

FORMULATION

Sensitive Skin Liquid Laundry Detergent

Overview

- Liquid laundry detergent utilizing mild surfactants and free from potentially irritating ingredients
- Excellent soil and stain removal
- Keeps whites white and colors bright
- Effective in hard and cold water conditions
- Biodegradable, free from environmentally persistent ingredients such as polyacrylates, and free-from phosphates

Composition

Ingredient	Trade Name	Function	% w/w
Water			QS to 100
Sodium Citrate		Biodegradable Chelant	2-4
Sodium Polyaspartate (40% active)	Soltellus 2101L (Lygos)	Biodegradable multi-functional polymer <ul style="list-style-type: none"> • Anti-redeposition agent for brighter colors and whiter whites • Anionic surfactant and enzyme booster 	1.5-2.5
Sodium Oleate		Biodegradable Anti-Foamer	0.75-1.0
Sodium Methyl 2-Sulfolaurate and Disodium 2-Sulfolaurate (38%)	Alpha-Step PC-48 (Stepan)	Biodegradable Anionic Surfactants	5-9
Sodium Laureth Sulfate (60% active)	Steol CS-460 (Stepan)	Biodegradable Anionic Surfactant	3-10
Lauryl Polyglucoside (50% active)	Glucopon 600 UP (BASF)	Biodegradable Nonionic Surfactant	6-10
Glycerin		Biodegradable Co-Solvent	1-5
Ethanol			0-3
NaOH or Citric Acid		pH Adjuster	As Needed
NaCl		Viscosity Modifier	As Needed
Protease	Liquinase Evity 3.5 L (Novonesis)	Facilitates the Breakdown of Protein Stains	0.25-0.5
Amylase	Amplify Prime 100 L (Novonesis)	Facilitates the Breakdown of Starch Stains	0.25-0.35
Mannanase	Mannaway 200 L (Novonesis)	Facilitates the Breakdown of Sticky Gums	0.15-0.25
Pectin-Lyase	Xpect 1000 L (Novonesis)	Facilitates the Breakdown of Messy Fruit Stains	0.15-0.25
CaCl ₂ Dihydrate		Enzyme Stabilizer	0.02-0.04
Methylisothiazolinone / Benzisothiazolinone	Acticide MBS (Thor)	Biodegradable Preservative	0.15
Fragrance/Dyes	Adjuvants	Product Aesthetics	

Directions

1. Add water, co-solvents, surfactants, chelants, anti-foamers, and Soltellus 2101L while mixing
2. Add pH adjuster and viscosity modifiers to reach pH 7.5 to 8.5 and desired viscosity
3. If using heated process, let system cool to ambient temperature prior to adding enzymes, stabilizer, preservatives, and adjuvants

Potential Claims

- Safe for sensitive skin
- Free from harmful ingredients
- Free-from polyacrylates and phosphates
- Saves money and the environment with a cold water clean
- Safe for septic tanks
- Keeps bright colors bright and whites white
- Excellent cleaning in hard water

Product Properties

Parameter	Value
Appearance	Colorless to lightly colored formulation
pH (as is)	7.5-8.5
Compatability	Limited compatability with cationic ingredients