

2-in-1 Conditioning Shampoo

Formulation Guide

Designed for personal care formulators, this guide provides detailed information on all aspects of 2-in-1 conditioning shampoo formulation — from ingredient functions and formula parameters to an easy-to-use ingredient decision tree. Use Stepan’s formulation expertise as a handy reference throughout your product development journey.

Start with the Basics — Formula Breakdown

Each ingredient in a conditioning shampoo formula is crucial for achieving desired performance targets. Below you’ll find the key ingredient types, their functions and recommended use levels to help create a well-balanced shampoo.

Function	Ingredient Type	Formula Wt. %
Carrier of ingredients	Water	45-90
Cleaning dirt and oil from hair	Anionic Surfactant	15-25
Generate and stabilize foam	Amphoteric Surfactant	10-20
Improve cleaning and viscosity building	Nonionic Surfactant	2-8
Conditioning and smoothing of hair	Conditioning Agent	1-4
Incorporate moisturizing feel	Emollient, Humectant	0-5
Enhance the sensory appeal	Fragrances, Dyes	0-3
Build higher viscosity	Thickener, Salt	0-2
Provide differentiated claims	Vitamins, Actives, Oils	0-1
Prevent growth of microbes	Preservative	0-2

Getting From Lab to Shelf — Building Up the Formula

The next step is to think about the 3 P’s of your formula — Procedure, Parameters and Packaging. Here you’ll find tips and recommendations to support your product development.

Procedure

1. Start with water
2. Add thermo-stable, water-soluble ingredients
3. Pre-mix oil-soluble ingredients with solubilizers
4. Add solubilized ingredients
5. Mix until homogeneous
6. Adjust viscosity with thickeners and/or salt
7. If heating, add fragrances and temperature sensitive ingredients at < 40°C (104°F)
8. Adjust pH
9. Add sensory enhancers

Parameters

Appearance: Clear or pearlized

Viscosity: 0-20,000 cps

pH: Target 5-7

Stability: Min. 1 month at room temp (25°C), cold (5°C) and elevated (45°C)

Micro Robustness: Preservative challenge testing for higher water content formulas (> 30%)

Packaging

Pump:
Low Viscosity: < 2,000 cps
Surfactant Actives: 5-8%



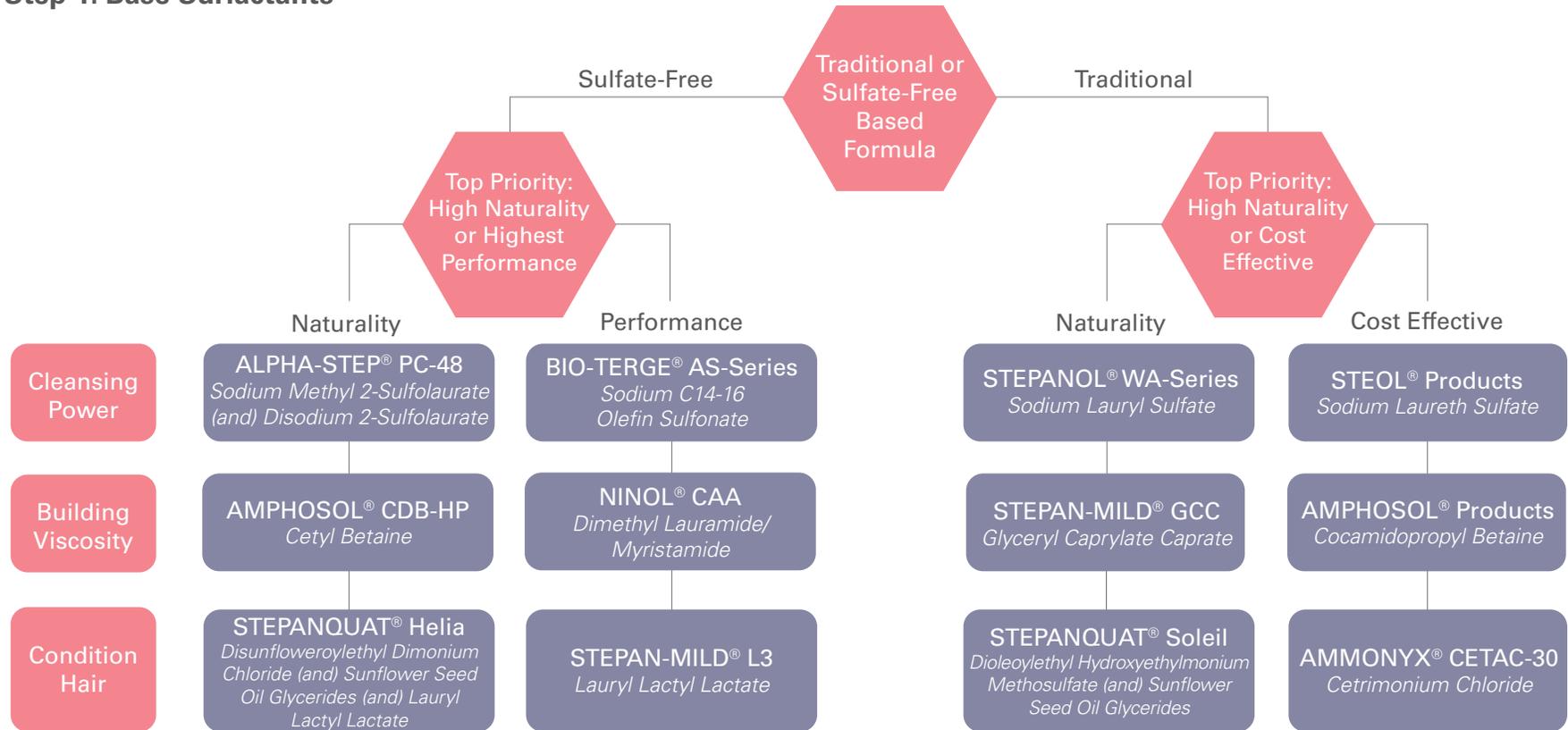
Flip Cap:
High Viscosity: > 4,000 cps
Surfactant Actives: 12-15%



Choose Based on Key Needs – Ingredient Decision Tree

Start with your formula's needs and use the decision tree below to select surfactants for the base (**Step 1**) and additive(s) to enhance the sensory performance (**Step 2**). For detailed product options to personalize your formula, reach out to our Stepan formulation experts.

Step 1: Base Surfactants



Step 2: Aesthetics



Get Inspired — Finalized Formulations

Let Stepan Personal Care help jump-start your next development project with a variety of shampoo concepts.



2-in-1 Shampoo & Conditioning Cleanser *Formulation No. 1382*

Create an easy, emulsion-like conditioning shampoo with this formulation. Sunflower oil-based conditioner, STEPANQUAT® Soleil will leave the hair sleek and shiny. Hit two key formulator needs with this formula: high foam and smooth feel. [LEARN MORE](#)

Phase	Ingredient	% by weight
A	Water	q.s. to 100.00
	Hydroxyethylcellulose	1.00
	AMPHOSOL® CG-UN	20.00
B	STEPANQUAT® Soleil	1.50
	STEPAN-MILD® GCC	1.00
	Shea Butter	0.40
	Cetyl Alcohol	3.00
C	Tocopherol Acetate	0.10
	STEPANOL® WA-EXTRA-E	30.00
	Citric Acid	1.32
D	Sodium Benzoate (and) Potassium Sorbate (and) Water	0.90
	Fragrance	0.30



Silicone-Free Men's Conditioning Shampoo *Formulation No. 1250*

This highly fragranced formulation utilizes STEPAN-MILD® L3 to provide a light conditioning effect without silicones. The addition of NINOL® CAA allows formulators to solubilize fragrance and thicken the shampoo without the need for salt. [LEARN MORE](#)

Utilize [Stepan's Formulation Finder](#) for more concepts or [Contact Us](#) for personalized formulation support.

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July 2025