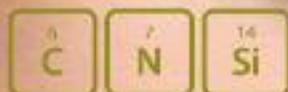


# Beauty in its Element(s)



**ALZO** International Inc.

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 35 employees in functions of Research and Development, Quality, Regulatory, Administration, Sales and Marketing, Customer Service and Distribution. Alzo International and Pharmetic 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 possesses 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 a supply chain affiliate member of the RSPO (Roundtable for Sustainable Palm Oil).

### **Commitment to the Future.**

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



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Alzo's multifunctional esters sold under the Dermol, Wickenol, Bernel, Trivent, Elefac, 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.

### 13 Naturally Derived Emulsifiers

Dermasperse and 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.

### 14 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.

### 15-16 Specialty Surfactants

The series of Foamtaine, Foamid and Foamox Surfactants are fatty acid derived superior foam boosters, viscosity builders, conditioners and foam stabilizers that provide outstanding functionality in skin, hair, bath, soap and detergent products.

### 17 Dimers/Miscellaneous Specialties

Monoderm Diurethanes add outstanding deposition and broad pH and thermal stability. As a full service supplier, Alzo offers a diverse range of products sourced from domestic and international suppliers. These include natural and synthetically derived alcohols, acids, oils, glycols and waxes.

## 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, resulting in many unique properties including enhanced adhesion durability, film forming and thermal and chemical stability.

### 20 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.

### 21 Silicone Elastomers

The series of NuLastic emollient gels are patented silicone 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.

### 22-23 Polymeric Film Forming Systems

NuPLastic Film Systems are multifunctional transfer and water resistant films based on the combination of NuLastic Silicone Elastomers and Polyderm Polyurethane water based dispersions. The synergy of the thermoplastic resins and silicone elastomers yield emollient and flexible films, as well as, long wear and the delivery of water soluble and water insoluble actives.

### 24 Contract Manufacturing Services

Pharmetic 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	ECOCERT, light dry non-oily feel; volatile silicone alternative
Bernel Ester DISM	*Diisostearyl Malate	H	imparts gloss, sheen and lubricity; great pigment dispersing
Bernel Ester TCC	*Tricaprylyl Citrate	M	waterproofing emollient; alternative for jojoba oil and squalane
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 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 TGDIS	*Polyglyceryl-3 Diisostearate	H	non-greasy soft emolliency and emulsification
Trivent Mango Butter	*Mangifera Indica (Mango) Seed Butter	M	25° C - 38° C melt point; non-tacky; alternative to shea and cocoa butters
Trivent OC-G	*Tricaprylin	M	powdery feel; exceptional pigment wetter and binder
Wickenol 545	Glucose Glutamate	M	humectant based on sugar and amino acid; water soluble; substantive

\*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
<b>Dermol 2014</b> <b>Wickenol 142</b>	* <i>Octyldodecyl Myristate</i>	M	liquid wax with elegant emolliency and enhanced 'playtime'
<b>Dermol 16-SS</b>	<i>Isocetyl Stearoyl Stearate</i>	M	slip without excessive sheen and luster
<b>Dermol 2022</b>	* <i>Octyldodecyl Behenate</i>	H	C22 acid adds substantive silkiness and softness
<b>Dermol 20-S</b>	<i>Octyldodecyl Hydroxystearate</i>	M	castor oil derived; substantive without sheen and luster
<b>Dermol 20-SS</b>	* <i>Octyldodecyl Stearoyl Stearate</i>	M	castor oil derived; substantive without sheen and luster
<b>Dermol 414</b>	* <i>Butyl Myristate</i>	M	spreading agent for bath oils; solubilizer for sticks and candles
<b>Dermol 816</b> <b>Wickenol 155</b>	* <i>Ethylhexyl Palmitate</i>	M	cost effective, all purpose emollient; sheen without greasiness
<b>Dermol 1818</b>	* <i>Isostearyl Isostearate</i>	M	substantive and film forming for lip and eye
<b>Dermol 818</b> <b>Wickenol 156</b>	* <i>Ethylhexyl Stearate</i>	M	excellent slip properties without excessive sheen and luster
<b>Dermol BS</b>	* <i>Butyl Stearate</i>	M	adds slip to mineral oil formulations; excellent pigment wetting
<b>Dermol DO</b>	* <i>Decyl Oleate</i>	H	substantive, moisturizing, non-greasy; ease of emulsification
<b>Dermol GTR</b>	<i>Glyceryl Triacetyl Ricinoleate</i>	M	excellent pigment wetting and co-solvency; softens resins and waxes
<b>Dermol ICB</b>	<i>Isocetyl Behenate</i>	H	odorless and tasteless; slip, lubricity for solids and barrier creams
<b>Dermol ICM</b>	<i>Isocetyl Myristate</i>	M	non-greasy silky skin feel; soluble in silicone and waxes
<b>Dermol ICP</b>	<i>Isocetyl Palmitate</i>	H	elegant silk conditioning for use in emulsions
<b>Dermol ICS</b>	<i>Isocetyl Stearate</i>	H	unique combination of high molecular weight and low freeze point
<b>Dermol IDO</b> <b>Wickenol 144</b>	* <i>Isodecyl Oleate</i>	H	spreading agent for bath oils; binder for pressed powders
<b>Dermol IPIS</b> <b>Wickenol 131</b>	* <i>Isopropyl Isostearate</i>	M	popular penetrating and substantive emollient for emulsions and solids
<b>Dermol IPM</b> <b>Wickenol 101</b>	* <i>Isopropyl Myristate</i>	M	popular cost effective solubilizer, film forming; non-oily after feel
<b>Dermol IPP</b> <b>Wickenol 111</b>	* <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

(continued)

Product	INCI Name	Feel	Description
<b>Dermol ISP</b>	<i>Isostearyl Palmitate</i>	M	lubricious emolliency; non-greasy; softness and spreadability
<b>Dermol MAHO</b>	* <i>Methyl Acetyl Ricinoleate</i>	M	solvency, penetration, slip without excess sheen
<b>Dermol OLO Wickenol 143</b>	* <i>Oleyl Oleate</i>	H	lubricious feel; adds luster and softness in emulsions
<b>Dermol PGML</b>	<i>Propylene Glycol Laurate</i>	M	emulsifier, solvent and plasticizer for polymers, resins and waxes
<b>Dermol PGR</b>	* <i>Propylene Glycol Ricinoleate</i>	H	castor oil derived pigment dispersant for color and skin care
<b>Hetester HSS</b>	<i>Isocetyl Stearoyl Stearate</i>	M	slip without excessive sheen and luster
<b>Hetester ISS</b>	* <i>Isostearyl Stearoyl Stearate</i>	M	substantive pigment binder, adds softness and silkiness to hair and skin
<b>Wickenol 139</b>	* <i>Octyldodecyl Erucate</i>	H	replacement for jojoba oil; lubricious skin feel
<b>Wickenol 171</b>	* <i>Ethylhexyl Hydroxystearate</i>	H	replenishes skin lipids stripped away by surfactants; "refatting" emollient

## Lactic 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
<b>Dermol 23L</b>	* <i>C12-13 Alkyl Lactate</i>	L	alcohol soluble for use in colognes and after shaves; adds luster to hair
<b>Dermol 25L</b>	* <i>C12-15 Alkyl Lactate</i>	L	luster and body to hair and skin; plasticizer with low cloud and freeze points
<b>Dermol CL</b>	* <i>Cetyl Lactate</i>	M	soft wax; builds viscosity in emulsions; ideal for lip and make-up
<b>Dermol G-7LC</b>	<i>Glycereth-7 Lactate</i>	M	soluble in polar and non-polar solvents; velvety skin feel
<b>Dermol ISL</b>	* <i>Isostearyl Lactate</i>	M	ester for make-up remover formulations, soluble in silicones
<b>Dermol L-45</b>	* <i>Glycereth-5 Lactate</i>	M	water soluble, penetrating, ideal for hydro-alcoholic formulations
<b>Dermol LL</b>	* <i>Lauryl Lactate</i>	L	emolliency with penetration; excellent carrier for actives; viscosity boosting
<b>Dermol ML Wickenol 506</b>	* <i>Myristyl Lactate</i>	H	28-34° C melt point wax; adds increased viscosity in emulsions
<b>Dermol OL</b>	<i>Oleyl Lactate</i>	M	OH groups facilitate spreading; and cushioning to skin

\*IECIC listed  
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Cosmetic Ingredients in China)

L Light Feel  
M Medium Feel  
H Heavy Feel

## Emollients



## Fruit Acid Esters

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

Product	INCI Name	Feel	Description
<b>Bernel Ester DOM</b> <b>Dermol DOM</b>	* <i>Diethylhexyl Malate</i>	M	solubilizer for benzophenones; coupler for fragrance and hydro-alcoholic systems
<b>Citmol 316</b>	<i>Trisocetyl Citrate</i>	H	viscous mineral oil and castor oil replacement; pigment dispersant
<b>Citmol 320</b>	* <i>Trioctyldodecyl Citrate</i>	H	viscous mineral oil and castor oil replacement; pigment dispersant
<b>Dermol DOM-E</b>	* <i>Diethylhexyl Maleate</i>	M	non-greasy spreading agent to improve feel of sunscreens
<b>Dermol G-7CT</b>	<i>Glycereth-7 Citrate</i>	M	water soluble o/w emulsifier; gloss, sheen and humectancy
<b>Dermol G-7GL</b>	<i>Glycereth-7 Glycolate</i>	M	excellent coupler for hydro-alcoholic systems
<b>Dermol G-7ML</b>	<i>Glycereth-7 Malate</i>	M	excellent pigment wetting and dispersing properties
<b>Dermol TISC</b>	* <i>Trisostearyl Citrate</i>	H	low freeze point with high viscosity; sheen, lubricity and gloss

## Benzoate and Salicylate Esters

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

Product	INCI Name	Feel	Description
<b>Bernel Ester 126</b>	* <i>Laureth-2 Benzoate</i>	L	RI (1.468) coupling agent for hydro-alcoholic systems and fragrances
<b>Dermol 25-B</b>	* <i>C12-15 Alkyl Benzoate</i>	M	RI (1.474) cost effective solvent and solubilizer for skin care and color
<b>Dermol 25-3B</b>	<i>C12-15 Pareth-3 Benzoate</i>	M	RI (1.474) cost effective coupling agent and emulsifier
<b>Dermol DPG-2B</b>	* <i>Dipropylene Glycol Dibenzoate</i>	M	RI (1.5220) outstanding solvency for use in clear antiperspirants
<b>Dermol DPGB</b>	<i>Dipropylene Glycol Benzoate</i>	M	RI (1.505); plasticizer for polymers, waxes and organic sunscreens
<b>Dermol G-76</b>	<i>Glycereth-7 Benzoate</i>	M	RI (1.493); water dispersible coupler for hydro-alcoholic systems
<b>Dermol ICSA</b>	<i>Isocetyl Salicylate</i>	M	RI (1.485); plasticizer for polymers, waxes and organic sunscreens
<b>Dermol IDSA</b>	<i>Isodecyl Salicylate</i>	M	RI (1.493); plasticizer for polymers, waxes and organic sunscreens
<b>Dermol NSA</b>	<i>C12-15 Alkyl Salicylate</i>	M	RI (1.483); plasticizer for polymers, waxes and organic sunscreens
<b>Dermol PGB</b>	* <i>Propylene Glycol Benzoate</i>	M	RI (1.524); unique plasticizing properties for resins, polymers, and waxes
<b>Dermol TDSA</b>	* <i>Tridecyl Salicylate</i>	M	RI (1.489); 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	popular quick drying silky feel ester alternative for volatile silicones
Dermol 108	*Isodecyl Ethylhexanoate	L	alternative for volatile silicones; reduces greasiness
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 1012	Laureth-2 Ethylhexanoate	M	self-emulsifying dispersant for bath and hydro-alcoholic systems
Dermol G-38-E	Glyceryl Triethylhexanoate	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

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

\*IECIC listed  
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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
<b>Bernel Ester NPDC</b> <b>Dermol NGDC</b>	<i>*Neopentyl Glycol Dicaprate</i>	M	low viscosity solubilizer; plasticizer for polymers and resins
<b>Dermol 488</b>	<i>Diethylene Glycol Diethylhexanoate</i>	M	low viscosity; good penetration and solubility, non-oily
<b>Dermol 827</b>	<i>*Propylene Glycol Myristyl Ether Acetate</i>	M	low freeze point solvent; penetration properties
<b>Dermol G-7DI</b>	<i>Glycereth-7 Diisononanoate</i>	M	water dispersible coupler for hydro-alcoholic systems
<b>Dermol GL-7A</b>	<i>*Glycereth-Triacetate</i>	M	water soluble solubilizer for DHA
<b>Dermol M-20</b>	<i>*Propylene Glycol Dicaprylate/Dicaprate</i>	M	popular solvent, emulsifier and fragrance coupler
<b>Dermol NGDI</b>	<i>*Neopentyl Glycol Diisostearate</i>	M	low viscosity solubilizer; plasticizer for polymers and resins
<b>Dermol NGDO</b>	<i>*Neopentyl Glycol Diethylhexanoate</i>	M	low viscosity solubilizer; plasticizer for polymers and resins
<b>Dermol PDH</b>	<i>*PEG-4 Diheptanoate</i>	M	wetting and coupling agent; low freeze point; pigment dispersant
<b>Dermol PETIS</b>	<i>*Pentaerythrityl Tetraisostearate</i>	M	heavy rich emolliency; ideal for wipes and make up removers
<b>Dermol PETO-E</b> <b>Trivent PE-48</b>	<i>*Pentaerythrityl Tetraethylhexanoate</i>	M	popular substantive ester with extended wear properties; adds "wet" look in anhydrous products

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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	20°C-30°C melt point; adds body to low oil phase emulsions with sheen and luster
Dermol CP Waxenol 816	*Cetyl Palmitate	M	48°C melt point; spermaceti alternative; adds body and structure to sticks and emulsions
Dermol CTR	*Cetyl Ricinoleate	M	25°C-30°C melt point semi solid; ideal for pigmented products
Dermol M-27	*Glyceryl Triundecanoate	H	28°C melt point; consistency of cocoa butter
Dermol MM Waxenol 810	*Myristyl Myristate	M	37°C melt point wax; substantivity, adds body and velvety feel
Dermolan GLH	Glycereth-8 Hydroxystearate	H	lanolin alternative; self-emulsifying; coupler for hydro-alcoholic products
Dermowax BGS	*Butyl Stearate (and) Glyceryl Stearate (and) Stearyl Stearate	M	53°C melt point; blend of three popular emulsifiers
Dermowax PGMS	Propylene Glycol Stearate	M	37°C melt point; water and alcohol miscible
Hetester HCA	*Glyceryl Triacetyl Hydroxystearate	H	film forming; adds body, gloss and wear to mascaras and foundations (meltpoint)
Hetester SSS	Stearyl Stearoyl Stearate	M	53°C melt point; solid emollient for use in stick products
Marix SF	*Di-C12-15 Alkyl Fumarate	M	ELINCS; melts at 32°C-42°C, non-irritating; thick to thin viscosity upon rub out
Waxenol 801	*Arachidyl Propionate	M	37°C-43°C melt point; alternative to lanolin; enhanced pigment payout
Waxenol 822	*Arachidyl Behenate	M	62°C melt point replacement for beeswax; adds structure and body

\*IECIC listed  
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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
<b>Dermol 334</b>	<i>Isodecyl Ethylhexanoate (and) Ethylhexyl Isononanoate (and) PEG-2 Diisononanoate (and) PEG-2 Diethylhexanoate</i>	L	alternative for volatile silicones; reduces tackiness; penetrating
<b>Dermol 489</b>	<i>*Diethylene Glycol Diethylhexanoate/ Diisononanoate</i>	M	cost effective; excellent solubility and good penetration; reduces tack
<b>Dermol 866</b>	<i>Diethylene Glycol Diethylhexanoate/ Diisononanoate (and) Ethylhexyl Isononanoate</i>	L	non-oily feel with excellent solubility in silicones, oils and esters
<b>Dermol ALFA</b>	<i>Isostearyl Citrate/ Glycolate/Lactate/Malate</i>	M	blend of AHA acids esters, imparts sheen and lubricity
<b>Dermol B-246</b>	<i>Benzyl Laurate/ Myristate/ Palmitate</i>	M	linear and saturated acids with an aromatic alcohol ring; reduces drag
<b>Dermol MOS</b>	<i>Isostearyl Neopentanoate/ (and) Isocetyl Stearate</i>	M	mimics feel of mineral oil; non-greasy and non-oily
<b>Minno 21</b>	<i>*Neopentyl Glycol Diethylhexanoate (and) Neopentyl Glycol Diisostearate</i>	H	pigment wetter for TiO <sub>2</sub> and ZnO; aids in SPF boosting; mineral oil replacement
<b>Minno 41</b>	<i>*Neopentyl Glycol Diisostearate (and) Neopentyl Glycol Diethylhexanoate</i>	H	pigment wetter for TiO <sub>2</sub> and ZnO; aids in SPF boosting; mineral oil replacement
<b>Trivasperse 31</b>	<i>Polyglyceryl-2 Diisostearate (and) Octyldodecyl Neopentanoate</i>	M	excellent pigment wetting for lip and make-up products
<b>Wickenol 161</b>	<i>*Diethylhexyl Adipate (and) Ethylhexyl Palmitate (and) Ethylhexyl Stearate</i>	M	cost effective IPM alternative; colorless and odorless
<b>Wickenol 163</b>	<i>*Ethylhexyl Stearate (and) Ethylhexyl Palmitate (and) Diethylhexyl Adipate</i>	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
<b>Aloxe MG-20</b>	* <i>Methyl Gluceth-20</i>	M	popular and cost effective emollient and emulsifier
<b>Dermol BG</b>	* <i>Butylene Glycol</i>	L	safe and effective humectant and solubilizer; provides conditioning to skin
<b>Dermol CG</b>	* <i>Caprylyl Glycol</i>	M	formulation stabilizer and viscosity regulator; used as part of a preservative blend
<b>Paramul J</b>	* <i>Cetearyl Alcohol (and) Ceteareth 20</i>	L	popular and cost effective non-ionic emulsifier
<b>Sodium Lactate Solution</b>	<i>Sodium Lactate-50</i>	M	moisturizer and humectant for use in skin and hair care
<b>Trivalin SF</b>	* <i>Ethoxydiglycol</i>	L	oil and water soluble solvent; spreading agent for DHA; aids in actives delivery
<b>Wickenol 707</b>	* <i>PPG-30 Cetyl Ether</i>	L	emollient for hydro-alcoholic formulations; adds body to foam

## Naturally Derived Emulsifiers

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

Product	INCI Name	Feel	Description
<b>Dermowax BB</b>	* <i>Behenyl Behanate</i>	H	72°C melt point; adds viscosity and substantivity to skin and hair
<b>Dermowax GMHS</b>	* <i>Glyceryl Hydroxystearate</i>	M	60°C melt point emulsifier derived from castor oil, increases viscosity
<b>Dermowax GMS</b>	* <i>Glyceryl Stearate</i>	M	57°C melt point emulsifier; adds thickening, body and texture
<b>Dermowax SB</b>	* <i>Stearyl Behenate</i>	H	64-70°C melt point; bodying agent; high mw suggests low irritation
<b>Dermowax SS Hetester 412</b>	* <i>Stearyl Stearate</i>	H	58°C melt point; emulsifier, opacifier and thickener; adds sheen to hair and skin
<b>Dermofat 4919</b>	* <i>Stearic Acid</i>	M	52-57°C melt point; o/w emulsifier; suitable for many personal care formulations
<b>Mulls 2218</b>	* <i>Behenoyl Stearic Acid</i>	H	65-70°C melt point; w/o emulsifier; adds temperature stability in o/w emulsions; synergy with Wickenol 535 as part of the Dermasperse MG Green emulsification system
<b>Wickenol 535</b>	* <i>Wheat Germ Glycerides</i>	M	low HLB, self-emulsifying; exceptionally mild; synergy with Mulls 2218 as part of the Dermasperse MG Green emulsification system

\*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	*Behenamido-propyl Ethyldimonium Ethosulfate	C <sub>22</sub> group provides excellent cationic conditioning; adds substantivity, silkiness and luster
Foamquat CHP	*Water (and) Linoleamido-propyl Ethyldimonium Ethosulfate (and) Dimethyl Lauramine Isostearate	conditioner for leave-on and rinse-off products, cationic emulsifier, excellent wet comb; anti-stat properties
Foamquat RCAS	Ricinoleamido-propyl Ethyldimonium Ethosulfate	water soluble liquid quat derived from castor oil; substantive conditioner for hair and skin
Foamquat SAQ-90	Linoleamido-propyl Ethyldimonium Ethosulfate	water soluble liquid quat derived from sunflower oil; substantive conditioner for hair and skin
Foamquat SOAS	Soyamido-propyl Ethyldimonium Ethosulfate	water soluble liquid quat derived from soya; substantive conditioner for hair and skin
Necon BAB	*Behenamido-propyl 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	*Linoleamido-propyl Dimethylamine Dimer Dilinoleate	Excellent conditioner derived from natural feed stocks; forms a monomolecular layer on skin; outstanding conditioner in hair dyes
Necon SAS	Stearamido-propyl Dimethylamine Stearate	derived from rapeseed oil; provides substantive conditioning
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) Stearylamido-propyl Ethyldimonium Ethosulfate (and) Dimethyl Lauramine (and) Dilinoleic Acid	exceptional hair softening, wet combing and detangling; cationic emulsifier; repairs damaged bleached hair
Parapel HC Parapel HC-85	*Linoleamido-propyl 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



## 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	95% 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 CME	*Cocamide MEA	foam and viscosity builder for shampoos, bath and shower products; emulsifier for creams and lotions
Foamid G-65	*Cocamide DEA	excellent thickener, foam builder and stabilizer for anionic and amphoteric surfactants; self-emulsifiable: 70% minimum amide content
Foamid O-20	Oleamide DEA	thickening and conditioning agent for rinse off products such as shampoos; produces luxurious creamy foam
Foamid SCE	*Cocamide DEA	super amide results in dense copious foam with excellent viscosity and stability; ideal for gel shampoo concentrates and liquid hand soaps: 88% minimum amide content
Foamid SL-Extra	*Lauramide DEA	super amide results in dense copious foam with excellent viscosity and stability; ideal for gel shampoo concentrates and liquid hand soaps
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 luxurious and softening to hair and skin; when neutralized it enhances substantivity
Foamine S	*Stearylamidopropyl Dimethylamine	cationic amine derived from stearic acid; imparts luxurious and softening to hair and skin; when neutralized it enhances substantivity
Foamine SO	Soyamidopropyl Dimethylamine	cationic amine derived from soya; imparts luxurious and softening to hair and skin; when neutralized it enhances substantivity
Foamox CDO	*Cocamidopropylamine Oxide	biodegradable and compatible with anionic, non-ionic and amphoteric surfactants; adds dense copious foam and conditioning in shampoos
Foamox DML	*Lauramine Oxide	biodegradable and compatible with anionic, non-ionic and amphoteric surfactants; add dense copious foam and conditioning in shampoos
Foamox DMO-PG	Oleamine Oxide	biodegradable and compatible with anionic, non-ionic and amphoteric surfactants, adds dense copious foam and conditioning in shampoos

\*IECIC listed  
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# Surfactants



## Specialty Surfactants

(continued)

Product	INCI Name	Description
<b>Foamtaine CAB</b>	*Cocamidopropyl Betaine	amphoteric derived from coconut; mild detergent, wetting agent, emulsifier and fragrance solubilizer for use in low irritating shampoos
<b>Foamtaine CAB-A</b>	*Cocamidopropyl Betaine (and) Ammonium Chloride	amphoteric with a mild ammonium cation; mild detergent, wetting agent, emulsifier and fragrance solubilizer; foam booster
<b>Foamtaine CAB-G</b>	*Cocamidopropyl Betaine	amphoteric mild detergent with glycine, wetting agent, emulsifier and fragrance solubilizer for use in low irritating shampoos; foam boosting and highly concentrated surfactant; cloud point depressant; mild detergency and reduces irritation of other surfactants
<b>Foamtaine SCAB</b>	Cocamidopropyl Hydroxysultaine	substantive to hair and skin and stable over broad pH range

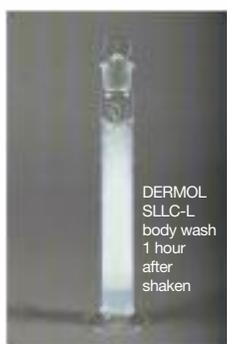
## Multifunctional Surfactants

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

Product	INCI Name	Description
<b>Dermol SLLC-L</b>	*Sodium Lauroyl Lactylate	Unique liquid forms of surfactants derived from Alpha Hydroxy Acids and vegetable fatty acids; function as emulsifiers and cleansers with excellent conditioning properties for hair and skin; add moisturizing, anti-static and viscosity boosting benefits
<b>Dermol SILL-L</b>	*Sodium Isostearoyl Lactylate	
<b>Dermol SCLL-L</b>	*Sodium Caproyl Lactylate	
<b>Dermol SULL-L</b>	Sodium Undecylenoyl Lactylate (proposed)	
<b>Dermol SURL-L</b>	Sodium Ricinoleoyl Lactylate (proposed)	

### Dermol SLLC-L

- Colorless, easy to use
- Adds rich and long-lasting foam
- Ideal for sulfate free and soap-free systems



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## Monoderm Diurethanes

a series of dimeric urethane emollients, emulsifiers and conditioners derived from branched alcohols which provide adhesion, plasticizing, film formation, as well as, pH and thermal stability

Product	INCI Name	Description
Monoderm MPI-18	<i>Diethylhexyl IPDI</i>	Isocetanol C8 alcohol dimer viscous clear liquid
Monoderm MPI-10	<i>Dibutylhexyl IPDI</i>	Isodecyl C10 alcohol dimer viscous liquid
Monoderm MPI-12	<i>Dibutyloctyl IPDI</i>	Isobutyloctyl C12 alcohol dimer viscous clear liquid
Monoderm MPI-14	<i>Dibutyldecyl IPDI</i>	Isotetradecyl C14 alcohol dimer viscous liquid
Monoderm MPI-16	<i>Dihexydecyl IPDI</i>	Isocetyl C16 alcohol dimer viscous liquid fragrance stabilizer and extender
Monoderm MPI-18	<i>Dioctyldecyl IPDI</i>	Isostearyl C18 alcohol dimer viscous liquid
Monoderm MPI-20	<i>Dioctyldodecyl IPDI</i>	Octyldodecyl C20 alcohol dimer viscous liquid
Monoderm MPI-24	<i>Didecyltetradecyl IPDI</i>	Eicosanyl C24 alcohol dimer viscous liquid

## Miscellaneous Specialties

as a recognized full service supplier, ALZO offers the following range of multipurpose ingredients

Product	INCI Name	Fatty Acids	Fatty Alcohols	Additional Specialties
Aloxe MG-20	<i>*Methyl Gluceth-20</i>	*Lauric	*Lauryl	*Castor Oil
Dermacet AC	<i>*Cetyl Acetate (and) Acetylated Lanolin Alcohol</i>	*Myristic	*Myrsityl	*Glycerin
Dermocol I-16	<i>*Isostearyl Alcohol</i>	*Palmitic	*Cetyl	Sulfonated Castor Oil
Dermocol I-18	<i>*Isostearyl Alcohol</i>	*Stearic	*Behenyl	*Polyethylene
Dermocol I-20	<i>*Octyldodecanol</i>	*12-Hydroxy Stearic	*Cetearyl	*Polyisobutene
Dermocol IS-2	<i>Isosteareth-2</i>	*Capric	*Stearyl	
Dermocol LM-3	<i>*Laureth-3</i>	*Caprylic	Capryl	
Dermowax EGDS	<i>*Glycol Distearate</i>	*Isostearic	*Oleyl	
Dermowax HC-40	<i>*PEG-40 Hydrogenerated Castor Oil</i>	*Oleic	*Isostearyl	
		*Behenic		

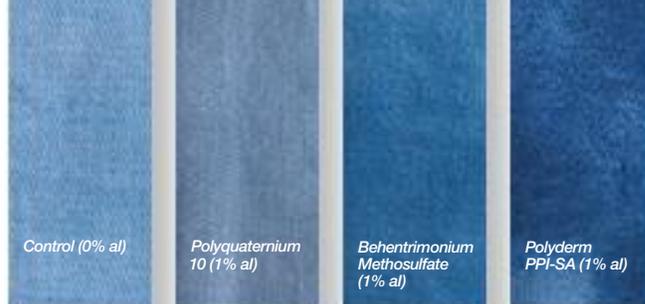
\*IECIC listed  
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# Polymers

## 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



## 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
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### Polymeric Emollients

Polyderm PPI-CA-15	<i>Di-PEG-15 Cocamine/IPDI Copolymer</i>	water soluble conditioning for shampoos; substantive emolliency for skin and bath
Polyderm PPI-CO	<i>*Castor Oil/IPDI Copolymer</i>	adds shine, extended wear, water resistance, pigment dispersing for color cosmetics
Polyderm PPI-CO-H	<i>Hydrogenated Castor Oil/IPDI Copolymer (proposed)</i>	80° C melt point; polymeric wax; adds body and viscosity in emulsions and solids
Polyderm PPI-CO-40	<i>PEG-40 Hydrogenated Castor Oil/IPDI Copolymer (proposed)</i>	o/w emulsifier; fragrance coupling; adds slip and lubricity in sticks
Polyderm PPI-CO-200	<i>PEG-200 Hydrogenated Castor Oil/IPDI Copolymer</i>	50° C melt point; water soluble polymeric wax; adds body to water phase; ideal for wipes; reduces whitening
Polyderm PPI-DGDIS	<i>*Polyglyceryl-2 Diisostearate/IPDI Copolymer</i>	vegetable based; shine agent for lips; film former; adds sheen in hair care products
Polyderm PPI-GH	<i>Glycereth-7 Hydroxystearate/IPDI Copolymer</i>	water dispersible; film forming, excellent adhesion; petrolatum or lanolin substitute
Polyderm PPI-GRC	<i>Glyceryl Diricinoleate/IPDI Copolymer</i>	shine, extended wear, water resistance; pigment dispersant for color cosmetics
Polyderm PPI-PGR	<i>Propylene Glycol Diricinoleate/PDI Copolymer</i>	shine, extended wear, water resistance; pigment dispersant for color cosmetics
Polyderm PPI-PE	<i>*Diethylene Glycol Adipate/IPDI Copolymer</i>	viscous liquid polyester polymer; adhesion, water repellency and film forming

### Silicone Copolyol Emollients

Polyderm PPI-SI-WI	<i>Bis-PPG-15 Dimethicone Copolyol/IPDI Copolymer</i>	water insoluble silicone film former; water repellency; reduces tack in AP solids
Polyderm PPI-SI-WS	<i>*Bis-PEG-15 Dimethicone Copolyol/IPDI Copolymer</i>	water soluble silicone emulsifier; lubricity and slip in clear surfactant systems; fragrance coupling
Polyderm PPI-SI-WIPC	<i>Bis-PPG-15 Dimethicone IPDI Copolymer C30-50 Alkylcarbamate</i>	polymeric wax with high 70°-88° C melt point; ideal for enhanced structure for stick formulations

### Resinous Polyurethanes

Polyderm PE-PA ED	<i>Polyurethane 58</i>	water based polyurethane/polyether microemulsion; soft, durable and flexible water resistant film; fixative for hair and mascaras
Polyderm PPG-20	<i>Polyurethane 36</i>	water based polyurethane/polyester microemulsion; soft durable and flexible water resistant film; fixative for hair and mascaras
Polyderm PPG-17	<i>*PPG-17/IPDI/DMPA Copolymer</i>	water based polyurethane/polyester microemulsion; soft durable and flexible water resistant film; fixative for hair and mascaras

\*IECIC listed  
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## Polyurethane Specialties

(continued)

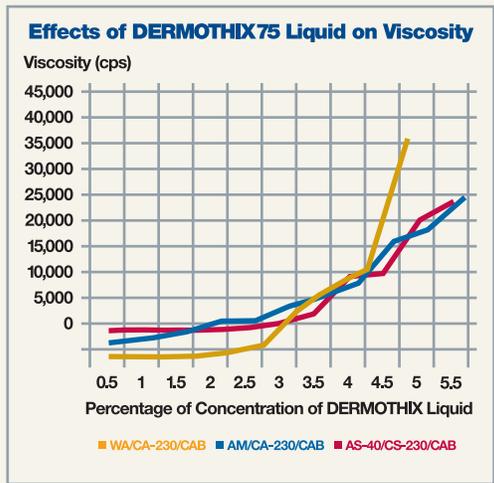
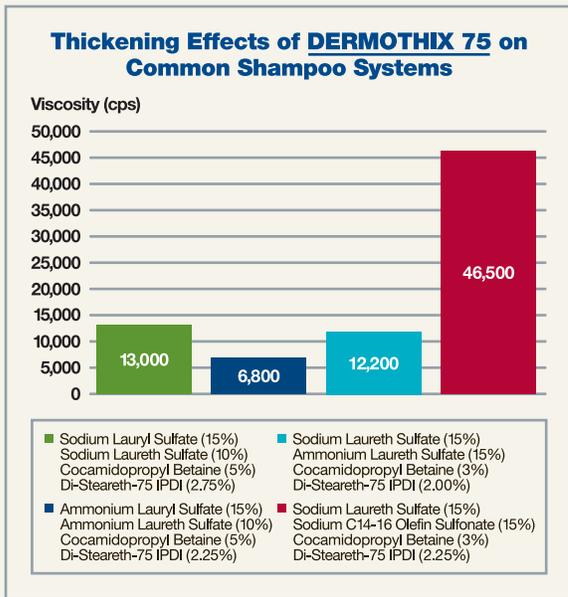
Product	INCI Name	Description
<b>Hydroxy Amine Conditioners</b>		
Polyderm PPI-CA 15	<i>IPDI / PEG-15 Cocamine Copolymer</i>	water soluble conditioning for shampoos; substantive emolliency for skin and bath
Polyderm PPI-G7/CA	<i>IPDI / PEG-15 Cocamine/Glycereth-7/ Polyglyceryl-3 Copolymer</i>	water soluble mild surfactant and humectant for cleansers; great conditioner for skin and hair
Polyderm PPI-SI-LSA	<i>Bis-Hydroxyethoxypropyl Dimethicone / PEG-2 Soyamine / IPDI Copolymer</i>	cationic silicone urethane emulsifier with conditioning, shine, and lubricity; excellent wet and dry combing
Polyderm PPI-SA	<i>Di-PEG-2 Soyamine / IPDI Copolymer</i>	cationic polymer derived from soya with superior deposition on skin and hair
Polyderm PPI-SA-LL	<i>Bis-Lauryl Lactate IPDI / PEG-2 Soyamine / IPDI Copolymer</i>	polyurethane emollient and conditioner; softening agent with unique slip properties; viscosity boosting
Polyderm PPI-SA-15	<i>IPDI / PEG-15 Soyamine Copolymer</i>	water soluble conditioner for clear shampoos, conditioners and styling aids; substantive emolliency for skin care
Polyderm PPI-SA-15 Salicylate	<i>IPDI / PEG-15 Soyamine Copolymer (and) Salicylic Acid</i>	soyamine polymer complexed with salicylic acid; actives delivery without irritation; anti-dandruff applications; o/w emulsifier and fragrance coupling agent
PolyNecon SA-D	<i>IPDI / PEG-2 Soyamine Copolymer Dimer Dilinoleate</i>	polyurethane amine salt; emollient, conditioner and softening agent for hair, bath and shave products
PolyNecon PPI-SA-15D	<i>IPDI / PEG-15 Soyamine Copolymer Dimer Dilinoleate</i>	water soluble polyurethane alternative to silicone for conditioning and shine without buildup on hair and skin
Polymox PPI-SA-15	<i>IPDI / PEG-15 Soyamine Oxide Copolymer</i>	polymeric amine oxide with emolliency, lubricity and softening properties; substantive and reduces flyaway and static charge; thickener for shampoo and detergent bases
Polytaine PPI-SA-15	<i>IPDI / PEG-15 Soy Glycinate Copolymer</i>	polymeric amphoteric surfactant with excellent foaming and emulsification; anti-static and softening properties; ideal for cleansing and bath products
Polyquat PPI-SA-15	<i>IPDI / PEG-15 Soyaminoethyl Methosulfate Copolymer</i>	water soluble polymeric quaternium which provides unique conditioning and substantivity for leave on and rinse off products
Polylipid PPI-TEA-RC	<i>TEA-Diricinoleate / IPDI Copolymer</i>	polymeric ester quaternium with emulsification and unique conditioning properties for hair and skin



## Polyurethane Rheology Modifiers

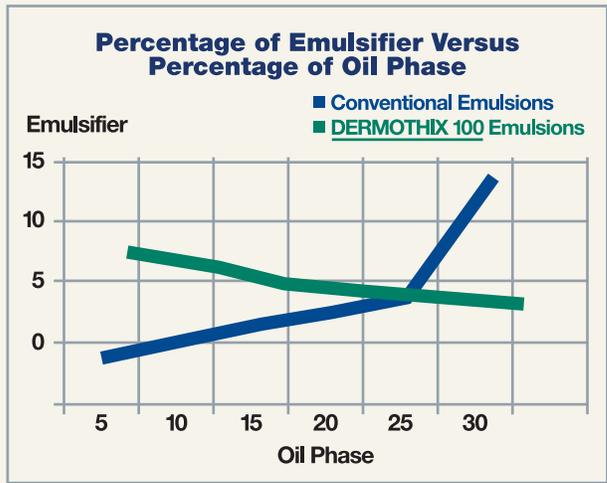
a series of innovative polymeric thickeners with broad pH stability, enhanced clarity and salt tolerance

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

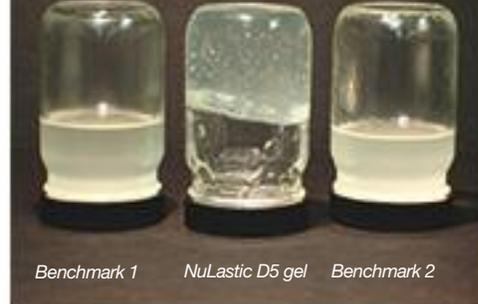


### Thickener Comparison

	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



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Benchmark 1      NuLastic D5 gel      Benchmark 2

Elastomer gels with 25% loading of organic UV absorbers and emollients

## Silicone Elastomers

crosspolymers in cosmetic carriers with maximum void capacity; NuLastic™ Silk MA and NuLastic™ Soft aid in delivery of lipophilic actives; NuLastic™ Surf and NuLastic™ Slip emulsify and release hydrophilic ingredients

high molecular weight silicones elastomers reacted with an amino functional polyurethane, NuLastic™ Silk-E provide cationic emulsification and enhanced conditioning

Product	INCI Name	Description	Product	INCI Name
NuLastic Silk MA D99 NuLastic Silk MA D99-3 NuLastic Silk MA D99-8	<i>Isononyl Isononanoate (and) C4-24 Alkyl Dimethicone/ Divinyldimethicone Crosspolymer</i>	11%, 8%, or 3% solids elastomers in a cosmetic ester carrier; adds clarity, wear, viscosity and film forming with extended “play time”	NuLastic Soft D99 NuLastic Soft D99-3 NuLastic Soft D99-8	<i>*Isononyl Isononanoate (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>
NuLastic Silk MA ID-99	<i>Isododecane (and) Isononyl Isononanoate (and) C4-24 Alkyl Dimethicone/ Divinyldimethicone Crosspolymer</i>	6% solids elastomer in isododecane and a cosmetic ester carrier; adds clarity, wear, viscosity and film forming	NuLastic Soft ID-99	<i>*Isododecane (and) Isononyl Isononanoate (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>
NuLastic Silk MA D5 NuLastic Silk MA D5-3 NuLastic Silk MA D5-6	<i>Cyclomethicone (and) C4-24 Alkyl Dimethicone/ Divinyldimethicone Crosspolymer</i>	11%, 6%, or 3% solids elastomers in a volatile cyclomethicone carrier; adds clarity, wear, viscosity and film forming	NuLastic Soft D5 NuLastic Soft D5-3 NuLastic Soft D5-6	<i>*Cyclomethicone (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>
NuLastic Silk MA DM NuLastic Silk MA DM-3 NuLastic Silk MA DM-6	<i>Dimethicone (and) C4-24 Alkyl Dimethicone Divinyldimethicone Crosspolymer</i>	11%, 6%, or 3% solids elastomer in a dimethicone carrier; excellent wear, viscosity and long lasting film forming	NuLastic Soft DM NuLastic Soft DM-3 NuLastic Soft DM-6	<i>*Dimethicone (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>
NuLastic Silk MA ID NuLastic Silk MA ID-3 NuLastic Silk MA ID-6	<i>Isododecane (and) C4-24 Alkyl Dimethicone/ Divinyldimethicone Crosspolymer</i>	11%, 6%, or 3% solids elastomer in a volatile isododecane carrier; adds clarity, wear, viscosity and film forming	NuLastic Soft ID NuLastic Soft ID-3 NuLastic Soft ID-6	<i>*Isododecane (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>
NuLastic Silk VSR-6	<i>C13-16 Isoparaffin (and) C12-14 Isoparaffin (and) C13-15 Alkane (and) C4-24 Alkyl Dimethicone/ Divinyldimethicone Crosspolymer</i>	6% solids elastomer in a patented volatile silicone replacement carrier; adds clarity, wear, viscosity and film forming	NuLastic Soft VSR-6	<i>*C13-16 Isoparaffin (and) C12-14 Isoparaffin (and) C13-15 Alkane (and) Divinyldimethicone/ Dimethicone Crosspolymer</i>
NuLastic Surfa ID-7	<i>Isododecane (and) PEG-10 Bis-Divinyldimethicone/Dimethicone Crosspolymer</i>	7% solids elastomer in isododecane; water soluble actives delivery and w/o emulsification	NuLastic Slip ID-7	<i>*Isododecane (and) PEG-10 Dimethicone/Vinyl Dimethicone Crosspolymer</i>
NuLastic Surfa D99-9	<i>Isononyl Isononanoate (and) Bis-Divinyldimethicone/ PEG-10 Dimethicone Crosspolymer</i>	9% solids elastomer in a cosmetic ester carrier; water soluble actives delivery and w/o emulsification	NuLastic Slip D99-9	<i>*Isononyl Isononanoate (and) PEG-10 Dimethicone/Vinyl Dimethicone Crosspolymer</i>
NuLastic Surfa DM-6	<i>Dimethicone (and) Bis-Divinyldimethicone/ PEG-10 Dimethicone Crosspolymer</i>	6% solids elastomer in dimethicone carrier; water soluble actives delivery and w/o emulsification	NuLastic Slip DM-6	<i>*Dimethicone (and) PEG-10 Dimethicone/Vinyl Dimethicone Crosspolymer</i>
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		

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



## NuPLastic Film Systems

a new film forming technology based upon silicone thermoset elastomers (TSE) combined with water based thermoplastic resins (TPE). The synergy of the polymers yield durable and flexible films as well as long wear, water and transfer resistance, and delivery of high levels of oil or water soluble actives. The films set almost immediately with virtually no dry time and can be customized to provide matte or shiny finishes.

**NuPLastic Film**

**TSE+TPE form a non-tacky hybrid film**

- high loading of emollients, oils and dimethicone
- resistance to solvents, esters and polymers
- suspends pigments and solids
- non-volatile solvents create clear lubricious films
- volatile solvents create dry opaque films
- external emulsifier not required

**Film Blends 1 and 2**

- 50% loading of non-volatile ester solvent, Isononyl Isononate creates shiny emollient films.

**Film Blends 3 and 4**

- Volatile solvent, Isododecane creates matte, dry films.

**NuPLastic System WA (Water Activated)**  
delivery of water soluble actives while maintaining integrity of the film

Cast film with FD&C Blue #1

Film releases FD&C Blue #1 in water

Cast film after 24 hours in water



## NuPLastic Lipgloss CRI-76

## NuPLastic Bronzing Cream CRI-18

## NuPLastic Shimmer Eye Shadow CRI-129

Product	INCI Name	W/W%
<b>Phase A</b>		
NuLastic Silk-E ID-LSA <sup>1</sup>	<i>Isododecane (and) Polysilicone 23</i>	50.0
Dermol 99 <sup>1</sup>	<i>Isononyl Isononoate</i>	9.5
Simulgel EG <sup>2</sup>	<i>Sodium Acrylate / Sodium Acryloyl-dimethyltaurate Copolymer (and) Isohexadecane (and) Polysorbate 80</i>	0.3
Polyderm PE-PA ED <sup>1</sup>	<i>Polyurethane 58</i>	30.0
<b>Phase B</b>		
Oxide/ Lake Blend CRI-310 <sup>6</sup>	<i>Mica (and) Perfluorooctylethyl Triethoxysilane</i>	2.0
<b>Phase C</b>		
Pearl Blend CRI-311 <sup>4</sup>	<i>Silk Silver Cloisanne Gold</i>	8.0
Microcare MTO <sup>5</sup>	<i>Methylisothiazolinone (and) Iodopropynyl Butylcarbamate</i>	0.2
<b>Total</b>		<b>100.0</b>
<b>Manufacturing Procedure:</b>		
1) Mix Phase A until homogenous		
2) Add Phase B and mix until homogenous		
3) Add Phase C and mix until homogenous		
<b>Supplier Index:</b>		
<sup>1</sup> ALZO		
<sup>2</sup> SEPPIC		
<sup>3</sup> KOBO		
<sup>4</sup> ALTANA (ECKART)		
<sup>5</sup> THOR		
<sup>6</sup> SENSIENT		

Product	INCI Name	W/W%
<b>Phase A</b>		
NuLastic Silk-E ID-LSA 10 <sup>1</sup>	<i>Isododecane (and) Polysilicone 23</i>	10.0
Polyderm PE-PA ED <sup>1</sup>	<i>Polyurethane 58</i>	10.0
Dermol GRC <sup>1</sup>	<i>Glyceryl Ricinoleate</i>	1.0
Microcare MTO <sup>5</sup>	<i>Methylisothiazolinone (and) Iodopropynyl Butylcarbamate</i>	0.2
DI H <sub>2</sub> O	<i>Deionized Water</i>	60.55
<b>Phase B</b>		
Cetyl Alcohol <sup>1</sup>	<i>Cetyl Alcohol</i>	3.0
Dermowax GMS SE <sup>1</sup>	<i>Glyceryl Monostearate</i>	4.0
<b>Phase C</b>		
Oxide Blend CRI-277 <sup>3</sup>		4.25
Pearl Blend CRI-278 <sup>4</sup>		7.0
<b>Total</b>		<b>100.0</b>
<b>Manufacturing Procedure:</b>		
1) Homogenize Phase A ingredients		
2) Increase temperature to 70°C		
3) Add Phase B ingredients and mix until homogenous		
4) Start cooling		
5) At 50°-60°C, add Phase C		
6) Mix while cooling to <35°C		
<b>Supplier Index:</b>		
<sup>1</sup> ALZO		
<sup>5</sup> THOR		
<sup>3</sup> KOBO		
<sup>4</sup> ALTANA (ECKART)		

Product	INCI Name	W/W%
<b>Phase A</b>		
NuLastic MA ID 6% <sup>1</sup>	<i>Isododecane (and) C4-24 Alkyl Dimethicone / Divinyl dimethicone Crosspolymer</i>	45.0
Isododecane	<i>Isododecane</i>	9.3
Simulgel <sup>2</sup>	<i>Sodium Acrylate / Sodium Acryloyl-dimethyltaurate Copolymer (and) Isohexadecane (and) Polysorbate 80</i>	0.2
Polyderm PE-PA ED <sup>1</sup>	<i>Polyurethane 58</i>	25.0
<b>Phase B</b>		
Eusolex T <sup>6</sup>	<i>Titanium Dioxide</i>	9.1
Talc AS <sup>6</sup>	<i>Talc</i>	5.3
<b>Phase C</b>		
Ronastar <sup>®</sup> Golden Jewel <sup>6</sup>	<i>Calcium Aluminum Borosilicate (and) Titanium Dioxide (and) Iron Oxides (and) Tin Oxides</i>	5.9
Microcare MTO <sup>5</sup>	<i>Methylisothiazolinone (and) Iodopropynyl Butylcarbamate</i>	0.2
<b>Total</b>		<b>100.0</b>
<b>Manufacturing Procedure:</b>		
1) Mix Phase A until homogenous		
2) Add Phase B and mix until homogenous		
<b>Supplier Index:</b>		
<sup>1</sup> ALZO		
<sup>2</sup> SEPPIC		
<sup>5</sup> THOR		
<sup>6</sup> EMD		

# Contract Manufacturing Services



Over the past 40 years, Alzo International, Inc. has provided custom development and toll manufacturing services to companies around the world, in the cosmetic and personal care industries.

Alzo has expanded its synthesis and production capabilities in the areas of lubricants, esters, defoamers, release agents and water-proofing compounds, as well as, other performance products.

Our highly trained technical staff can help design and formulate the perfect solution for your chemical specialty needs, from lab scale to pilot scale and beyond.

Pharmetic Manufacturing Co., LLC, a division of Alzo International, is a state-of-the art batch production facility that can provide custom manufacturing in both glass-lined and stainless steel reactors with capacities ranging from 100 to 3,000 gallons.

The core technologies and processes of Pharmetic Manufacturing include:

## Core Technologies

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

## Core Processes

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

Alzo provides products in bulk, totes, drums and pails. Products can also be supplied in customer provided packaging when required.

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.



**Pharmetic** Mfg. Company, LLC

Where Chemistry is Artistry

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