

## Product Forms

Dermaseal allergen-blocker is available in a water or ethanol (SDA-40) solvent system. The water-based system is referred to as Dermaseal allergen-blocker #100-1 and the ethanol based system is referred to as Dermaseal allergen-blocker #E-100. Both systems are easily formulated in both dilute and concentrated forms with common cosmetic ingredients including conditioners, antimicrobials, drugs, vitamins and fragrances to produce invisible, non-greasy films.

### INCI NAME:

Hydroxypropylcellulose/Methyl Gluceth-20

### TOXICOLOGY:

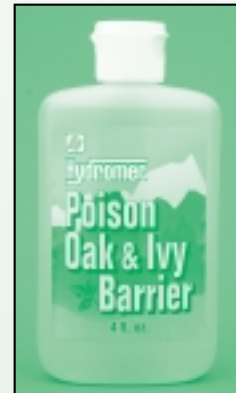
Toxicology studies using CPSC/FHSA-16 CFR 1500 protocol concluded that aqueous Dermaseal allergen blocker is not a primary skin irritant, nor a primary ocular irritant and are non-toxic orally. Japanese MHW approved.

### HANDLING & SAFETY:

Material Safety Data Sheets are available upon request from Hydromer Inc.

### AVAILABILITY:

Products may be ordered from Hydromer Inc., 35 Industrial Parkway, Branchburg, NJ 08876, or from authorized Hydromer Inc. distributors.



### FURTHER INFORMATION:

For further information contact:

Hydromer Inc.

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In U.S. Toll free 1-877-HYDROMER

Patents: 5,837,266, 5,851,540 and pending patents



# DERMASEAL®

allergen-blocker



Hypo-allergenic/  
Sensitive Skin Products

Skin Care products

Sun Care Products

Color Cosmetics

Industrial Hygiene and Safety

Topical Drug delivery





Product Description

The Dermaseal® allergen-blocker polymer system is comprised of a patented synergistic combination of biocompatible, naturally derived ingredients, which form a thin, continuous film on skin. Dermaseal allergen-blocker was developed by Hydromer Inc. for use in lotions, creams, sprays or ointments. The dermatologically compatible barrier film composition, comprises a hydrophilic, nonionic, film forming polysaccharides (hydroxypropylcellulose) and a barrier film enhancer comprised of a low molecular weight synergistic monosaccharide, solvent and optionally additive materials.

Properties

Dermaseal allergen-blocker is a moisturizing polymer system providing an invisible film, tack free, flexible, non-greasy, non-oily feel, and easily incorporated in cream and lotions. The films exhibit a gloss or sheen, identifying their presence. For many individuals, contact with common environmental allergen results in blemished, irritated and inflamed skin. A number of materials encountered on a daily basis produce such reactions. These include cosmetic products, jewelry, poisonous plants, latex gloves, detergents or industrial chemicals. Sensitive individuals benefit from a cream or lotion that provides the skin with a shield or barrier against these common environmental irritants.

Applications

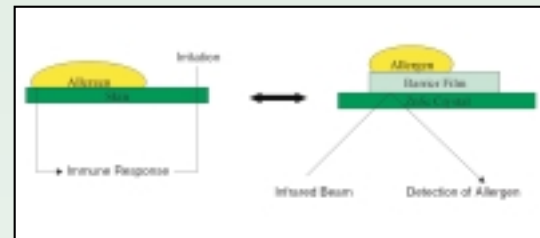
- Hypo-allergenic/Sensitive Skin Products
- Skin Care products
- Sun Care Products
- Color Cosmetics
- Industrial Hygiene and Safety
- Topical Drug delivery

Product Benefits

- Improved substantivity of actives in foundation makeup and sunscreen
- Provides unique “after feel” and sheen characteristic in skin care products
- Reduces tackiness in formulation
- Improves the lubricity of formulations
- Shine enhancement to cosmetic products
- Excellent affinity to skin
- Film-forming barrier to common irritants stains, grease and oil
- Excellent protection properties against allergens and chemical irritants

Performance Characteristics

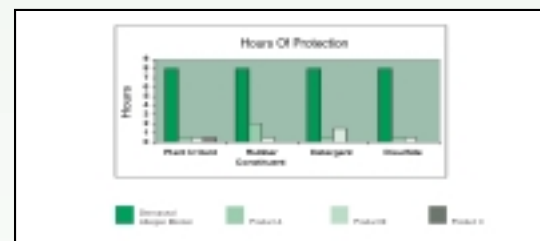
Dermaseal allergen-blocker has been developed to serve as a barrier for skin to common irritants. Upon contact with the skin, allergens promote an immune response resulting in visible skin irritation. In order to examine its potential effectiveness as a barrier, Dermaseal allergen-blocker has been tested using Attenuated Total Reflectance Infrared Spectroscopy (ATR-IR). The technique (illustrated below), measure the rate of permeation of an allergen or other irritant through the barrier film. Upon passage through the film layer, irritants are detected using infrared radiation.



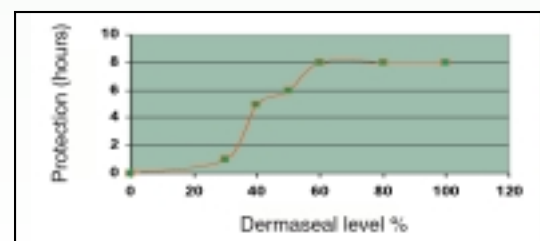
Using the ATR-IR technique, films of several currently marketed products, which claim skin protection and several formulations developed in the laboratory including Dermaseal allergen-blocker were examined for permeability to the following known irritants.

- Disulfides (Benzyl disulfide)
- Detergents (Sodium Lauryl Sulfate)
- Rubber Constituents (1,4 Phenylenediamine)
- Plant Derivatives (Catechol)

Differences in breakthrough times (or protection) through films of the above formulations were noted for each irritant. For the plant irritant, protection times ranged from 0.5 hr for commercial products A to C claiming Poison Ivy protection from 2-4 hrs for laboratory formulations and greater than 8 hrs for Dermaseal allergen-blocker. (\* Note: Maximum testing time was 8 hours). The results are shown below.



These barrier compounds were put into a lotion form and tested on volunteers in a clinical environment. The ATR-IR results indicated barrier performance protection for 6 hours or more against the common irritants listed in the lotions that contained 50% Dermaseal base material.



# Formulary

## Moisturizing Cream

Benefits: This day cream is made for dry and sensitive skin

Phase	Ingredient	% Wt.	Supplier	INCI Name
A.	Water	32.55		
	Glycerin	4.00	Croda Inc.	Glycerin
	<b>Dermaseal 100-1</b>	<b>30.00</b>	<b>Hydromer Inc.</b>	<b>Hydroxypropylcellulose/Methyl Gluceth-20</b>
	<b>Aquamere H-1212</b>	<b>5.00</b>	<b>Hydromer Inc.</b>	<b>PVP/Polycarbamyl/Polyglycol Ester</b>
	Uniphen	0.20	Induchem	Phenoxyethanol/Methylparaben/Ethylparaben/Propylparaben/Butylparaben
B.	Sistema SP 30 C	3.00	Mitsubishi Corp.	Sucrose Distearate
	Sistema SP 70 C	1.00	Mitsubishi Corp.	Sucrose Stearate
	Cetiol SN	3.00	Henkel	Cetearyl Isononanoate
	Cegesoft	5.00		Octyl Palmitate
	Cetiol OE	6.00	Henkel	Dicaprylyl Ether
	Naturechem CR	2.50	Cas Chem	Cetyl Ricinoleate
	Lanette O	3.00	Henkel	Cetearyl Alcohol
	Uniphen	0.50	Induchem	Phenoxyethanol/Methylparaben/Ethylparaben/Propylparaben/Butylparaben
Parsol MCX	4.00	Givaudan-Roure	Octyl Methoxycinnamate	
C.	Perfume	0.25	TBD	Perfume

Procedure:

Mix **Phase A** and heat to 75°C. Mix **Phase B** and heat to 75°C. Mix intensively with Homogenizer. Cool down to 45°C while stirring. Add **Phase C** mix short term with Homogenizer. Cool down to 30°C while stirring.

## Liquid Makeup

Phase	Ingredient	% Wt.	Supplier	INCI Name
A.	Water	q.s.		
	Cellulose PCG-10	0.1	Amerchol	Hydroxyethylcellulose
	Centrolex D	0.2	Central Soya	Lecithin
	Disodium EDTA	0.1		Disodium EDTA
	Chroma Philic TiO2	7.5	Enhance Technologies	Titanium Oxide/Dimethicone Copolyol
	Chroma Philic Yellow	0.6	Enhance Technologies	Iron Oxide/Dimethicone Copolyol
	Chroma Philic Red	0.3	“	Iron Oxide/Dimethicone Copolyol
	Chroma Philic Black	0.1	“	Black Iron Oxide/Dimethicone Copolyol
	Chroma Philic Kaolin	3.0	“	Kaolin/Dimethicone Copolyol
	B.	Emerest 2384	0.5	Henkel
Lambent F-60,000cst		2.2	Lambent	Dimethicone
OsoFine		2.2	Enhance Technologies	Colloidal Oatmeal
Nuka-Bijin Oil		10.0	Enhance Technologies	Rice Bran Oil
Cetyl Alcohol		0.3	Croda Inc.	Cetyl Alcohol
Stearyl Alcohol		0.2	Henkel	Stearyl Alcohol
Parsol MCX		5.0	Givaudan-Roure	Octyl Methoxycinnamate
DC 345 Fluid	1.0	Dow Corning		
C.	Sepigel 305	1.25	Seppic	Polyacrylamide/C13-14 Isoparaffin/Laureth-7
D.	Germaben IIE	1.0	Sutton Labs	Propylene Glycol/Diazolidinyl Urea/Methylparaben/Propylparaben
E.	<b>Dermaseal 100-1</b>	<b>10.0</b>	<b>Hydromer Inc.</b>	<b>Hydroxypropylcellulose/Methyl Gluceth 20</b>

Key Formulation Attributes

- 1) Emulsifier-free formulation/Neutral PH 6.70 (also stable at lower pH's)
- 2) Easy to manufacture no pulverizing or colloid milling of pigments required.
- 3) High molecular weight silicone (60,000cst demethicone) for smooth skin feel.
- 4) SPF 10
- 5) Natural defense allergen/pollution blocker to protect the skin.
- 6) High Oryzanol/Tocotrienol rice oil provides superior antioxidant protection.

Procedure:

In final mixing kettle, with adequate mixing add **Phase A** ingredients in order listed. Begin heating after the addition of the Centrolex D. Continue heating, with combined homogenizer and side sweep mixing and add remainder of **Phase A** ingredients. In a separate vessel combine **Phase B** ingredients and begin heating to 80°C with gentle mixing. When **Phase A** reaches 78°C, add **Phase B** (80°C) into **Phase A**. Mix for 15 minutes and begin cooling down to 65°C and add **Phase C**. After **Phase C** has been added, resume cooling down to 60°C, then switch to only side sweep mixing. At 30°C add **Phase D**, then **Phase E**. Continue cooling down to room temperature. Kettles must remain covered at all times.

**DERMASEAL®**  
allergen blocker