

Aveeno®

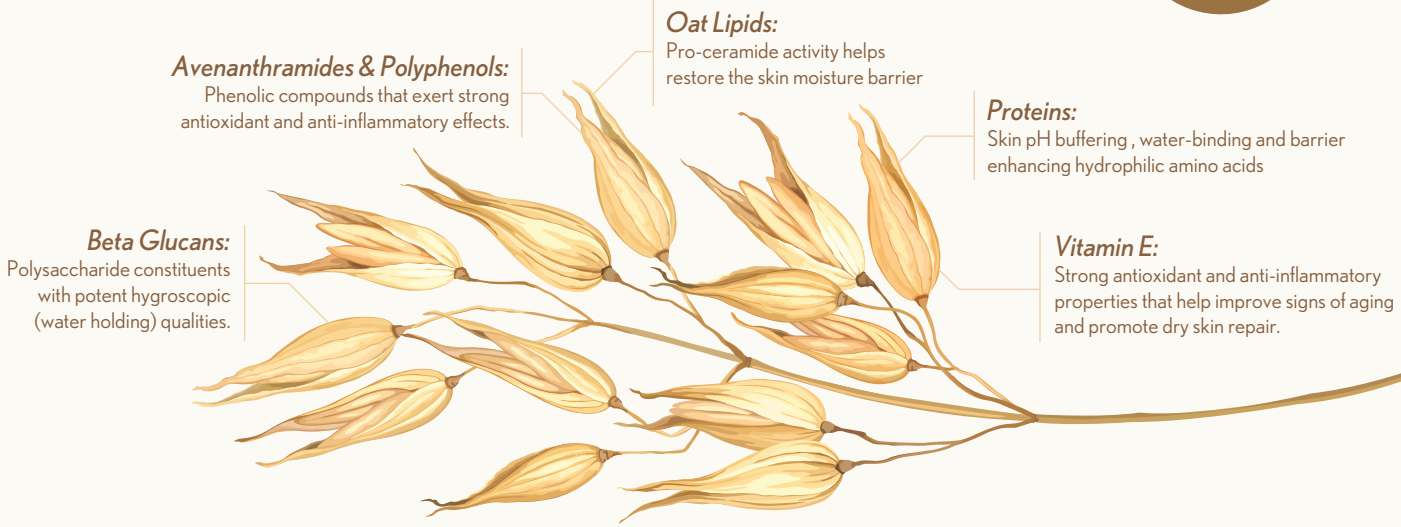
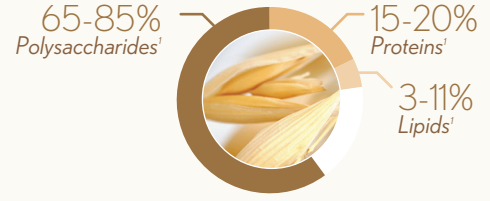
Colloidal Oatmeal

COMPOSITION, BENEFITS & MECHANISM OF ACTION

Colloidal oatmeal has a long history of use in the treatment of dermatologic disease. Oat is composed of various phytochemicals which contribute to its wide-ranging function and clinical use in atopic dermatitis and other skin conditions resulting from an impaired skin barrier and inflammation.

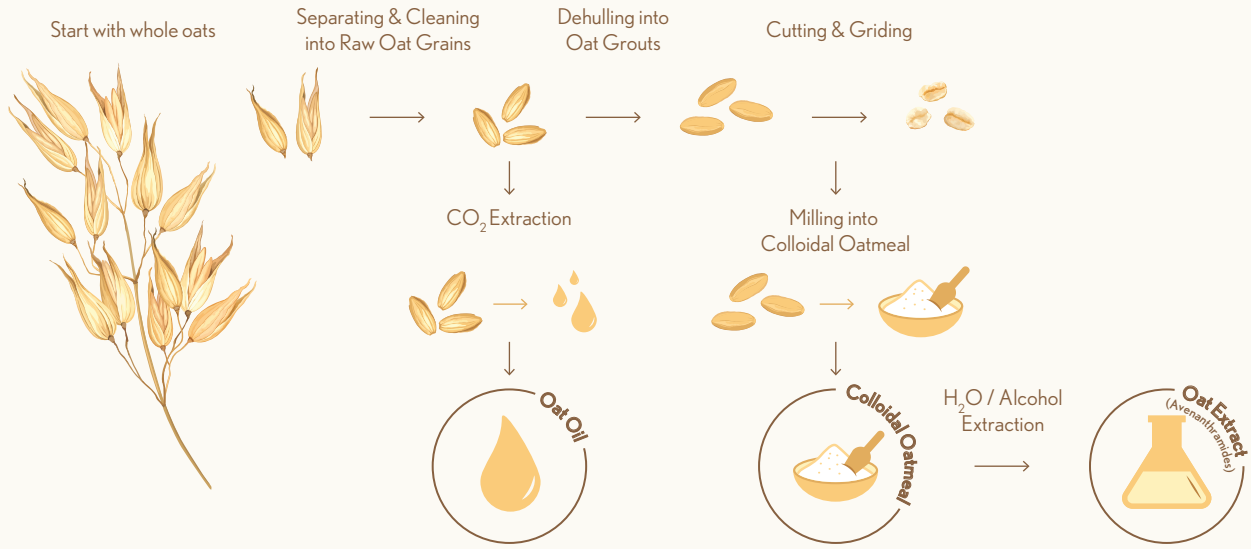
OAT COMPOSITION & BENEFITS:

The main components of colloidal oatmeal are polysaccharides (including beta glucans), proteins, lipids, saponins, vitamins (including vitamin E), minerals, antioxidants (including avenanthramides), and other protective compounds.¹



OAT PROCESSING

The oat in AVEENO® formulations is obtained by grinding the milling the whole oat grain, carefully processed to help retain the strength and integrity of its most potent extracts - Oat Oil, Colloidal Oatmeal and Avenanthramides.



OAT MECHANISMS OF ACTION:

Colloidal oatmeal has various mechanisms of action including direct anti-inflammatory, anti-pruritic, antioxidant, pre-biotic and barrier repair properties, and beneficial effects on skin pH.

Moisture Barrier	pH Modulation	Anti-inflammatory	Anti-pruritic	Antioxidant	Pre-biotic
In vitro data showed oat extracts increase transcription of skin barrier and differentiation genes which may aid in the treatment of inflammatory skin conditions. ²	The buffering capacity of colloidal oatmeal restores the pH of compromised skin to within the normal range. ⁶	Colloidal oatmeal extracts reduce the release of cytokines from human keratinocytes. ^{7,8}	Avenanthramides have been shown in vitro to inhibit neurogenic inflammation; help break the itch-scratch cycle, soothe and calm skin. ¹⁰	Colloidal oatmeal, avenanthramides and oat oil deliver up to 9x the antioxidant power (compared to colloidal oatmeal alone). ^{4,5}	Oat flour supports the growth of commensal microorganisms, such as <i>S. epidermidis</i> (p=0.012), but not <i>S. aureus</i> to help balance the skin's microbiome and improve atopic dermatitis symptoms. ¹¹
The occlusive and water-binding colloidal film holds moisture in the stratum corneum, helping to replenish the barrier. ^{3,4}		Avenanthramides inhibit IL-1β induced NF-κB activation in endothelial cells; suppress IL-1β secretion of pro-inflammatory cytokines such as IL-6, IL-8 and MCP-1. ⁹			
In vitro data showed oat lipids induce ceramide formation in skin cells. ^{4,5}					

	COLLOIDAL OATMEAL	Other Skin Protectants (dimethicone, petrolatum)	Other Humectants (hyaluronic acid, glycerin)	Other Skin Conditioners (ceramides, cholesterol)
Moisture Barrier	✓	✓	✓	✓
pH Modulation	✓			
Anti-inflammatory	✓			
Anti-pruritic	✓			
Antioxidant	✓			
Pre-biotic	✓			

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