

Amazon Basics Liquid Hand Soap Formulation Guide

This guide outlines the formulation process for **Amazon Basics Liquid Hand Soap**, designed to cleanse and moisturize hands effectively. The formulation uses a balanced combination of surfactants, conditioners, and humectants to ensure a rich, foaming lather while maintaining skin hydration. Follow the steps carefully for optimal performance and safety.

Ingredients Overview

Below is a detailed breakdown of the ingredients used in this formulation, including their CAS numbers, functions, and additional details.

Ingredient	CAS Number	Function	Weight/Volume	Additional Details
Water	7732-18-5	Solvent/Base	TBD	Primary solvent; forms the bulk of the formulation.
Sodium Laureth Sulfate	9004-82-4	Surfactant	TBD	Provides foaming and cleansing properties.
Glycol Stearate	111-60-4	Emollient/Opacifier	TBD	Adds a pearlized appearance and smooth texture.
Cocamidopropyl Betaine	61789-40-0	Surfactant	TBD	Mild surfactant; enhances foam stability.
Cocamide MEA	68140-00-1	Surfactant/Emulsifier	TBD	Boosts lather and stabilizes the formula.
Sodium Chloride	7647-14-5	Viscosity Modifier	TBD	Adjusts the thickness of the product.
Sodium Salicylate	54-21-7	Preservative	TBD	Protects against microbial growth.
Sodium Benzoate	532-32-1	Preservative	TBD	Extends the shelf life of the product.
Fragrance	N/A	Scent	TBD	Provides a pleasant aroma.
Polyquaternium-7	26590-05-6	Conditioning Agent	TBD	Enhances skin feel; reduces dryness.
Citric Acid	77-92-9	pH Adjuster	TBD	Balances the product's pH for skin compatibility.
Tetrasodium EDTA	64-02-8	Chelating Agent	TBD	Improves stability by binding metal ions.
Poloxamer 124	9003-11-6	Surfactant/Emulsifier	TBD	Improves solubility and cleanses effectively.
Glycol Distearate	627-83-8	Emollient	TBD	Contributes to the creamy texture and appearance.
Laureth-4	68439-50-9	Surfactant/Emulsifier	TBD	Enhances formulation stability.
Milk Protein	N/A	Humectant	TBD	Moisturizes and nourishes the skin.
Honey	N/A	Humectant	TBD	Provides natural hydration benefits.
Hydrolyzed Silk	96690-41-4	Conditioning Agent	TBD	Adds smoothness and enhances the skin feel.
Red 40	25956-17-6	Colorant	TBD	Adds visual appeal to the product.
Yellow 10	8004-92-0	Colorant	TBD	Provides a vibrant color.

Required Equipment

- Mixing Containers:** Chemical-resistant mixing bowls or beakers.
- Measuring Tools:** Scales, pipettes, and graduated cylinders for accurate measurements.
- Stirring Equipment:** Mechanical agitator or stir rods for thorough blending.
- Personal Protective Equipment (PPE):** Safety goggles, gloves, and aprons to protect against accidental exposure.

Procedure

1. Preparation

- Clean Workspace:** Ensure the area is clean and free from contaminants.
- Safety Measures:** Wear PPE and work in a ventilated area.

2. Mix Base Ingredients

- Pour **Water** into the mixing container as the base.
- Gradually add **Sodium Laureth Sulfate** and **Cocamidopropyl Betaine**, stirring gently to avoid excessive foam.

3. Add Emulsifiers and Conditioners

- Mix in **Cocamide MEA**, **Glycol Stearate**, and **Glycol Distearate** for texture and consistency.

4. Incorporate Functional Additives

- Add **Preservatives** (Sodium Salicylate, Sodium Benzoate) and **Fragrance**.
- Adjust pH with **Citric Acid** as needed.

5. Enhance with Conditioning Agents

- Include **Polyquaternium-7**, **Milk Protein**, **Honey**, and **Hydrolyzed Silk** for skin benefits.

6. Add Colorants

- Blend in **Red 40** and **Yellow 10** for visual appeal.

7. Final Mixing

- Ensure all ingredients are thoroughly mixed to achieve a homogeneous solution.

Storage and Shelf Life

- Storage:** Keep in a cool, dry place away from direct sunlight.
- Shelf Life:** Use within 12-18 months for optimal performance.

Usage Guidelines

- Application:** Dispense a small amount, lather with water, and rinse thoroughly.
- Caution:** Avoid contact with eyes. If irritation occurs, discontinue use and consult a physician.