



## Silicone Ingredients for Custom Solutions

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## Amodimethicone\*

**Amodimethicone** is an amine functional siloxane primarily used for conditioning and styling applications where excellent conditioning and softness are desirable. It is also known to improve wet and dry combing properties, reduce static and coat the hair shaft, smoothing damaged hair..

Name	INCI Name	Viscosity	Amine Value	Solids %	Refractive Index
Andisil® AS 220P	Amodimethicone	240 cSt	0.390	98.0 Min	1.4055 Typical

\* These properties are not intended to be used as specifications but only as suggested characteristics

### Applications

- Shampoo
- Conditioner (leave in)
- Styling Treatment

### Benefits

- Anti-Frizz
- Conditioning
- For Dry / Damaged Hair
- Improves Wet Combing
- Improves Dry Combing



## Amodimethicone Emulsions\*

**Amodimethicone Emulsions** in water are easy to formulate into hair care applications. These emulsions offer exceptional conditioning properties and dilution stability. They are Paraben & Formaldehyde free.

Name	INCI Name	Amine Value	Si Content%	pH
<b>Andisil® EM 39</b>	Amodimethicone (and) Trideceth-12 (and) Cetrimonium Chloride	0.11	35	7.6
<b>Andisil® EM 49</b>	Amodimethicone (and) Cetrimonium Chloride (and) Trideceth-12	0.083	35	7.6
* These properties are not intended to be used as specifications but only as suggested characteristics				



## Amodimethicone Emulsions

### Applications

- Shampoo
- Conditioner (leave in)
- Styling Treatment

### Benefits

- Conditioning
- Dilution Stability
- Ease of Formulation
- For Dry / Damaged Hair
- Light Residue / Low Build Up
- Paraben & Formaldehyde Free
- Water Soluble

### Application Recommendations

Name	
Andisil® EM 39	Recommended for use in shampoos, conditioners & styling aids
Andisil® EM 49	Recommended for use in conditioning and styling treatments; does not weigh the hair down; good for dry and color-treated hair



## Gum Blends\*

**Gum Blends** for personal care combine volatile siloxanes with high molecular weight gums providing excellent water resistance. In skin care, they provide long wear of actives on skin, wash off resistance, film forming and a unique skin feel. For hair care, these materials add antifrizz properties and conditioning to prevent split ends. They are recommended for anhydrous formulations.

Name	INCI Name	Viscosity	Gum Content, %
Andisil® SF 1405	Cyclotetrasiloxane (and) Dimethiconol	6,000 cP	15
Andisil® SF 1505	Cyclopentasiloxane (and) Dimethiconol	6,000 cP	15
Andisil® SF 1605	Cyclohexasiloxane (and) Dimethiconol	3,000 cP	15
Andisil® SF 2205	Dimethicone (and) Dimethiconol	3,000 cP	15
Andisil® SF 2305	Dimethicone (and) Dimethiconol	10,000 cP	15
Andisil® SF 2505	Dimethicone (and) Dimethiconol	3,000 cP	15
Andisil® SF 3005	Dimethicone (and) C12-15 Alkyl Benzoate (and) Dimethiconol	3,000 cP	15

\* These properties are not intended to be used as specifications but only as suggested characteristics



## Gum Blends – Skin Care

### Applications

- Cleansers
- Creams
- Color Cosmetics
- Lotions
- Serums
- Sun Care

### Benefits

- Cushion
- Film Forming
- Lubrication
- Organic Compatibility
- Skin Protectant
- Spreadability
- Suitable for Clear Formulations
- Wash off Resistance
- Water Repellency

### Application Recommendations

Name	
Andisil® SF 1505	Recommended for emolliency in lotions and serums where cyclics are applicable. Added water resistance in sun care products
Andisil® SF 1605	Provides velvety feel in lotions and creams where cyclics are applicable
Andisil® SF 2205	Recommended for smooth application and film forming properties in creams, lotions and serums
Andisil® SF 2305	Recommended to improve texture and water resistance in sun care applications where cyclic siloxanes are not used
Andisil® SF 2505	Recommended for creams where heavier texture is needed; longer lasting film forming benefits
Andisil® SF 3005	Recommended for longer play time applications; provides cascading volatility and strong film forming properties



## Gum Blends – *Hair Care*

### Applications

- Conditioner (leave in)
- Styling Treatments

### Benefits

- Anti-Frizz
- Conditioning
- Ease of Formulation
- For Dry / Damaged Hair
- Improves Dry Combing
- Improves Wet Combing
- Improves Texture
- Low Residue/Light Build Up
- Soft/Supple Feel

### Application Recommendations

Name	
Andisil® SF 1505	Cyclic carrier used in applications where a “light” feel is desired; improves spreadability & wet combing capabilities
Andisil® SF 1605	Cyclic carrier for applications where D4 and D5 are not desired
Andisil® SF 2205	Linear carrier; recommended for leave in treatments; most volatile of the linear carrier gum blends
Andisil® SF 2305	Linear carrier; recommended for moisturizing treatments
Andisil® SF 2505	Linear carrier; recommended for rinse off applications; least volatile of the linear carrier gum blends
Andisil® SF 3005	Recommended for products needing longer play times and improved organic compatibility





## Gum Blends Emulsions\*

**Gum Blend Emulsions** for personal care offer ease-of-use when added to water-based formulations. Percent active silicone content can be customized to meet your specific formulation requirements.

Name	INCI Name	Viscosity	Gum Content, %
Andisil® EM 1505CG	Cyclopentasiloxane (and) Dimethiconol (and) Laureth-23 (and) Laureth-4	6,000 cP	15
Andisil® EM 1605CG	Cyclohexasiloxane (and) Dimethiconol (and) Laureth-23 (and) Laureth-4	6,000 cP	15
Andisil® EM 2205CG	Dimethicone (and) Dimethiconol (and) Laureth-23 (and) Laureth-4	6,000 cP	15
Andisil® EM 2305CG	Dimethicone (and) Dimethiconol (and) Laureth-23 (and) Laureth-4	3,000 cP	15
Andisil® EM 2505CG	Dimethicone (and) Dimethiconol (and) Laureth-23 (and) Laureth-4	3,000 cP	15
Andisil® EM 3005CG	Dimethicone (and) C12-15 Alkyl Benzoate (and) Dimethiconol (and) Trideceth-6 (and) Trideceth-12 (and) Isodeceth-32	3,000 cP	15
* These properties are not intended to be used as specifications but only as suggested characteristics			



## Gum Blends Emulsions – *Skin Care*

### Applications

- Cleansers
- Creams
- Color Cosmetics
- Lotions
- Serums
- Sun Care

### Benefits

- Cushion
- Film Forming
- Lubrication
- Organic Compatibility
- Skin Protectant
- Spreadability
- Suitable for Clear Formulations
- Wash off Resistance
- Water Repellency

### Application Recommendations

Name	
Andisil® EM 1505CG	Recommended for emolliency in lotions and serums where cyclics are applicable
Andisil® EM 1605CG	Provides velvety feel in lotions and creams where cyclics are applicable
Andisil® EM 2205CG	Recommended for smooth application and feel; non-cyclic blend
Andisil® EM 2305CG	Recommended to improve texture in sun care and creams
Andisil® EM 2505CG	Recommended for night creams and heavier textures
Andisil® EM 3005CG	Recommended for cascading volatility and longer play times



## Gum Blends Emulsions – *Hair Care*

### Applications

- Conditioner (leave in)
- Styling Treatments

### Benefits

- Anti-Frizz
- Conditioning
- Ease of Formulation
- For Dry / Damaged Hair
- Improves Dry Combing
- Improves Wet Combing
- Improves Texture
- Low Residue/Light Build Up
- Soft/Supple Feel
- Water Soluble

### Application Recommendations

Name	
Andisil® EM 1505CG	Most volatile of the cyclic-based carrier gum blend emulsions; best option for formulations requiring shortest play times
Andisil® EM 1605CG	Least volatile of the cyclic-based carrier gum blend emulsions; best option for formulations requiring longer play times
Andisil® EM 2205CG	Most volatile of the linear carrier gum blend emulsions; best option for formulations requiring short play times when cyclic carriers are not desired
Andisil® EM 2305CG	Intermediate volatility of the linear carrier gum blend emulsions
Andisil® EM 2505CG	Least volatile of the linear carrier gum blend emulsions; best option for formulations requiring longer play times when cyclic carriers are not desired
Andisil® EM 3005CG	Recommended for water-based formulations needing longer play times and improved organic compatibility



## Elastomer Blends

**Elastomer Blends** are mixtures of a dimethicone crosspolymer and various carriers. They can be used in many formulations to impart a soft, silky feel and as a thickener. Andisil® Silicone Elastomer Blends also provide a mattifying effect to the finished product and help improve the stability of personal care formulations.

Name	INCI Name	% Active	Refractive Index
Andisil® CP 1020	Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer	20-30	1.400
Andisil® CP 1030	Methyl Trimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer	15-20	11.3895
Andisil® CP 1050	Cyclopentasiloxane (and) Dimethicone/Vinyl Dimethicone Crosspolymer	4-10	1.397
* These properties are not intended to be used as specifications but only as suggested characteristics			



## Elastomer Blends – *Skin Care*

### Applications

- Antiperspirants/
- Deodorants
- Creams
- Color Cosmetics
- Lotions
- Sun Care

### Benefits

- Cushion
- Ease of Formulation
- Mattifying Effect
- Soft, Silky Feel
- Spreadability
- Thickener

### Application Recommendations

Name	
Andisil® CP 1020	Recommended for use as a thickener in the oil phase for a very thick consistency
Andisil® CP 1030	Recommended for use as a thickener in the oil phase and for a high cushion feel
Andisil® CP 1050	Recommended for use in W/O, O/W, and non-aqueous emulsions for a clear, matte finish



## Elastomer Emulsifiers

**Elastomer Emulsifiers** are mixtures of a dimethicone crosspolymer and various carriers. They can be used in many W/O and W/Si formulations to impart a soft, silky feel and provide a quick breaking effect. Andisil® Silicone Elastomer Emulsifiers also offer good compatibility with other silicones.

Name	INCI Name	% Active	Refractive Index
Andisil® CP 2050	Cyclopentasiloxane (and) Dimethicone/PEG-10/15 Crosspolymer	15-20	1.400
Andisil® CP 3020	Dimethicone (and) Dimethicone/Polyglycerin-3 Crosspolymer	2-5	1.400
* These properties are not intended to be used as specifications but only as suggested characteristics			



## Elastomer Emulsifiers – *Skin Care*

### Applications

- Antiperspirants/
- Deodorants
- Creams
- Color Cosmetics
- Lotions
- Sun Care

### Benefits

- Ease of Formulation
- Emulsification
- Soft, Silky Feel
- Spreadability
- Suitable for Clear Formulations
- Thickener

### Application Recommendations

Name	
Andisil® CP 2050	Recommended for use in clear formulations
Andisil® CP 3020	Recommended for use when PEG free formulations are required/desired



## Emulsifiers

**Silicone Emulsifiers** for personal care can be used for a variety of systems including: W/O, O/W, W/Si and Si/W. They also provide a soft, silky feel to the end product.

Name	INCI Name	Viscosity	HLB
Andisil® SP 518	Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone	50 cSt	2.0
Andisil® SP 518C Concentrate	Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone	500 cSt	2.0
Andisil® SP 1001	Cetyl PEG/PPG-10/1 Dimethicone	1,500 cP	2.0
Andisil® SP 2318 D5 Free	Dimethicone (and) PEG/PPG-18/18 Dimethicone	50 cSt	2.0
Andisil® SP 2318C Concentrate D5 Free	Dimethicone (and) PEG/PPG-18/18 Dimethicone	500 cSt	2.0
Andisil® SP 4409	PEG-9 Dimethicone	400 cP	4.5
Andisil® SP 4412	PEG-12 Dimethicone	360 cP	6.7
* These properties are not intended to be used as specifications but only as suggested characteristics			





## Emulsifiers – *Skin Care*

### Applications

- Antiperspirant / Deodorant
- Creams
- Color Cosmetics
- Lotions
- Serums
- Sun Care
- Shaving

### Benefits

- Cushion
- Emulsifiers
- Film Forming Properties
- Moisturizing
- Organic Compatibility
- Skin Protectant
- Wash Off Resistance
- Water Repellency
- Wetting Agent



## Emulsifiers – *Skin Care*

### Application Recommendations

Name	
Andisil® SP 518	Recommended for W/O emulsions; reduces tackiness and greasiness in sun care and skin care formulations
Andisil® SP 518C <i>Concentrate</i>	Recommended for W/O and W/S emulsions; concentrated emulsifier used in creams, lotions, and sun care
Andisil® SP 1001	Recommended as an emulsifier for W/O cream and lotion formulations and sun care protection; provides excellent stability and organic compatibility
Andisil® SP 2318C <i>Concentrate</i>	Cyclic free emulsifier for W/O and W/S emulsions
Andisil® SP 4409	Concentrated cyclic free emulsifier for W/O and W/S emulsions used in most skin care applications
Andisil® SP 4409	Recommended for use as a W/O or W/Si emulsifier for skin care and make-up formulations
Andisil® SP 4412	Recommended in skin care, sun care and make up formulations as a O/W emulsifier; improves aesthetics and reduces surface tension



## Emulsifiers – *Hair Care*

### Applications

- Shampoo
- Conditioner (leave in)
- Conditioner (Rinse off)
- Styling Treatment

### Benefits

- Dilution Stability
- Emulsifier
- Formaldehyde Free
- Improves Wet Combing

### Application Recommendations

Name	
Andisil® SP 1001	Recommended for hair care formulations as a W/O emulsifier; improves aesthetics and reduces surface tension
Andisil® SP 4409	Recommended for rinse off conditioners and styling aids; best for W/O formulations where D5 is not acceptable
Andisil® SP 4412	Recommended for shampoos, conditioners and styling aids; best for O/W emulsions.



## PEG Free Emulsifiers

**PEG Free Silicone Emulsifiers** for personal care are primarily used for formulating stable water in volatile silicone emulsions used in various personal care applications. These emulsions offer excellent aesthetics, stability, and are suitable for clear formulations.

Name	INCI Name	Viscosity	Active Content	D4 Content
Andisil® SE 500	Cyclopentasiloxane (and) TMP Dimethicone	20 cSt	12.5%	< 0.1%
Andisil® SE 500C	Cyclopentasiloxane (and) TMP Dimethicone	1600 cSt	50%	< 0.1%
Andisil® SE 2300	Dimethicone (and) TMP Dimethicone	20 cSt	12.5%	< 0.1%
Andisil® SE 2300C	Dimethicone (and) TMP Dimethicone	900 cSt	50%	< 0.1%
* These properties are not intended to be used as specifications but only as suggested characteristics				



## PEG Free Emulsifiers – *Skin Care*

### Applications

- Antiperspirant / Deodorant
- Creams
- Color Cosmetics
- Lotions
- Serums
- Sun Care
- Shaving

### Benefits

- PEG free formulation
- Cushion
- Emulsifiers
- Film Forming Properties
- Moisturizing
- Organic Compatibility
- Skin Protectant
- Wash Off Resistance
- Water Repellency
- Wetting Agent



## Emulsifiers – *Skin Care*

### Application Recommendations

Name	
Andisil® SE 500	Recommended for W/O emulsions; reduces tackiness and greasiness in sun care and skin care formulations
Andisil® SE 500C	Recommended for W/O and W/S emulsions; concentrated emulsifier used in creams, lotions, and sun care
Andisil® SE 2300	Recommended as a cyclic free emulsifier for W/O cream and lotion formulations and sun care protection; provides excellent stability and organic compatibility
Andisil® SE 2300C	Cyclic free emulsifier for W/O and W/S emulsions



## Polyether Copolymers\*

**Polyether Copolymers** for personal care are used as emulsifying and co-solubilizing agents of siloxane and organic systems. They also offer varying hair conditioning properties when used in hair care formulations.

Name	INCI Name	Viscosity	HLB	Cloud Pt, 1% Aq.
Andisil® SP 1001	Cetyl PEG/PPG-10/1 Dimethicone	1,500 cP	2.0	--
Andisil® SP 4410	PEG-10 Dimethicone	500 cP	4.5	--
Andisil® SP 1818	PEG/PPG-18/18 Dimethicone	2,500 cP	7.0	44 °C
Andisil® SP 4414B	Bis-PEG-12 Dimethicone	--	8.7	--
Andisil® SP 4410B	Bis-PEG-10 Dimethicone	300 cP	10.5	70 °C
Andisil® SP 4414	PEG-12 Dimethicone	400 cP	13.0	95 °C
* These properties are not intended to be used as specifications but only as suggested characteristics				



## Innovation: Putting it all Together

### Balancing High and Low HLB

- Mixing low HLB (water insoluble low cloud point) with a moderate HLB (water dispersible high cloud point)
  - Low HLB (Low cloud point) quickly deposit on hair for slip and ease of wet combing
  - Moderate HLB (High cloud point) deposit in warm or hot water and is not easily rinsed off for dry comb conditioning
- Mixtures of emulsifiers tend to form more stable emulsions than a single emulsifier, especially if a blend of water-soluble ( $HLB > 10$ ) and oil soluble ( $HLB < 10$ ) is used

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## Polyether Copolymers – Skin Care

### Applications

- Cleansers
- Creams
- Color Cosmetics
- Lotions
- Sun Care
- Antiperspirant / Deodorant
- Shaving

### Benefits

- Foam Stabilization
- Lubrication
- Moisturization
- Organic Compatibility
- Spreadability
- Suitable for Clear Formulations
- Tack Reduction
- Wetting Agent
- Water Solubility

### Application Recommendations

Name	
Andisil® SP 1001	Recommended as an emulsifier for w/o cream and lotion formulations and sun care protection; provides excellent stability and organic compatibility
Andisil® SP 4410	Recommended for reduced skin irritation and water solubility; recommended for antiperspirants
Andisil® SP 1818	Recommended for applications that need a surface tension depressant and improved wetting properties
Andisil® SP 4414B	Recommended for skin care applications where lubricity, softness and conditioning are desired
Andisil® SP 4410B	Recommended for use with organic compounds to improve surface tension
Andisil® SP 4414	Provides softness and lubricity to lotions and creams; also used as a surface tension depressant. Improves foam stability and density when foaming is desired



## Polyether Copolymers – *Hair Care*

### Applications

- Shampoo
- Conditioner (leave in)
- Styling Treatments

### Benefits

- Conditioning
- Emulsifier
- Foam Booster
- Soft/Supple Feel
- Surface Tension Reducer

### Application Recommendations

Name	
Andisil® SP 4410	Recommended for hair care formulations where foam booster and humectant are desired
Andisil® SP 4414B	Recommended for hair care applications where softness, shine and conditioning properties are desired; surface tension reducer
Andisil® SP 4410B	Recommended for hair care applications in need of soft feel and conditioning properties
Andisil® SP 4414	Recommended for hair care applications in need of a surface tension reducer, and/or foam booster; imparts silky, soft, supple texture and improves wet/dry combability without build up after repeated use



## Phenyl Modified Fluids\*

**Phenyl Modified Fluids** for personal care are known for their high refractive index and can be used in systems that require siloxane-organic solubilizing agents. For hair care, the high refractive index imparts excellent shine, enhances the soft, supple feel of hair, improves texture of damaged hair, and adds conditioning & heat resistance properties. In skin care, these products increase the shine and gloss in color cosmetics and offer excellent compatibility with organic ingredients. These products are utilized for Refractive Index matching in clear skin care formulations.. Refractive index can be customized to meet your specific formulation requirements.

Name	INCI Name	Viscosity,, cSt	RI	Gum Content
Andisil® PTM 20	Phenyltrimethicone	20	1.4600	0
Andisil® PTM 34	Phenyltrimethicone (and) Dimethiconol	6,000	1.4540	12
Andisil® PDM 1222	Diphenyl Dimethicone	225	1.4360	--
Andisil® PDM 1443	Diphenyl Dimethicone	400	1.5050	--
Andisil® PXL 2450	Hydrogen Diphenyl Dimethicone	400	1.4630	--
Andisil® PXL 2460	Hydrogen Diphenyl Dimethicone	300	1.5080	--
* These properties are not intended to be used as specifications but only as suggested characteristics				



## Phenyl Modified Fluids – *Skin Care*

### Applications

- Antiperspirant & Deodorant
- Sun Care
- Color Cosmetics

### Benefits

- Cushion
- Film Forming Properties
- Lubrication
- Organic Compatibility
- Skin Protectant
- Spreadability
- Suitable for Clear Formulations
- Suitable For Pigment Coatings
- Tack Reduction
- Wash off Resistance

### Application Recommendations

Name	
Andisil® PTM 20	Recommended for anti-wrinkle cosmetics due to refractive index matching
Andisil® PTM 34	Provides improved film forming properties
Andisil® PDM 1222	Recommended for dry, non-oily finish and tack reduction; slows water loss by creating a barrier on the skin; ideal for sun care applications. Most commonly utilized phenyl silicone in Personal Care applications
Andisil® PDM 1443	Recommended for use in color cosmetics where increased refractive index is needed
Andisil® PXL 2450	Recommended for use as a surface treatment modifier in pigment coatings
Andisil® PXL 2460	Recommended for use as a surface treatment modifier in pigment coatings



## Phenyl Modified Fluids – *Hair Care*

### Applications

- Conditioner (Leave In)
- Styling Treatments

### Benefits

- Conditioning
- For Dry / Damaged Hair
- Improves Dry Combing
- Improves Wet Combing
- Improves Texture
- Light Residue / Low Build Up
- Shine Enhancer
- Soft/Supple Feel

### Application Recommendations

Name	
Andisil® PTM 20	Recommended for conditioners & styling treatments. Most commonly utilized phenyl silicone in personal care applications
Andisil® PDM 1222	Low viscosity phenyl fluid; recommended for styling aids
Andisil® PDM 1443	Recommended for serums & sprays; highest Refractive Index



## Resin Blends

**Resin Blends** are essential for longer wear, wash-off resistance and film-forming benefits in skin and hair care formulations.

Name	INCI Name	Viscosity, cSt	Resin Content	RI
Andisil® MQ 50C	Cyclopentasiloxane (and) Trimethylsiloxysilicate	300 cSt	50	1.405
Andisil® MQ 2350	Dimethicone (and) Trimethylsiloxysilicate	80 cSt	50	1.404
Andisil® MQ 5230	Dimethicone (and) Trimethylsiloxysilicate	600 cSt	30	1.407
Andisil® MQ 3250	Phenyltrimethicone (and) Trimethylsiloxysilicate	2700 cSt	50	1.439
Andisil® MQ 3430	Diphenyl dimethicone (and) Trimethylsiloxysilicate	2000 cSt	30	1.475
* These properties are not intended to be used as specifications but only as suggested characteristics				



## Resin Blends – *hair care*

### Applications

- Styling Treatments

### Benefits

- Anti-frizz
- Improves texture
- Shine enhancer
- Soft/supple feel

### Application Recommendations

Name	
Andisil® MQ 50C	Recommended for styling applications to provide long lasting benefits
Andisil® MQ 2350	A cyclic free material, recommend for long lasting hold and soft texture
Andisil® MQ 3250	High refractive index provides long lasting shine in styling applications
Andisil® MQ 3430	Smooth texture that offers long lasting shine; film forming benefits, with a non-volatile carrier



## Resin Blends Emulsions – *skin care*

### Applications

- Creams
- Color Cosmetics
- Lotions
- Sun Care

### Benefits

- Abrasion Resistance
- Film Forming Properties
- Long Wear
- Lubrication
- Organic Compatibility
- Skin Protectant
- Suitable for Clear Formulations
- Transfer Resistance
- Wash Off Resistance
- Water Repellency

### Application Recommendations

Name	
Andisil® MQ 50C	Provides long lasting wash off resistance in color cosmetics. Also recommended for a smooth, non-greasy feel
Andisil® MQ 2350	Provides comfortable long wear with a volatile, non-cyclic carrier fluid; leaves a silky finish on the skin. Highly recommended for color cosmetics with the best abrasion and transfer resistance
Andisil® MQ 5230	Film forming benefits with a non-volatile carrier
Andisil® MQ 3250	Long lasting shine with film forming benefits; improves organic compatibility. Recommended for color cosmetics due to good abrasion and transfer resistance
Andisil® MQ 3430	Smooth texture that offers long lasting shine. Film forming benefits with a non-volatile carrier





## Resin Blend Emulsions

**Resin Blend Emulsions** offer a convenient delivery system for water-based formulations while maintaining the benefits of the Andisil MQ Resin Blends. These benefits include longer wear, wash-off resistance and film-forming benefits in skin and hair care formulations.

Name	INCI Name	Viscosity,, cSt	Resin Content
Andisil® EMQ 50CG	Cyclopentasiloxane (and) Trimethylsiloxysilicate (and) Laureth-23 (and) Laureth-4	1300 cP	60
Andisil® EMQ 2350CG	Dimethicone (and) Trimethylsiloxysilicate (and) Laureth-23 (and) Laureth-4	2500 cP	60
Andisil® EMQ 3250CG	Phenyltrimethicone (and) Trimethylsiloxysilicate (and) Laureth-23 (and) Laureth-4	2500 cP	60
* These properties are not intended to be used as specifications but only as suggested characteristics			



## Resin Blend Emulsions – *hair care*

### Applications

- Styling Treatments

### Benefits

- Anti-frizz
- Improves texture
- Shine enhancer
- Soft/supple feel

### Application Recommendations

Name	
Andisil® EMQ 50CG	Recommended for styling applications to provide long lasting benefits
Andisil® EMQ 2350CG	A cyclic free material, recommend for long lasting hold and soft texture
Andisil® EMQ 3250CG	High refractive index provides long lasting shine in styling applications



## Resin Blends Emulsions – *skin care*

### Applications

- Creams
- Color Cosmetics
- Lotions
- Sun Care

### Benefits

- Abrasion Resistance
- Film Forming Properties
- Long Wear
- Lubrication
- Organic Compatibility
- Skin Protectant
- Suitable for Clear Formulations
- Transfer Resistance
- Wash Off Resistance
- Water Repellency

### Application Recommendations

Name	
Andisil® EMQ 50CG	Provides long lasting wash off resistance in color cosmetics. Also recommended for a smooth, non-greasy feel
Andisil® EMQ 2350CG	Provides comfortable long wear with a volatile, non-cyclic carrier fluid; leaves a silky finish on the skin. Highly recommended for color cosmetics with the best abrasion and transfer resistance
Andisil® EMQ 3250CG	Long lasting shine with film forming benefits; improves organic compatibility. Recommended for color cosmetics due to good abrasion and transfer resistance



## Silicone Wax\*

**Silicone wax** is a water-dispersible dimethicone copolyol wax with a low melting point.

Name	INCI Name	Appearance	Melting Point	Color, APHA (as liquid)
Andisil® SW 1894	Bis-PEG-18 Methyl Ether Dimethyl Silane	White to yellow waxy solid	36 - 42 C	250 Max
* These properties are not intended to be used as specifications but only as suggested characteristics				



## Silicone Wax – Skin Care

### Applications

- Antiperspirant / Deodorant
- Cleansers
- Creams
- Lotions
- Shaving

### Benefits

- Foam Stabilization
- Moisturizing
- Spreadability
- Tack Reduction

### Application Recommendations

Name	
Andisil® SW 1894	Recommended for hydrating formulations providing a smooth and soft feel; good organic compatibility; can provide thickening benefits to formulations where high viscosities are desired



## Silicone Wax – Hair Care

### Applications

- Shampoo
- Conditioner (Leave In)
- Conditioner (Wash Off)
- Styling Treatments

### Benefits

- Conditioning
- Foam Booster

### Application Recommendations

Name	
Andisil® SW 1894	Recommended for shampoo formulations to boost foam volume and density



## Specialty Emulsions\*

**Specialty Emulsions** for personal care are recommended for water-based hair care formulations for ease of use. They are Paraben & Formaldehyde free

Name	INCI Name	pH	Si Content
Andisil® EM 350CG	Dimethicone (and) Trideceth-6 (and) Trideceth-12 (and) Isodeceth-32	7.0	60
Andisil® EP 60,000CG	Dimethiconol (and) TEA-dodecylbenzenesulfonate	7.6	35
* These properties are not intended to be used as specifications but only as suggested characteristics			



## Specialty Emulsions

### Applications

- Shampoo
- Conditioner (leave in)
- Conditioner (rinse off)

### Benefits

- Conditioning
- Dilution Stability
- Ease of Formulation
- For Dry / Damaged Hair
- Improves Dry Combing
- Improves Wet Combing
- Improves Texture
- Light Residue / Low Build Up
- Paraben & Formaldehyde Free
- Soft / Supple Feel
- Water Soluble

### Application Recommendations

Name	
Andisil® EM 350CG	Recommended for water soluble formulations
Andisil® EP 60,000CG	Recommended for shampoos for dry / color-treated hair





## Specialty Fluids\*

**Specialty Fluids** for personal care are a collection of hydride and fluoro substituted silicones particularly useful for pigment treatments for imparting hydrophobicity and lipophobicity (fluoro).

Name	INCI Name	Viscosity, cSt	Hydride (mmole/gm)	Refractive Index	Fluoro Content
Andisil® FS 105	Trifluoropropyl Dimethicone	100	–	1.4000	5
Andisil® FSXL 4505	Hydrogen Trifluoropropyl Dimethicone	450	0.48	1.4010	5
Andisil® XL 11	Hydrogen Dimethicone	35	4.45	1.4020	–
Andisil® MH 30	Methicone	30	15.6	1.3960	–
* These properties are not intended to be used as specifications but only as suggested characteristics					



## Specialty Fluids

### Applications

- Color Cosmetics
- Sun Care

### Benefits

- Oil repellency
- Suitable For Pigment Coatings

### Application Recommendations

Name	
Andisil® FS 105	Recommended for oil repellency in color cosmetics; lowers surface tension in creams and lotions; low refractive index
Andisil® FSXL 4505	Recommended for use as a surface treatment modifier for oil repellency in pigment coatings; low refractive index
Andisil® XL 11	Recommended for use as a surface treatment modifier in pigment coatings; reduces the hydrogen diffusion in formulation
Andisil® MH 30	Recommended for use as a surface treatment modifier in pigment coatings



## Dimethicones

**Dimethicones** for personal care are non-reactive polydimethyl siloxanes. Linear Siloxanes in hair care provide water resistance and improved spreading of actives without weighing the hair down, even at high molecular weights due to the low surface tension of silicones



## Dimethicones\*

Name	INCI Name	Refractive Index	Volatiles
Andisil® SF 5	Dimethicone	1.3970	–
Andisil® SF 10	Dimethicone	1.3990	1.0%
Andisil® SF 20	Dimethicone	1.4010	4.5%
Andisil® SF 50	Dimethicone	1.4020	0.5%
Andisil® SF 100	Dimethicone	1.4030	0.5%
Andisil® SF 200	Dimethicone	1.4030	0.5%
Andisil® SF 350	Dimethicone	1.4035	0.5%
Andisil® SF 500	Dimethicone	1.4035	0.5%
Andisil® SF 1,000	Dimethicone	1.4035	0.5%
Andisil® SF 5,000	Dimethicone	1.4035	1.5%
Andisil® SF 10,000	Dimethicone	1.4035	2.0%
Andisil® SF 12,500	Dimethicone	1.4035	0.5%
Andisil® SF 30,000	Dimethicone	1.4035	0.5%
Andisil® SF 100,000	Dimethicone	1.4040	2.0%
Andisil® SF 600,000	Dimethicone	1.4040	0.75%

\* These properties are not intended to be used as specifications but only as suggested characteristics



## Dimethicones – Skin Care

### Applications

- Antiperspirant / Deodorant
- Cleansers
- Creams
- Color Cosmetics
- Lotions
- Serums
- Sun Care

### Benefits

- Cushion
- Film forming properties
- Lubrication
- Moisturizing
- Skin protectant
- Spreadability
- Suitable for clear formulations
- Tack reduction
- Wash off resistance
- Water repellancy

### Application Recommendations

Name	
Andisil® SF - Low Visc. (5 - 200 cSt)	Recommended for light soft feel in day creams and sun care products
Andisil® SF - Mid Visc. (350 - 5,000 cSt)	Recommended to add silky smoothness to formulations
Andisil® SF - High Visc. (10,000 - 600,000 cSt)	Recommended for heavier textures or when thicker film properties are desired



## Dimethicones – Hair Care

### Applications

- Shampoo
- Conditioner (leave in)
- Condition (rinse off)
- Styling Treatment

### Benefits

- Active Carrier
- Anti Frizz
- Conditioning
- For Dry / Damaged Hair
- Improves Dry Combing
- Improves Wet Combing
- Improves Texture
- Light Residue / Low Build Up
- Soft / Supple Feel

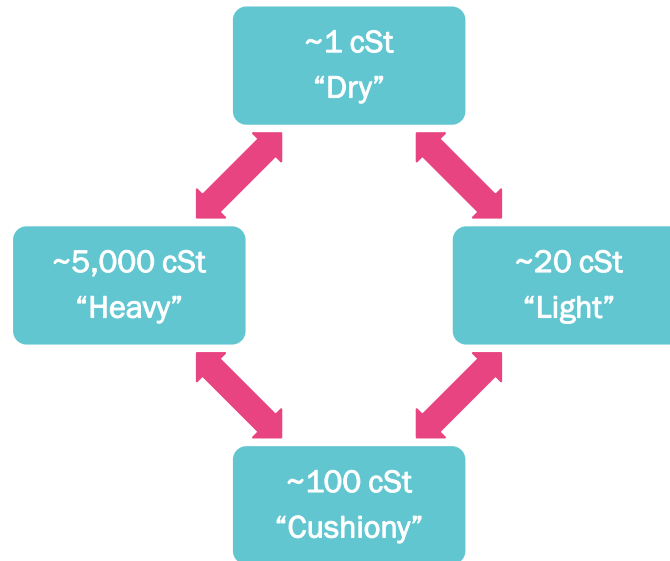
### Application Recommendations

Name	
Andisil® SF - Low Visc. (5 - 200 cSt)	Recommended for hair care applications where a light silky feel is desired
Andisil® SF - Mid Visc. (350 - 5,000 cSt)	Recommended to add silky smoothness to hair care formulations
Andisil® SF - High Visc. (10,000 - 600,000 cSt)	Recommended for formulations where a higher viscosity final product is desired

## Innovation: Putting it all Together

### Cascading Emolliency - Skin Feel

*Utilizing high and low viscosity Dimethicone*



- Changing feel during and after application
  - e.q., 20 cSt/1000 cSt (2:1) → combined bi-modal viscosity = 100 cSt
    - ✓ Quick rub-in, light emolliency
    - ✓ Lasting skin conditioning feel in facial lotion



## Cyclic Siloxanes\*

**Cyclic Siloxanes** for personal care are volatile carriers with silky feel.

Name	INCI Name	Viscosity	D4, %	D5, %	D6, %
Andisil® D4	Cyclotetrasiloxane	2 cSt	99.0	--	--
Andisil® D5	Cyclopentasiloxane	4 cSt	--	96.0	--
Andisil® D6	Cyclohexasiloxane	6 cSt	--	--	94.0
Andisil® D45	Cyclotetrasiloxane (and) Cyclopentasiloxane	4 cSt	70.0	30.0	--
Andisil® D56	Cyclopentasiloxane (and) Cyclohexasiloxane	5 cSt	--	65.0	35.0
Andisil® DMC	Cyclotetrasiloxane (and) Cyclopentasiloxane	--	85.0	15.0	--
* These properties are not intended to be used as specifications but only as suggested characteristics					





## Cyclic Siloxanes – Skin Care

### Applications

- Antiperspirant / Deodorant
- Cleansers
- Creams
- Color Cosmetics
- Lotions
- Serums
- Sun Care
- Shaving

### Benefits

- Lubrication
- Spreadability
- Suitable For Clear Formulations
- Tack Reduction

### Application Recommendations

Name	
Andisil® D5	Used as a delivery agent, most commonly used volatile carrier
Andisil® D6	Silicone Carrier with improved spreading and longer playtime than Cyclopentasiloxane (D5)
Andisil® D56	Blend of cyclic silicones to offer a different volatility profile.



## Cyclic Siloxanes – Hair Care

### Applications

- Conditioner (Leave In)
- Styling Treatments

### Benefits

- Active Carrier
- Improves Wet Combing

### Application Recommendations

Name	
Andisil® D5	Used as a delivery agent, most commonly used volatile carrier
Andisil® D6	Silicone Carrier with improved spreading and longer playtime than Cyclopentasiloxane (D5)
Andisil® D56	Blend of cyclic silicones to offer a different volatility profile.



## Why Cyclic Replacements?

Consumer concerns regarding the safety and environmental impact of cyclic siloxanes have led formulators to seek alternatives to these materials.

- Low molecular weight (LMW) linear siloxanes can be used to substitute for volatile siloxanes and can also provide unique properties.
- LMW linear siloxanes offer a higher flash-point than D5 and are therefore less combustible. The flash points are high enough to eliminate processing concerns and can be easily heated if necessary.
- Cold processing is also made simpler using LMW linear siloxanes; they are often suitable for ambient, room-temperature processing..
- The high spreading coefficient and resulting uniform film application can enhance efficacy.



## Linear Siloxanes\*

**Linear Siloxanes** for personal care are volatile carriers that mimic the properties of cyclic siloxanes providing emolliency and water resistance to lotions and creams when used in skin care applications. They are also used as delivery agents for hair care actives; good for wet combing.

Name	INCI Name	Viscosity	Purity, %
Andisil® SF 0.65	Disiloxane	0.65 cSt	99.0
Andisil® SF 1	Trisiloxane	1 cSt	99.0
Andisil® SF 1.5	Dimethicone	1.5 cSt	99.0
Andisil® SF 2	Dimethicone	2 cSt	99.0
Andisil® SF 3.5	Dimethicone	3.5 cSt	–

\* These properties are not intended to be used as specifications but only as suggested characteristics



## Linear Siloxanes – Skin Care

### Applications

- Shampoo
- Conditioner (leave in)
- Condition (rinse off)
- Styling Treatment

### Benefits

- Active Carrier
- Improves Wet Combing

### Application Recommendations

Name	
Andisil® SF 0.65	Greatest volatility of linear and cyclic siloxanes
Andisil® SF 1	Recommended for fast volatility
Andisil® SF 1.5	Recommended for fast volatility
Andisil® SF 2	Recommended for medium volatility
Andisil® SF 3.5	Partial Volatility; potential D5 replacement based on volatility profile



## Linear Siloxanes – Hair Care

### Applications

- Shampoo
- Conditioner (leave in)
- Condition (rinse off)
- Styling Treatment

### Benefits

- Active Carrier
- Improves Wet Combing

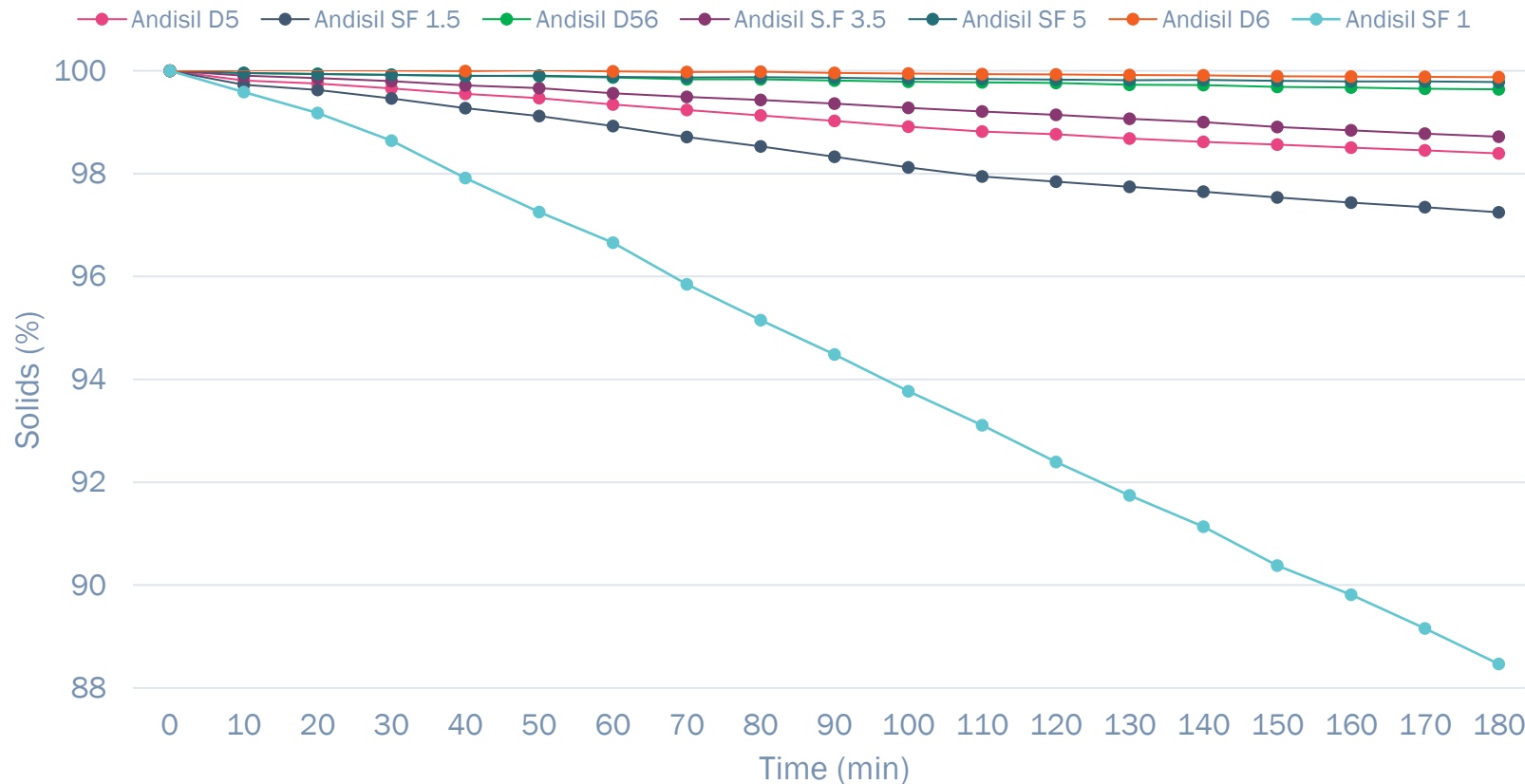
### Application Recommendations

Name	
Andisil® SF 0.65	Greatest volatility of linear and cyclic siloxanes
Andisil® SF 1	Recommended for fast volatility
Andisil® SF 1.5	Recommended for fast volatility
Andisil® SF 2	Recommended for medium volatility
Andisil® SF 3.5	Partial Volatility; potential D5 replacement based on volatility profile



## Evaporation Characteristics

Solids vs Time @25°C until 180 Minutes





## Custom Blending & Development Formulation Assistance

We are committed to working with customers to provide *customization – both blending and synthesis* as well as formulation assistance.

- Cyclosiloxane mixtures
- Gum blends for hair and skin care
  - Mixtures of low molecular weight (volatile or non-volatile) silicones and very high molecular weight silicones
  - Customize volatility, feel and shine
- Can work with contract packagers to add (match) fragrance and value-add ingredients
  - Natural oils (e.g., Argan), UV absorbers, etc.

*Beauty.*  
In the hands of the  
formulator





## Who we are...

Under our brand, Andisil®, AB Specialty Silicones offers the personal care marketplace an extensive line of silicone based ingredients as well as the ability to custom formulate raw materials and blends to specifically suit your needs. Our technically trained, innovative team and global resources enable us to rapidly and efficiently deliver the latest in technology and product development. AB Specialty Silicones offers the highest degree of personal service and flexibility to meet each customer's requirements.

Our Sales, Distribution, Manufacturing and Research & Development services are ISO 9001 certified.

- Silicones formulated to suit your needs
- Specialty silicone product line inspired by current market trends
- Custom blending capabilities offering ease of formulation and cost reduction
- Top quality service from synthesis to delivery
- US Manufacturer & Illinois-based warehousing resulting in minimal lead times

### AB Specialty Silicones

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