Soap Design

General Caution: Stainless steel is generally resistant to corrosion, but it is not entirely immune.

-> **Sulphonic**

Sulfonic acid (alkylbenzenesulfonic acid) is used in liquid soaps and detergents to break down the surface tension present between water, dirt, grease, and other forms of grime for effective cleaning.

Caution: It is generally safe for use on various surfaces, including stainless steel, there are a few considerations to keep in mind

- Concentration: The concentration of sulphonic acid in the cleaning solution can impact its effect on stainless steel. Higher concentrations or prolonged exposure may potentially cause corrosion or etching on the surface. It is important to follow the manufacturer's recommended dilution ratios and instructions for safe usage.
- Contact Time: Limiting the contact time between the cleaning solution and stainless steel can help minimize any potential adverse effects. Avoid leaving the solution on the surface for extended periods and rinse it off thoroughly after cleaning.
- Rinse Well: After using a cleaning solution containing sulphonic acid on stainless steel, make sure to rinse the surface thoroughly with clean water to remove any residual acid and prevent any potential long-term damage.

-> **Texpoon**

Foaming agent

-> **Soda ash**

Sodium carbonate (**Na_2CO_3**); high alkalinity and surfactant qualities, which allows it to improve the solvency, and effectiveness, of the detergent in removing stains whilst using less water.

Caution: While it can help with cleaning, it may have some corrosive effects on stainless steel, especially if used in high concentrations or prolonged contact.

-> **Nitrosol**

Nitrosol: Is a chemical used in soap making. This serves as a thickener in the production of the liquid soap. It comes as a whitish substance and has the texture of a powdered milk.

Caution: After cleaning with a product containing Nitrosol, make sure to rinse the stainless steel surface thoroughly with clean water. Residual product left on the surface can potentially cause a film or streaks if not properly rinsed.

-> **Suldum lauryl sulfate (SLS)**

A harsh synthetic detergent and foaming agent that corrodes in order to clean.

Caution: In higher concentrations, it may have some corrosive effects on stainless steel.

-> **Catholyte water**

Whatever the water percentage is, I suggest we use 50% catholyte water.

Suggested addition to the formula:

I suggest we add a QAC. One common Quaternary Ammonium Compound (QAC) used in soap formulations is called "Benzalkonium Chloride" (BAC). Benzalkonium Chloride is a widely used antimicrobial agent and surfactant that is effective against a broad spectrum of microorganisms. It can be incorporated into soap formulations to provide disinfection and cleansing properties.