin; when neutralized it enhances substantivity
Foamine RCO	*Ricinoleamidopropyl Dimethylamine	cationic amine derived from castor oil; imparts softening to hair and skin
Foamine S	*Stearylamidopropyl Dimethylamine	cationic amine derived from stearic acid; imparts softens hair and skin; when neutralized it enhances substantivity
Foamine SO	Soyamidopropyl Dimethylamine	cationic amine derived from soya; imparts softening to hair and skin; when neutralized it enhances substantivity

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

Distribution



Resale Specialties

as a recognized full service supplier, Alzo International distributes the following range of multipurpose ingredients

Product	INCI Name
Dermocol I-16	*Isocetyl Alcohol
Dermocol I-18	*Isostearyl Alcohol
Dermocol I-20	*Octyldodecyl Alcohol
Dermofat 4919	*Stearic Acid-MB (Triple Pressed)
Dermowax HC-40	*PEG-40 Hydrogenated Castor Oil
Kortacid 1299 MB	*Lauric Acid-MB
Kortacid 1499 MB	*Myristic Acid-MB
Kortacid 1690 MB	*Palmitic Acid-MB
Kortacid 1895 MB	*Stearic Acid-MB

Acids	Alcohols	Additional Specialties
*Behenic	*Benzyl	*Avocado Oil
*Capric	*Cetearyl-MB	*1,3 Butylene Glycol
*Caprylic	*Cetyl-MB	*Castor Oil
*Glycolic	*Lauryl	Cinnamic Aldehyde
*12-Hydroxy Stearic	*Myristyl	*Glycerin
*Isostearic	*Oleyl	*Isododecane
*Oleic	*Stearyl-MB	*Isohexadecane
		*Polyisobutene
		Sulfated Castor Oil
		*Triacetin



*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)



Polyurethane Specialties

a range of esters, tertiary amines, silicone copolyols, polyethers and ethoxylated alcohols reacted with isophorone diisocyanate result in unique polymers with enhanced emolliency, conditioning, film forming and rheology modifying properties

Product	INCI Name	Description
---------	-----------	-------------

Polymeric Emollients

Polyderm PPI-CO	*Castor Oil/IPDI Copolymer	adds shine, extended wear, water resistance, pigment dispersing for color cosmetics
Polyderm PPI-CO-H	Hydrogenated Castor Oil/IPDI Copolymer (proposed)	76°C melt point; polymeric wax; adds body and viscosity in emulsions and solids
Polyderm PPI-CO-40	PEG-40 Hydrogenated Castor Oil/IPDI Copolymer (proposed)	o/w emulsifier; fragrance coupling; adds slip and lubricity in sticks
Polyderm PPI-CO-200	PEG-200 Hydrogenated Castor Oil/IPDI Copolymer	50°C melt point; water soluble polymeric wax; adds body to water phase; ideal for wipes; reduces whitening
Polyderm PPI-DGDIS	*Polyglyceryl-2 Diisostearate/IPDI Copolymer	vegetable based; shine agent for lips; film former; adds sheen in hair care products
Polyderm PPI-GH	Glycereth-7 Hydroxystearate/IPDI Copolymer	water dispersible; film forming, excellent adhesion; petrolatum or lanolin substitute
Polyderm PPI-PGR	Propylene Glycol Diricinoleate/IPDI Copolymer	shine, extended wear, water resistance; pigment dispersant for color cosmetics
Polyderm PPI-PE	Polydiethylene Glycol Adipate/IPDI Copolymer	viscous liquid polyester polymer; adhesion, water repellency and film forming

Silicone Copolyol Emollients

Polyderm PPI-SI-WI	Bis-PPG-15 Dimethicone/IPDI Copolymer	water insoluble silicone film former; water repellency; reduces tack in AP solids
Polyderm PPI-SI-WS	*Bis-PEG-15 Dimethicone/IPDI Copolymer	water soluble silicone emulsifier; lubricity and slip in clear surfactant systems; fragrance coupling
Polyderm PPI-SI-G 60%	Isosodecane (and) Bis PEG-1 Dimethicone/PPG-26/IPDI Copolymer	provides outstanding shine, adhesion and film forming

Resinous Polyurethanes

Polyderm BZ-BG Max Copolymer	Bis-Benzyl Butylene Glycol/Dilinoleic Acid/IPDI (and) C12-15 Alkyl Benzoate	film former with outstanding shine and substantivity for use in styling products and emulsions
Polyderm PPG-17	*PPG-17/IPDI/DMPA Copolymer	water based polyurethane/polyester microemulsion; soft durable and flexible and water resistant films; fixative for hair and mascaras

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)



Polyurethane Specialties

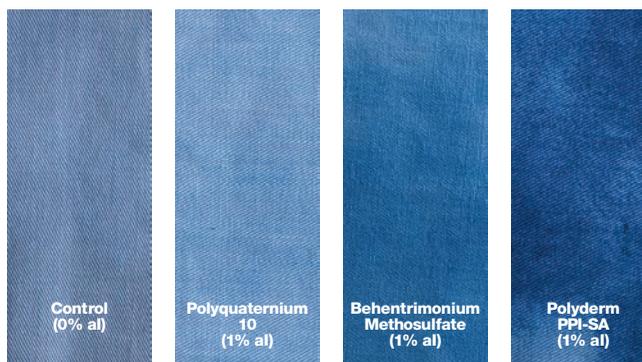
a range of esters, tertiary amines, silicone copolyols, polyethers and ethoxylated alcohols reacted with a IPDI diisocyanate result in unique polymers with enhanced emolliency, conditioning, film forming and rheology modifying properties

Product	INCI Name	Description
Hydroxy Amine Conditioners		
Polyderm PPI-CA 15	IPDI / PEG-15 Cocamine Copolymer	water soluble conditioning for shampoos; substantive emolliency for skin and bath
Polyderm PPI-G7/CA	IPDI / PEG-15 Cocamine / Glycereth-7 / Polyglyceryl-3 Copolymer	water soluble mild surfactant and humectant for cleansers; great conditioner for skin and hair
Polyderm PPI-SI-LSA	Bis-Hydroxyethoxypropyl Dimethicone / PEG-2 Soyamine / IPDI Copolymer	cationic silicone urethane emulsifier with conditioning, shine, and lubricity; excellent wet and dry combing
Polyderm PPI-SA	Di-PEG-2 Soyamine / IPDI Copolymer	cationic polymer derived from soya with superior deposition on skin and hair
Polyderm PPI-SA-LL	Bis-Lauryl Lactate IPDI / PEG-2 Soyamine / IPDI Copolymer	polyurethane emollient and conditioner; softening agent with unique slip properties; viscosity boosting
Polyderm PPI-SA-15	IPDI / PEG-15 Soyamine Copolymer	water soluble conditioner for clear shampoos, conditioners and styling aids; substantive emolliency for skin care
Polyderm PPI-SA-15 Salicylate	IPDI / PEG-15 Soyamine Copolymer (and) Salicylic Acid	soyamine polymer complexed with salicylic acid; actives delivery without irritation; anti-dandruff applications; o/w emulsifier and fragrance coupling agent
PolyNecon PPI-SA-D	IPDI / PEG-2 Soyamine Copolymer Dimer Dilinoleate	polyurethane amine salt; emollient, conditioner and softening agent for hair, bath and shave products
PolyNecon PPI-SA-15D	IPDI / PEG-15 Soyamine Copolymer Dimer Dilinoleate	water soluble polyurethane alternative to silicone for conditioning and shine without buildup on hair and skin

Enhanced Deposition with Polyderm

Procedure:

- wool patches shampooed for 1 minute with test product and 2.0 gr. of water
- rinsed for 1 minute at 40°C
- treated with 0.0125% sol. of FD&C Blue 1 and 0.0046% HCl for 1 minute
- rinsed until rinse water was colorless



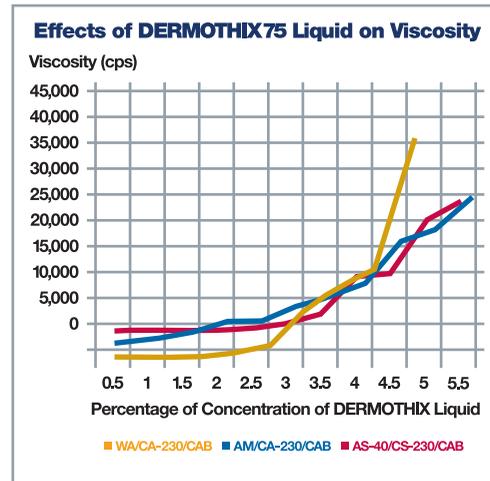
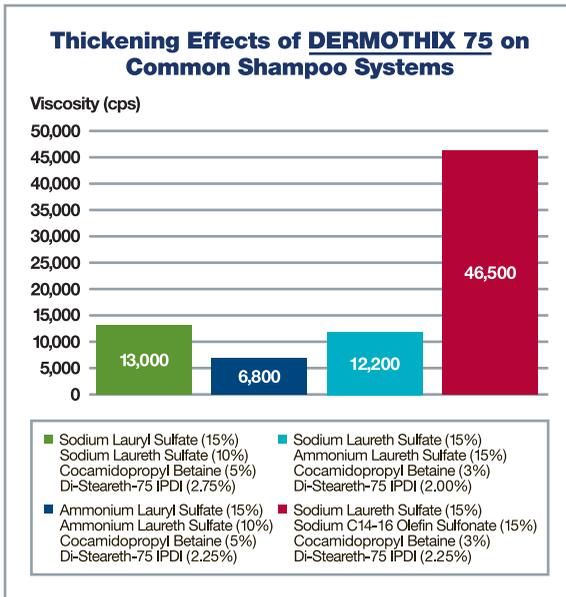
*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)



Polyurethane Rheology Modifiers

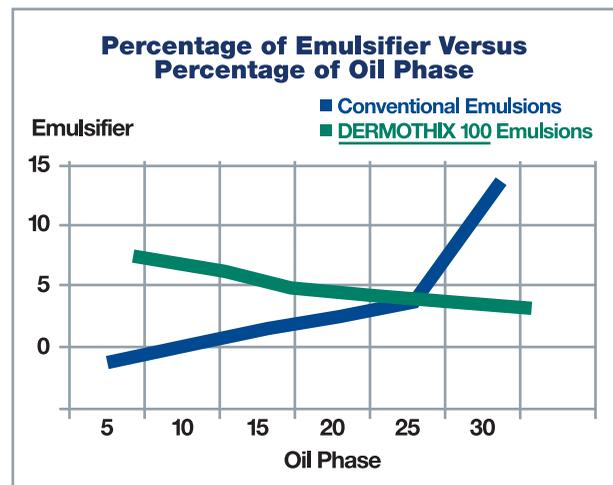
a series of innovative polymeric thickeners with broad pH stability, enhanced clarity and salt tolerance

Product	INCI Name	Description
Dermothix® 75	<i>*Disteareth-75 IPDI</i>	water dispersible thickener for clear surfactant systems; broad pH stability 2-12
Dermothix® 100	<i>*Disteareth-100 IPDI</i>	water soluble thickener and gelling agent for aqueous systems; high internal phase o/w emulsifier; broad pH stability 2-12
Dermothix® 75 Liquid	<i>*Disteareth-75 IPDI (and) Glycereth-7 Caprylate / Caprate (and) Water</i>	liquid thickener; compatible with anionics and nonionics; can be post additive to adjust final viscosity; coupler for fragrance addition at room temperature



Thickener Comparison

	Dermothix	Carbomer	Hydroxyethyl-cellulose	Ethoxylated Esters
Viscosity Building	X	X	X	X
Gel Clarity	X	X	X	X
Surfactant Compatibility	X	Limited	Limited	
Emulsification	X			Limited
Broad pH Stability	X			
Salt Tolerance	X		X	X
Rheology	Dilatant	Thixotropic	Thixotropic	Dilatant



*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

Dermothix® 100

INCI Name: Distareth-100 IPDI

Polymeric Gelling Agent Rheology Modifier and Emulsifier

Gelling Agent

- water soluble flake
- clear stable gels
- salt tolerant
- pH stable 2-12

Rheology Modifier

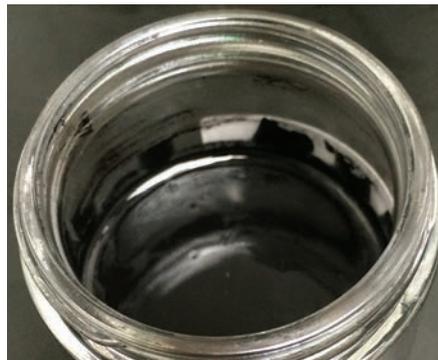
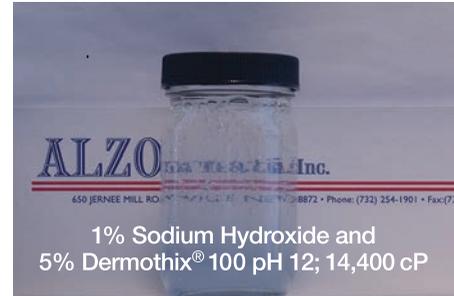
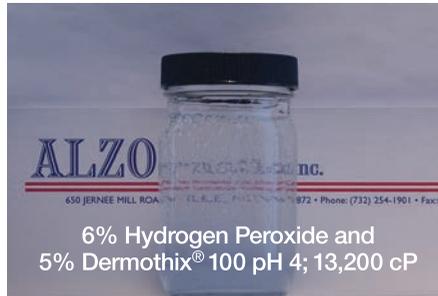
- alternative to conventional thickeners
- Newtonian liquid
- liquid at rest, solid when sheared
- creates ringing gels
- cushioning self-leveling textures

Efficient O/W Emulsification

- HLB 18.5
- emulsifies high levels of oils/esters
- no secondary emulsifiers needed
- creates shiny appearance
- product surface always looks untouched

Enhanced UV Absorption

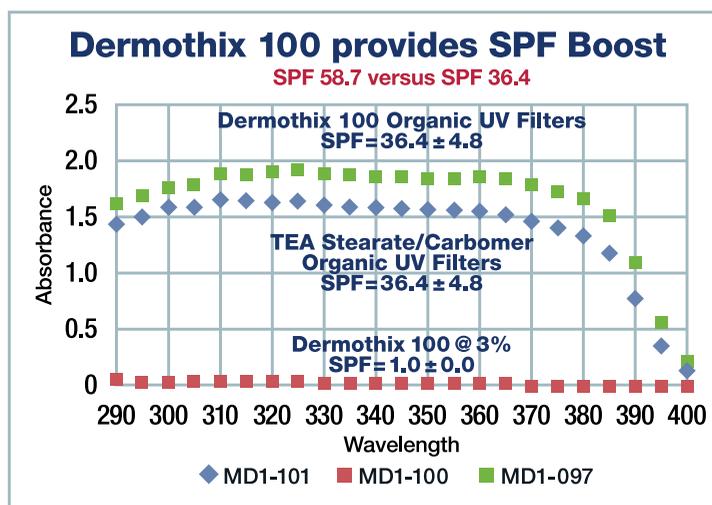
- self-leveling rheology; results in homogeneous film
- no peaks and valleys on surface
- in-vitro SPF testing on Vitro-Skin® Substrate
- shows significant higher SPF compared to TEA/Carbopol system
- effective across broad usage range 1-10%
- no neutralization or added thickeners required



Dermothix® Mascara



Dermothix® Foundation





Silicone Elastomers

crosspolymers in cosmetic carriers with maximum void capacity; NuLastic® Soft aids in delivery of lipophilic actives; NuLastic® Slip emulsifies and releases hydrophilic ingredients; NuLastic® Silk-E, high molecular weight silicone elastomers reacted with an amino functional polyurethane, provide cationic emulsification and enhanced conditioning

Product	INCI Name	Description
NuLastic Soft D99-8	<i>*Isononyl Isononanoate (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>	8% solids elastomer in a cosmetic ester carrier; adds clarity, wear, viscosity, and film forming with extended “play time”
NuLastic Soft ID-99	<i>*Isododecane (and) Isononyl Isononanoate (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>	6% solids elastomer in isododecane and a cosmetic ester carrier; adds clarity, wear, viscosity, and film forming
NuLastic Soft D5-6	<i>*Cyclomethicone (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>	6% solids elastomer in a volatile cyclomethicone carrier; adds clarity, wear, viscosity, and film forming
NuLastic Soft DM-6	<i>*Dimethicone (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>	6% solids elastomer in a dimethicone carrier; excellent wear, viscosity, and long lasting film forming
NuLastic Soft ID-6	<i>*Isododecane (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>	6% solids elastomer in a volatile isododecane carrier; adds clarity, wear, viscosity, and film forming
NuLastic Slip ID-7	<i>*Isododecane (and) PEG-10 Dimethicone/Vinyl Dimethicone Crosspolymer</i>	7% solids elastomer in isododecane; water soluble actives delivery and w/o emulsification
NuLastic Slip D99-9	<i>*Isononyl Isononanoate (and) PEG-10 Dimethicone/Vinyl Dimethicone Crosspolymer</i>	9% solids elastomer in a cosmetic ester carrier; water soluble actives delivery and w/o emulsification
NuLastic Slip DM-6	<i>*Dimethicone (and) PEG-10 Dimethicone/Vinyl Dimethicone Crosspolymer</i>	6% solids elastomer in dimethicone carrier; water soluble actives delivery and w/o emulsification
NuLastic Silk-E ID-LSA	<i>Isododecane (and) Polysilicone 23</i>	10% solids elastomer/polyurethane in a cosmetic volatile carrier; cationic emulsification, enhanced adhesion, improved pigment wetting; solubility in polar and non-polar solvents
NuLastic Silk-E D99-LSA	<i>Isononyl Isononanoate (and) Polysilicone 23</i>	10% solids elastomer/polyurethane in a cosmetic ester carrier; cationic emulsification, enhanced adhesion, improved pigment wetting; solubility in polar and non-polar solvents
NuLastic Silk-E DM-LSA	<i>Dimethicone (and) Polysilicone 23</i>	10% solids elastomer/polyurethane in a cosmetic silicone carrier; cationic emulsification, enhanced adhesion, improved pigment wetting; solubility in polar and non-polar solvents
		<p><i>NuLastic Silk MA, (C4-24 Alkyl Dimethicone/Divinyldimethicone Crosspolymer) and NuLastic Surfa (Bis-Divinyldimethicone/PEG-10 Dimethicone Crosspolymer) information and samples are available upon request.</i></p> <p>*Custom dilutions available upon request.</p>

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)



CM1-090 Color Protection Conditioner		
Ingredient	INCI Name	W/W%
Phase A		
DI Water	Water	83.50
Phase B		
Nequat DBS	Stearyl Alcohol (and) Behenylamidopropyl Ethyldimonium Ethosulfate (and) Dimethyl Lauramine (and) Dilinoleic Acid	6.00
Cetyl Alcohol	Cetyl Alcohol	4.00
Dermol DISM	Diisostearyl Malate	2.00
Dermol GRC	Glyceryl Ricinoleate	2.00
Polyderm PPI-SA	Di-PEG-2 Soyamine/IPDI Copolymer	1.00
Polyderm PPI-SA15	PEG-15 Soyamine/IPDI Copolymer	1.00
Phase C		
TroyCare FE10 FE10	Idopropnyl Butylcarbamate/Phenoxyethanol	.50
Total		100.00

CM1-090 Procedure:

- 1). In the primary vessel heat and mix Phase A to 80°C
- 2). In a side vessel heat and mix Phase B to 80°C
- 3). Under high shear mixing combine Phase B into Phase A
- 4). Cool batch to below 40°C add Phase C and drop batch

MD1-047 Sulfate Free Clear Shampoo		
Ingredient	INCI Name	W/W%
Phase A		
Glycerin	Glycerin	.50
Dermothix®75F	Disteareth-75 IPDI	2.50
Foamtaine CAB	Cocobetaine	15.00
DI Water	Water	41.00
Pureact C	Coco Glucoside	24.00
Pureact D	Decyl Glucoside	6.00
Phase B		
Vitalizing Hair Care Oil	Brassica Campestris (Rapeseed) Seed Oil (and) Linum Usitatissimum (Linseed) Seed Oil (and) Simmondsia Chinensis (Jojoba) Seed Oil (and) Simmondsia Chinensis (Jojoba) Seed Extract (and) Emblica Officialis Fruit Extract	1.00
Cupl-PIC	PPG-2 Isoceteth-20 Acetate	1.00
Dermol SLLC-L	Sodium Lauroyl Lactylate	4.00
Dermol OPG	Ethylhexyl Pelargonate	1.00
Polyderm PPI-SI-WS	Bis-PEG-15 Dimethicone/IPDI Copolymer	3.00
DOWANOL Eph	Phenoxyethanol	.50
Coconut mango	Fragrance	.50
Total		100.00

MD1-047 Procedure:

- 1). In the primary vessel, heat and mix Phase A until uniform
- 2). In a side vessel add phase B heat and mix until uniform-50°C
- 3). Add Phase B to Phase A and begin cooling to room temperature

CM1-119 Frizz Control		
Ingredient	INCI Name	W/W%
Phase A		
DI Water	Water	88.75
Dermothix®100	Disteareth-100 IPDI	1.50
Polyderm PPG-17	PPG-17/IPDI/DMPA Copolymer	5.00
Polyderm PPI SI-WS	Bis-PEG-15 Dimethicone Copolyol/IPDI Copolymer	2.00
Dermol DISM	Diisostearyl Malate	2.00
Nipaguard SCV	Sorbitan Caprylate (and) Phenoxyethanol (and) Benzyl Alcohol (and) Benzoic Acid	.75
Total		100.00

CM1-119 Procedure:

- 1). Heat to 85°C; add Dermothix®100.
- 2). In the primary mixing vessel, under propeller mixing, agitate Phase A until uniform.

AG1-27: Natural Mango Butter Body Lotion		
Ingredient	INCI Name	W/W%
Phase A (aqueous)		
DI Water	Water	67.20
Glycerin	Glycerin	2.00
Dermol CG	Caprylyl Glycol	0.30
Gum Arabic Spray Dry Powder	Acacia Senegal Gum	1.00
Phase B (oils)		
Beantree	Methylheptyl Isostearate	9.00
Trivent Mango Butter	Mangifera Indica (Mango) Seed Butter	5.00
Dermol MBDD	Mango Butter Dimer Dilinoleyl Esters/Dimer Dilinoleate Copolymer	2.00
Dermowax BB	Behenyl Behenate	4.50
Dermol SLLC-LF	Sodium Lauroyl Lactylate	3.00
Dermowax GMS	Glyceryl Monostearate	2.00
Stearyl Alcohol	Stearyl Alcohol	2.00
Hetester SSS	Stearyl Stearoyl Stearate	2.00
Total		100.00

AG1-27 Procedure:

- 1). In a beaker combine water, glycerin and Dermol CG, heat and stir with homogenizer, then slowly add gum, allow to mix until fully dispersed.
- 2). In a side beaker combine the oil phase ingredients. Heat both phases to 80°C.
- 3). Slowly add oil phase to water phase to create emulsion. Homogenize for 10 minutes at 4,000 rpm (use lower speed if necessary, to reduce aeration).
- 4). Turn off heat and allow to cool while stirring with U-blade on prop mixer.

LF2-40 Natural Lip Balm		
Ingredient	INCI Name	W/W%
Candelilla SP75	Candelilla Cera	5.20
Carnauba	Copernicia Cerifera	3.20
Dermowax BB	Behenyl Behenate	5.20
Mango Butter	Mangifera Indica	10.40
Dermol MBDD	Mango Butter Dimer Dilinoleyl Esters/Dimer Dilinoleate Copolymer	10.40
Dermol TISC	Trisostearyl Citrate	20.80
Beantree	Methylheptyl Isostearate	10.40
Bernel Ester TCC	Tricaprylyl Citrate	20.80
Dermol DISM	Diisostearyl Malate	8.40
Dermol DGDIS	Polyglyceryl-2 Diisostearate	5.20
Total		100.00

LF2-40 Procedure:

- 1). Melt waxes and esters to 85°C with mixing.
- 2). Add colorant if required.
- 3). Mix until uniform and pour into mold.
- 4). Chill until firm.

LF1-182 Dermothix® 100 Petroleum Cream		
Ingredient	INCI Name	W/W%
Phase A		
Water	Water	55.00
Phase B		
Dermothix®100	Disteareth-100 IPDI	3.00
Ultima White Pet USP	Petrolatum	20.00
Light Mineral Oil	Mineral Oil	20.00
Phase C		
Microcare MTO	Methylisothiazolinone (and) Iodopropynyl Butylcarbamate	1.00
Wildberry GRAS EL-21571	Fragrance	1.00
Total		100.00

LF1-182 Procedure:

- 1). Add Dermothix® 100 to mineral oil and petrolatum and heat until the Dermothix® is melted (60-70°C) and mix until homogenous.
- 2). In separate beaker heat water to about 70-75°C and add to the Dermothix phase. Stir until mixed and uniform. Note: the appearance will be grainy but continue to mix until smooth and uniform.
- 3). Cool and add fragrance and preservative.

*IECIC listed
(Inventory of Existing
Cosmetic Ingredients in China)

Contract Manufacturing Services



Contract Manufacturing:

For over 40 years, Alzo International, Inc. has provided custom development and toll manufacturing services to companies around the world, in a wide variety of industries. Pharmetics Manufacturing Co., LLC, a division of Alzo International, Inc., is a state-of-the-art batch production facility, capable of providing custom manufacturing. Our highly trained technical staff can help design and formulate the perfect solution for your chemical specialty needs, from laboratory scale, to pilot scale and beyond.

Our synthesis and production capabilities cover a broad spectrum including: lubricants, esters, defoamers, release agents and water-proofing compounds as well as other performance products.



Core Technologies:

- Esterification
- Quaternization
- Trans-esterification
- Amidation
- Emulsification
- Polymerization

Core Processes:

- Saponification
- Sulfonation
- Condensation
- Filtration
- Batch Distillation
- Blending
- Deodorization
- Hydrophobization
- Neutralization



Contract Manufacturing Services



Manufacturing Equipment:

- Validated reactor systems for synthesis up to 235°C, fully equipped with:
 - Overhead Condensers
 - Decanter Tanks
 - Receiver Tanks
- Computer controlled, and fully instrumented
- Glass-lined and Stainless Steel construction, in sizes ranging from 100 to 3,000 gallons
- Automated deodorization system for producing low-odor and odorless products
- Vacuum systems with capabilities down to 5-10 mm Hg
- Colloid mills for size reduction and emulsification requirements
- Filtration capabilities down to 1 micron, utilizing plate-and-frame as well as bag filtration
- Packaging capabilities for pails, drums, totes, tankwagons and customer-supplied packaging



Support Equipment and Regulatory Status:

- 46,000 gallons of dedicated bulk chemical storage capacity
- Fully heated and enclosed warehouse space
- All required New Jersey DEP operating permits including air and storm-water discharge
- Waste-water treatment system and discharge are fully permitted with local POTW
- ISO 9001: 2015 certified



If your custom manufacturing projects are a match for our talents and capabilities, Alzo's staff of chemists, engineers, and operators are eager to work with you and assist you in meeting your production needs.





Alzo International Inc

Where Chemistry is Artistry

650 Jernee Mill Road
Sayreville, New Jersey 08872 USA
Phone: (732) 254-1901 ■ Fax: (732) 254-4434
www.alzointernational.com



Alzo International serves the world.

AFRICA

- Morocco
- South Africa

ASIA

- China
- Malaysia
- India
- Indonesia
- Israel
- Japan
- Phillipines
- Russia
- South Korea
- Taiwan
- Thailand
- Turkey
- Vietnam

EUROPE

- Austria
- Belgium
- Bulgaria
- Finland
- France
- Denmark
- Germany
- Greece
- Ireland
- Italy
- Luxembourg
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Spain
- Sweden
- Switzerland
- United Kingdom

NORTH AMERICA

- USA
 - California
 - New Jersey
 - Texas
- CANADA
 - Montreal
 - Toronto
- PACIFIC RIM
 - Australia
 - New Zealand

CENTRAL AND SOUTH AMERICA

- Argentina
- Brazil
- Chile
- Colombia
- Costa Rica
- Ecuador
- El Salvador
- Guatamala
- Honduras
- Mexico
- Peru
- Venezuela

