

Multipurpose Liquid Soap Production

A Practical Small-Scale Entrepreneurship Guide (20-Litre Yield)

SAFETY GUIDELINES & PRECAUTIONS

- **Protection First:** Always wear rubber gloves, a nose mask, and eye protection. Caustic soda and sulfonic acid cause skin burns and release strong fumes.
- **Ventilation:** Mix outside or in a well-ventilated space.
- **Container Choice:** Use heavy plastic buckets and a wooden mixing stick. Avoid metal tools because strong chemicals react with metal.

RAW MATERIALS REQUIRED (20-LITRE YIELD)

MATERIAL	QUANTITY	PRIMARY FUNCTION
Texapon (SLES)	250g	Foaming agent and base cleanser
Sulfonic Acid	250ml (1/4 L)	Primary active detergent and dirt remover
Soda Ash	250g	Thickener and water softener
Caustic Soda	125g (1/8 kg)	Stain remover and pH balancing base
STPP (Sodium Tripolyphosphate)	125g (1/8 kg)	Water softening & dirt suspension agent
Water	20 Litres	Solvent base
Colorant	1 Pinch	Water-soluble aesthetic coloring
Perfume	10–20ml	Fresh fragrance (e.g., Lemon, Lavender)

STEP-BY-STEP PRODUCTION PROCESS

Step 1 Dissolve the Solid Salts

1. **Soda Ash Solution:** Dissolve 250g Soda Ash into 5 Litres of clean water in Bucket A. Stir thoroughly until completely dissolved and set aside.
2. **Caustic Soda Solution:** Measure 125g Caustic Soda and add it slowly into 1 Litre of water in a small plastic container. (*Caution: Never pour water directly onto Caustic Soda—it will heat up rapidly and splash*). Stir gently and allow it to cool completely for 30–60 minutes.
3. **STPP Solution:** Mix 125g STPP in 1 Litre of water until clear.

Step 2 Create the Active Surfactant Base

1. In a separate large bucket (Bucket B), mix the 250g Texapon and 250ml Sulfonic Acid together.
2. Stir continuously in **one direction** using your wooden stick until it turns into a thick, uniform paste.
3. Add 2 Litres of water into this paste gradually, stirring well to break down any lumps.

Step 3 Combine All Mixtures

1. Slowly pour the dissolved Soda Ash solution into Bucket B (the active base) while stirring continuously.
2. Add the cooled Caustic Soda solution and the STPP solution.
3. Keep stirring for 10 to 15 minutes in a single direction to blend the liquid thoroughly.

Step 4 Color, Perfume, and Dilution

1. Dissolve your chosen dye in a small cup of water and pour it into the batch while stirring until the color is evenly distributed.
2. Add the Perfume and continue stirring.
3. Add the remaining water in small increments while stirring until your batch reaches the full 20-litre mark.

Step 5 Curing and Packaging

1. Cover your bucket lightly and let the soap **rest for 12 to 24 hours**. The top layer of white foam will clear up, leaving behind a thick, glossy, transparent liquid soap.
2. Funnel the cleared liquid soap into clean 500ml, 1-litre, or 5-litre jerrycans for use or sale.

Pro Tip: If the soap turns out too thin after sitting, dissolve a small extra pinch of Soda Ash or industrial salt in 500ml of warm water and stir it into the batch to boost viscosity.