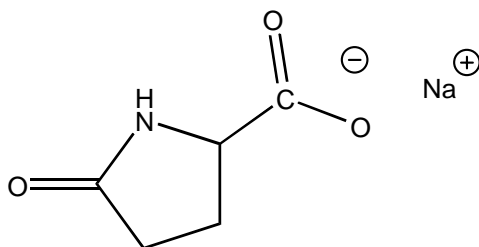


Macare™ PCA-50



“Feel Friendly” Humectant and Conditioning Agent for exceptional Personal Care Products

Overview

Macare™ ingredients for personal care products are “feel-friendly” actives that deliver outstanding sensory attributes in cost-conscious formulations. These safe, effective ingredients occur naturally, delivering the benefits of humectancy, mildness, lubricity, elasticity, softness and other value-in-use.

MACARE PCA-50 is a sodium salt of Pyrrolidone carboxylic acid (PCA) in water. Sodium PCA is a natural humectant in skin, and a key component of the Natural Moisturizing Factor (NMF). MACARE PCA-50 provides a moisturized and powdery soft feeling to skin and hair. As a multi-functional natural ingredient, MACARE PCA-50 has antimicrobial boosting properties for self-preserving formulations against bacteria.

MACARE PCA-50 is soluble in water, compatible with a wide range of raw materials and stable over wide pH and temperature ranges. The ingredient has a strong safety history based on comprehensive toxicology results and significant use in skin preparations, such as cosmetics and toiletries. **Sodium PCA can be found in many of the world’s most popular brands of rinse-off and leave-on personal care products**, providing humectantancy, softness and elasticity to **Moisturizers, Cleansing Gels, Shampoos, Conditioners, Personal Scrubbing and Cleansing Wipes, Creams and Lotions, Sun Screens, Makeup and Powders.**

INCI Name: Sodium PCA (CAS# 28874-51-3/EINECS# 249-277-1)

Typical Properties

Physical form	Water white to pale yellow liquid
Actives, %	47-53
Flash point	>200°F (PMCC)
Shipping.....	Non-Regulated

Typical Use Levels

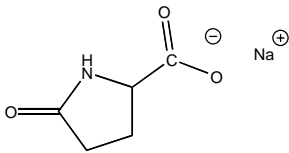
0.05 – 3.0%

Handling Information

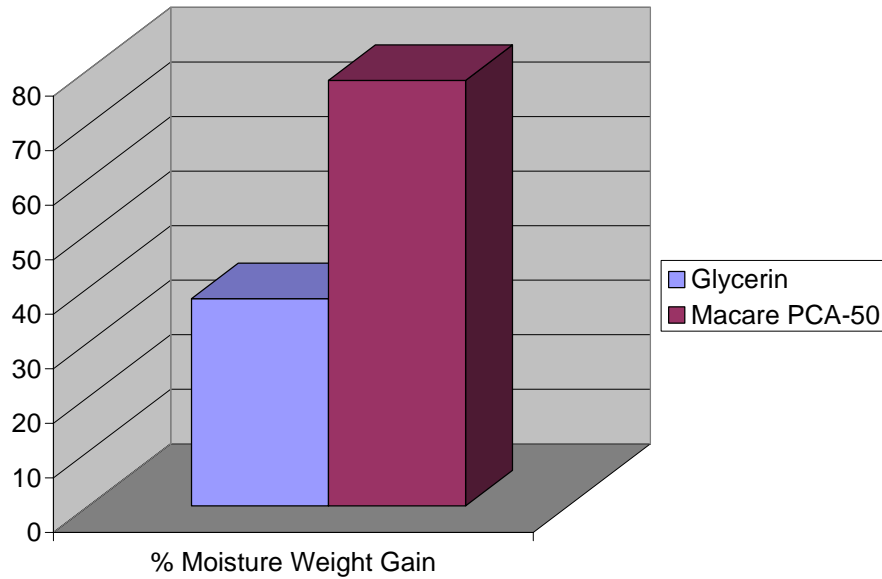
Refer to the Material Safety Data Sheet (MSDS) available from Mason Chemical Company for information on the safe use, handling and disposal of this product.

Macare is a Trademark of Mason Chemical Company.

Macare™ PCA-50



The graph below clearly illustrates the moisture weight gain advantage of MACARE™ PCA-50 versus Glycerin at 30 days with 65% Humidity:



As a multi-functional natural ingredient, MACARE PCA-50 has antimicrobial boosting properties for self-preserving formulations against bacteria. The Self Preserving Properties of Macare PCA-50 are demonstrated the in Anionic Shampoo example below:

Formulations	Formulations Physical Stability @ RT			
	Initial	2 weeks on Shelf	1 Month on Shelf	3 Months on Shelf
Anionic Shampoo ¹ / w/o Preservative	Stable	Unstable	Unstable	Unstable
Anionic Shampoo/ 2.0% <i>Macare PCA-50</i>	Stable	Stable	Stable	Stable

¹Anionic Shampoo with a pH of 6.0

REGULATORY INFORMATION

North America

All components are permitted for use in cosmetics.

Europe

All components are permitted for use in cosmetics.

Japan

All components are permitted for use in cosmetics.

Refer to Material Safety Data Sheet for Handling and Safety Information and Toxicology Summary.