



# PERSONAL CARE AND PHARMACEUTICAL

Product Guide

**sonneborn™**

A HOLLYFRONTIER BUSINESS



# sonneborn™

## A Focus on Innovation. An Eye on Tradition. An Emphasis on Quality and Service.

For more than 100 years, Sonneborn has been setting industry standards the world over for the finest possible white oils, petrolatums, and microcrystalline waxes in beauty, personal care and pharmaceutical products.

And then we brought you SonneNatural, nature's finest vegetable-based emollients.

We can't wait to show you what the next 100 years of Sonneborn will bring...

**PERSONAL CARE PRODUCTS** touch all of our lives in many ways, and savvy consumers today demand safety, high quality and performance-driven ingredients in the products they choose. For this reason, formulators rely on suppliers that are dependable, deliver superior quality, value and innovative solutions.

**GLOBAL LEADERSHIP.** Sonneborn is the global leader in the manufacture and supply of the highest quality refined hydrocarbons, including White Oils, Petrolatums, Microcrystalline Waxes and SonneNatural 100% vegetable-based emollients for Personal Care, Pharmaceutical and Cosmetic markets.

Sonneborn is committed to providing customers with premium products, progressive technical capabilities and dependable service so that they receive the very best value in the industry. Together with continued growth in fundamental product lines, Sonneborn has applied core strengths to transcend traditional technologies and deliver exciting new products to the market.

The Sonneborn production sites in North America and Europe have a 100-year history of manufacturing and applications expertise. We offer a similar product line worldwide enabling us to more efficiently serve the needs of our multinational customers. Sonneborn is the world's only producer that offers this global reach and depth of experience.

**PRODUCT CHOICE.** Sonneborn offers the broadest product line in the industry, and along with our custom-formulating ability we can meet your most exacting specifications. We provide grades that meet the strict standards of Ph. Eur., BP, USP, NF, Japanese and other pharmacopoeias. We also provide products that conform to USDA and FDA classifications.

**SONNEBORN WHITE OILS** are chemically and biologically stable, non-allergenic, non-comedogenic and do not support pathogenic bacterial growth. This unique combination of properties have established white oils to be ideal components for numerous high-end applications, such as personal care and pharmaceutical formulations. In addition, white oils instill excellent lubricating, smoothing and moisture isolating properties within the final product. Their inert nature makes them broadly applicable and easy to apply in almost any formulation.

You can find our white oils in products ranging from baby oils and lotions to sunscreens, tissues and antibiotics

Sonneborn supplies grades that meet FDA 21 CFR 172.878 regulations. Our white mineral oils have viscosities that range from 3 cSt to 240 cSt @ 40°C, and pour points that range from +3°C to less than -18°C.

With our in-line blend system, we are able to manufacture tailor-made white oil grades upon request.

### Properties of Standard Sonneborn Pharmaceutical and Personal Care Grade White Oils

	Density kg/m <sup>3</sup> @ 20°C ASTM D-1298	Viscosity cSt @ 40°C ASTM D-445	Max. Pour Point °C ASTM D-97	Min. Flash Point °C ASTM D-92	Viscosity* SUS @ 37.8°C ASTM D-44
Hydrobrite HV	860-90	230-240	-6	277	1400
Hydrobrite 1000	870-890	180-240	-6	290	1000
Hydrobrite 550	860-880	100-125	-9	254	550
Kaydol	870-890	63-70	-9	205	350
Parol	850-880	63-70	-6	220	340
Dosetol	865-885	52-57	-15	200	283
Protol	850-880	34-39	-9	180	185
Rudol	845-875	28-34	-9	180	160
Dinol	840-860	21-24	-6	180	110
Blandol	830-860	13-18	-6	175	85
Carnation	825-850	10-14	-6	165	70
Klearol	820-840	7-10	+3	140	50
Lytol	810-830	3-5	+3	110	40

\* Typical values

All above grades have no odor or taste and are water white (Saybolt color +30) and meet FDA 21 CFR 172.878 and 21 CFR 178.3620(a) requirements. Our White Mineral Oils meet the requirements of the Ph. Eur., USP/ NF or JP. Hydrobrite, Protol, Carnation, Klearol and Lytol may have viscosities outside the monograph limits for USP/NF or Ph. Eur. Special viscosity and pour point oils are available upon request.





### Sonneborn White Oil Applications

	Hydrobrite HV	Hydrobrite 1000	Hydrobrite 550	Kaydol	Parol	Dosetol	Protol	Rudol	Dinol	Blandol	Carnation	Klearol	Lytol
PERSONAL CARE													
Baby Oil										X			
Body Wash		X							X	X	X	X	
Cold Cream				X	X	X	X	X	X	X	X		
Ethnic Hair Care Products		X		X	X	X		X	X	X	X	X	
Eye Make-Up									X	X	X	X	X
Hair Conditioner									X	X	X	X	
Hair Styling and Finishing		X		X	X	X		X	X	X	X		
Lipsticks and Lip Balms		X			X				X	X	X	X	
Make-Up Removers								X	X	X		X	X
Moisturizing Cream		X		X	X	X	X	X	X	X	X		
Shampoo									X	X	X	X	
Sun Tan Lotion				X					X	X	X		
Sun Tan Oil				X					X	X	X		
Waterless Hand Cream				X	X	X	X	X	X	X	X	X	X
PHARMACEUTICAL													
Animal Health/Veterinary	X	X	X	X	X	X	X	X	X	X	X	X	X
Excipients	X	X	X	X	X	X	X	X	X	X	X	X	X
Laxatives/Internal Lubricant				X	X			X	X	X	X		
Medicated Ointments		X		X									

**SONNEBORN PETROLATUMS** represent the world's broadest line of standard petrolatum, custom compounded and related products to meet any formulation requirement. Petrolatum hydrating properties set a standard against which other moisturizers are compared, and are valued by personal care and pharmaceutical companies as safe, highly effective and economical formulation bases. Petrolatum adds lubricity and moisture loss resistance to lotions, creams, ointments and hand cleaners. Odorless and tasteless, they range in color from white to yellow, and differ from one another in consistency and shear strength.

Our unique manufacturing process allows us to offer the finest petrolatums available today, including Snowwhite P1, Snowwhite EC and yellow grades. Snowwhite P1 is an industry standard for ointment bases and other high quality, narrow specification critical applications. Our Snowwhite EC is used in many fine cosmetics and ointments, and the softer Fonoline grade is used in petroleum jellies and high-solids ointments.

Special grades can be formulated to meet particular customer specifications.

### Properties of Standard Sonneborn Pharmaceutical and Personal Care Grade Petrolatums

	Drop Melting Point °C ASTM D-127	Congeaing Point °C ASTM D-938	Cone Penetration dmm @ 25 °C ASTM D-937	Lovibond Color 2" Cell (* = 1/2" Cell)	Purity Ph. Eur. FDA BP USP	
<b>WHITE</b>						
Snowwhite P1	58-64	48-54	180-200	0.5 Y Max.	■	■
White Protopet 1 SH	58-64	47-53	180-210	1.0 Y Max.	■	■
White Fonoline H	50-56	45-51	210-245	1.0 Y Max.	■	■
Snowwhite MD	55-60	48-54	160-180	1.0 Y Max.	■	■
Snowwhite N	54-60	47-53	160-180	1.0 Y Max.	■	
Snowwhite UP	60-67	50-56	160-180	0.5 Y Max.	■	
Snowwhite T5	60-66	50-56	160-180	1.5 Y Max.	■	
Snowwhite EC	58-66	49-56	160-180	2.0 Y Max.	■	
Snowwhite XH	61-66	51-56	140-160	1.5 Y Max.	■	
Snowwhite A4	53-59	47-53	160-180	1.0 Y Max.	■	
Snowwhite Special	53-59	47-53	160-180	1.0 Y Max.	■	
<b>YELLOW</b>						
Blond	58-65	50-56	160-180	12 Y + 0.8R* Max.	■	
Extra Light Yellow	58-65	49-55	160-180	12 Y + 0.8R* Max.	■	
<b>PETROLATUM CONCENTRATE</b>						
Microwax MA	61-68	56-62	35-45	2.0 Y Max.	■	

\* Typical values

The above grades have no odor and meet the requirements for Ph. Eur and USP. Microwax MA has a cone penetration that falls outside the monograph limits. The P1, 1SH, UP, T5, EC, XH and yellow grades, have a drop melting point that falls outside the USP specification. Special grades can be formulated to meet particular customer specifications.

**SENSORY ENHANCED PETROLATUMS.** When developing new ingredients for personal care formulations, we want to balance physical properties along with the desired sensory profile. Our focus on sensory attributes led us to the development of a complete Sensory Enhanced Emollient line. All products provide an enhanced skin-feel, while still delivering the functional benefits of petrolatum. These exceptional emollients are ideal for elegant formulations that offer the functional moisturizing benefits of petrolatum. The Sensory Enhanced products have very distinct attributes that complement many personal care formulations with their silky skin-feel, easy spreadability, easy handling, and smooth application.

**SonneCone CM** is a soft, translucent, beautifully high gloss petrolatum that offers a powdery soft after feel. It is an excellent emollient for skin lotions designed to be lightweight, yet deliver optimal moisturizing benefits.

**SonneCone DM1** is soft and translucent with medium gloss and higher cushion. Both are excellent options for enhancing products where skin protection and TEWL are critical, but a more luxurious skin-feel is desired.

**Sonneborn Elegance** is an exciting new soft and silky petrolatum having a unique non-greasy texture. This petrolatum guarantees the right cosmetic elegance.

**Sonneborn Sublime XS** is more creamy than Elegance, and spreads smoothly, with low tack and medium playtime. XS stands for Extra Smooth, making Sublime XS an ideal base for cosmetic formulations requiring exceptional silky, velvety attributes.

**Sonneborn Satin** is a supremely soft, translucent white, glossy petrolatum with high slip, medium cushion and long playtime. This unique combination of softness and relatively low melting point allows it to melt at skin temperature and provide easy spreadability with low tack.

### Typical Properties of SonneCone

Melting Point ASTM D-127 °C/°F		Consistency ASTM D-937 USP	Viscosity @ 210° F ASTM D-445 SUS (cSt)	Color Lovibond
38/51.6	100.4/125	240/300	39(3.95)	White

### Properties of Elegance, Sublime XS and Satin Petrolatums

Product	Drop Melting Point °C ASTM D-127	Congeaing Point °C ASTM D-938	Cone Penetration dmm @ 25 °C ASTM D-937	Lovibond Color 2" Cell (*=3" Cell)
SB Elegance	55-62	48-53	170-200	1.5 Y Max.
SB Sublime XS	68-76	57-64	170-200	1.0 Y Max.
SB Satin	38-51.6	35-45	240-300	1.0 Y Max.*

\* Typical values

The above grades have no odor and meet the requirements for Ph. Eur and USP. Elegance and Sublime XS have a drop melting point that falls outside the USP specification.

The Sensory Emollient Line also includes Sensory Enhanced Alkanes like **Lilac** (INCI C14-22 Alkane). To learn more about the Sensory Enhanced Products, please request our detailed brochure, Sensory Enhanced Emollients, or download the PDF from our website, [www.sonneborn.com](http://www.sonneborn.com).

## Sonneborn Petrolatum Applications

	Snowwhite P1	White Protopet 1SH	White Fonoline H	Snowwhite MD	Snowwhite N	Snowwhite UP	Snowwhite T5	Snowwhite EC	Snowwhite XH	Snowwhite A4	Snowwhite Special	Microwax MA	Sonnecone	SB Elegance	SB Sublime XS	SB Satin	Blond	Extra light yellow
PERSONAL CARE																		
AP/Deo	X	X	X	X	X	X	X	X	X	X	X	X						
Body Wash		X	X	X	X	X	X	X	X	X	X	X		X	X	X		
Creams and Lotions		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Hair Conditioner	X			X	X	X	X	X	X	X	X	X		X	X	X	X	X
Hair Styling and Finishing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hand Cleaners	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X
Lip Balm	X	X	X	X	X	X	X	X	X	X	X	X		X	X			
Massage Cream	X			X	X	X	X	X	X	X	X	X	X				X	X
Moisturizing Lotions	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Permanent Waves	X	X	X	X	X	X	X	X	X	X	X	X					X	X
Petroleum Jelly	X		X	X	X	X	X	X	X	X	X	X		X	X	X		
Scalp Protector	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sun Care Products		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PHARMACEUTICAL																		
Barrier/Skin Protectants	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Dental Adhesive Formulations	X	X	X	X	X	X	X	X	X	X	X	X						
Medicated Ointments	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Suppositories	X	X	X	X	X	X	X	X	X	X	X	X					X	X





**SONNEBORN MICROCRYSTALLINE WAXES** are produced as primary products, not by-products, and thus Sonneborn ranks among the most steadfast suppliers. Our Multiwax brand is recognized worldwide as the quality standard for the most consistent grades of microcrystalline wax available. In hair styling products, Multiwax provides the cream-wax texture for light-weight, natural hold in contemporary styling. In cosmetics, Multiwax offers the gloss, adhesion and bonding required for high quality lipsticks and balms. As natural bases in cold creams and ointments, they harden, lubricate, carry medication and protect against moisture.

Multiwax is used as a rheology modifier for creams and ointments.

Standard Multiwax grades meet FDA CFR 172.886 and 178.3710 requirements for food-grade petroleum waxes. The grades vary in color from white to yellow, and in such physical properties as hardness and melting point. The hardness of our standard waxes ranges from 15 to 45 on the ASTM D-1321 needle penetration test.

Sonneborn can customize physical properties to meet customer specifications. We ship waxes as bulk liquids, or in cartons or pallets.

### Properties of standard Sonneborn Multiwax®

	Drop Melting Point °C ASTM D-127	Congealing Point °C ASTM D-938	Needle Penetration dmm @ 25 °C ASTM D-1321	Viscosity mm <sup>2</sup> /s @ 100 °C ASTM D-445	Color ASTM D-1500
Multiwax® 180MH	82-87	74-79	15-20	13	2.0 Max.
Multiwax® SB1322	79-88	74-79	13-22	14	2.0 Max.
Multiwax® W445H Extra White	76-82	71-76	25-35	13	0.5 Max.
Multiwax® ML445H	79-84	71-76	25-32	13	2.0 Max.
Multiwax® SB3742	78-83	69-74	37-42	13-18	2.0 Max.
Multiwax® X145AH	70-75	65-70	35-45	13-18	0.5 Max.
Multiwax® X123AH	70-75	65-70	20-35	13-18	0.5 Max.

All above grades of Multiwax comply with FDA requirements CFR 172.886 and 178.3710 as well as with the purity requirements of the hard paraffin monograph of the European Pharmacopoeia. In addition they meet the requirements of the European Directive for plastic materials and articles intended to come into contact with foodstuffs and comply with recommendations of Colipa. Many of the above grades are available on special order in colors other than those listed above.

### Sonneborn Multiwax® Microcrystalline Applications

	180MH	SB1322	W445H	ML445H	SB3742	X145AH	X123AH
Cosmetics	X	X	X	X	X	X	X
Dental Floss	X	X	X	X	X	X	X
Dental Products	X	X	X	X	X	X	X
Lip Care	X	X	X	X	X	X	X
Pharmaceutical	X	X	X	X	X	X	X

**SonneNatural NATURE'S FINEST EMOLLIENTS** is Sonneborn's branded line of natural and renewable ingredients for use in cosmetic applications where an emollient, moisturizer, solubilizer or dispersing agent is required. SonneNatural, SonneNatural 200 Series and the SonneNatural Select Line are 100% vegetable-based products that offer the sensory, moisture retention, emolliency and rheological properties consumers have come to expect from petrolatum substitutes.

**SonneNatural** is a soft, translucent-yellow, medium gloss product. It has a creamy application, excellent spread, low slip and nice cushiony feel. The combination of softness and luxurious feel makes this product a perfect natural alternative to petrolatum in cosmetic formulations. SonneNatural also has almost no odor and is color stable.

**SonneNatural 200 Series** offers two distinctly unique products. SonneNatural H-203 and SonneNatural J-207.

**SonneNatural H-203** offers the firmest base in the SonneNatural line.

- Medium cushion, medium to low gloss, low slip, short playtime, and minimal spreadability
- The short play time delivers body and tack to formulations
- Ideal for hair styling products such as putty and pastes, and for lip balms that require a more compact feel.

**SonneNatural J-207** offers the natural, classic look and feel of neat petroleum jelly.

- Soft with medium cushion, very glossy with medium slip and playtime, and high spreadability
- Its properties and appearance fit best for a neat petroleum jelly replacement, or for use in elegant lip moisture balms or high-end hair pomades.



## SonneNatural Property Comparison to Petrolatum

Property	Test Method	White Protopet 1S	SonneNatural	SonneNatural H-203	SonneNatural J-207	SonneNatural Selects
Cone Penetration	ASTM D-937	180-210	170	195	210	190
Drop Melting Point, °C	ASTM D-127	54-60°C	52°C	49°C	46°C	50°C
Color, Lovibond 2"	IP 17	1.5 Y Max.	2.0 Y	1.3 Y	1.0 Y	2.7 Y
Viscosity @ 100°C, cSt	ASTM D-445	~12.0	~16.5	~14.6	~11.8	~14.0

**SonneNatural Select** is an extension of our 100% certified vegetable based line, blended with botanicals rich in Omega 3, Omega 6 and Omega 9 fatty acids. They provide emolliency with a range of aesthetic and sensory attributes, with botanical benefits for ease in formulation and product enhancement.

### **SonneNatural Select – Jojoba Oil Enhanced**

utilizes the seed oil of the jojoba plant.

- An all-natural blend rich in Omega 9 fatty acids
- It is soft and glossy, and has a nice smooth application
- Jojoba oil is the natural oil closest in chemical composition to human sebum.

### **SonneNatural Select – Meadowfoam Seed Oil Enhanced**

utilizes the seed oil of the meadowfoam plant.

- It is alternative rich in Omega 6 and Omega 9 fatty acids
- Offers the ultimate silky, smooth application with medium cushion and gloss
- Meadowfoam seed oil adheres well to the skin and helps to rejuvenate skins appearance.

### **SonneNatural Select – Extra Virgin Olive Oil Enhanced**

utilizes extra virgin olive in its formulation.

- Offers an all-natural blend rich in Omega 3, Omega 6 and Omega 9 fatty acids
- Has a smooth application with medium to high cushion and medium to low gloss
- Olive oil naturally moisturizes the skin and aids its elasticity.

**SonneNatural** brand products are certified by Sonneborn to contain 100% natural ingredients of vegetable origin. To learn more about SonneNatural, please request our detailed brochure, **SonneNatural Nature's Finest Emollient**, or download the PDF from [www.sonneborn.com](http://www.sonneborn.com).

**Chemistry. By Nature.™** The Sonneborn family of products have been soothing people since they were babies. We continue to build on our innovation, developing new and better products that deliver a natural fit in today's world. The company that has brought you the purest, highest quality hydrocarbon chemistry by nature, now brings you the finest vegetable chemistry by nature. As always, we are anxious to hear from you so we can start on something new.



sonneborn

Sonneborn makes highly refined products for hundreds of customers and thousands of applications worldwide – from personal care and pharmaceuticals to food and industrial applications.

Everything we make and every action we take is based on the knowledge that nothing is more valuable to the scientists and the customers who use our products than absolute confidence in our products, our experts and our services.

**sonneborn**<sup>™</sup>

A HOLLYFRONTIER BUSINESS

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