INCI Name: Salicylic Acid (and) Niacinamide (and)
Polydextrose (and) Dextrin (and) Amylopectin

Background
Niacinamide (called nicotinamide) is a water-soluble, B-Vitamin and functions in cosmetic formulations as a hair and skin conditioning agent or anti-inflammatory agent. It can reduce the redness, dryness, and irritation caused by bacteria that live in the clogged pores of pimples. The main benefits of niacinamide in cosmetic applications are anti-acne, anti-inflammation, and reduction of hyperpigmentation.¹,²

Salicylic acid has been introduced in various cosmetic products based on its different effects on the skin. Historically, it has been used to improve xerotic and scaly skin conditions. The main benefits of salicylic acid in cosmetic applications are anti-acne, anti-microbial, and keratolytic.³

Product Information
BotanicalsPlus has developed a unique complex of niacinamide and salicylic acid by first forming a pre-neutralized inner salt of the two molecules and then rapidly spray-drying the two molecules at a 1:1 ratio with a small amount (1%) of a polysaccharide encapsulant. We call this **BP-SA Niacinamide Salicylate Complex**.

Key Benefits:
- Reduces sebum production
- Reduces inflammation
- Reduces hyperpigmentation
- Possesses anti-inflammatory properties
- Reduces hyper-keratinization of sebaceous ducts
- Reduces bacterial count

Product Applications:
- Skin care products for sensitive skin
- Skin treatment products targeting troubled and acne-prone skin
- Skin brightening products

References
Pre-neutralization of the salicylic acid by niacinamide forms a complex salt structure called an ‘inner salt’.

Advantages of BP-SA Niacinamide Salicylate Complex
Pre-neutralization to form the inner salt and encapsulation allows for creating a complex that is highly water-soluble (up to 50% in water) without the re-crystallization of salicylic acid. The complexation of niacinamide with salicylic acid through prior formation of the inner salt helps to stabilize the niacinamide against hydrolysis. The inner salt, while offering a “pre-neutralized” salicylic acid, does not significantly reduce the efficacy of the salicylic acid as a keratolytic agent. The complex also brings along the significant benefits of niacinamide unlike neutralization with NaOH or amines.

Difficulties Formulating with Niacinamide and Salicylic Acid
Niacinamide is known to be sensitive to hydrolysis. If niacinamide hydrolyzes, it provides an “amine” odor which is easily detectable by the human nose. Salicylic acid has solubility concerns in water and must be neutralized (NaOH, amines) to attain adequate water solubility. But, when neutralized, it may lose some of its potency. Un-neutralized salicylic acid is prone to re-crystallization in formulations.

References
Product Efficacy: Anti-Microbial Effects
The effect of 4% BP-SA Niacinamide Salicylate Complex against Propionibacterium acnes collected from a volunteer with acne plated onto RCM (Reinforced Clostridial Medium) Agar. "After Treatment" is shown after 24 hours of growth. Plate demonstrates that the complex maintains antimicrobial efficacy at 2% Salicylic Acid.

Product Efficacy: Acne Benefits
Volunteer applied a serum containing 4% BP-SA Niacinamide Salicylate Complex on her acne lesions twice a day for 2 weeks. An improvement of the appearance of the lesions was observed. The product also shows indications of skin brightening as might be anticipated with niacinamide.

Summary
BP-SA Niacinamide Salicylate Complex is an effective ingredient in the treatment of sensitive skin, acne-prone skin, and skin with hyperpigmentation, as is evidenced by the studies.
JEEN International is the exclusive distributor for BotanicalsPlus in the Personal Care Industry.