lygos.com
info@lygos.com
+1 (510) 356-0555

FORMULATION

Value Multi-chamber Automatic Dishwasher Unit Dose

Overview

- Low cost multi-chamber automatic dishwasher unit dose for a spot-free shine
- Effective at controlling scale in hard water conditions
- Biodegradable and free from environmentally persistent ingredients such as polyacrylates
- Free-from phosphates, phosphonates, and chlorine

Composition

Ingredient	Trade Name	Function	% w/w
Sodium Carbonate		Buffering Agent/Mineral Based Cleaner	20.0
Sodium Citrate		Plant-Based Biodegradable Chelant	12.5
Aminocarboxylates	Trilon M Granules SG (BASF) Dissolvine GL-PD-S (Nouryon)	Biodegradable Chelant	5.0
Sodium Percarbonate		Peroxygen Safe Bleach	7.5
Tetraacetylethylenediamine (TAED), Sodium Salt		Bleach Activator	2.0
Sodium Disilicate	Britesil H20 (PQ Corp)	Metal Corrosion Inhibitor	2.0
Sodium Sulfate	Sodium Sulfate	Process Aid	QS to 100%
Sodium Polyaspartate (92% active)	**Soltellus 2101S (Lygos)**	**Biodegradable Multi-functional Polymer** • **Prevents filming by inhibiting the formation of calcium carbonate scale** • **Mitigates spotting and streaking**	**3-5**
Sodium Polyacrylate Copolymer	Acusol 588G (Dow)	Controls the Formation of Silicate Scale	0-2
Protease	Excellenz P2250 (IFF)	Facilitates the Breakdown of Protein Stains	0.75
Amylase	Excellenz S3300 (IFF)	Facilitates the Breakdown of Starch Stains	0.50
Liquid Chamber			
Low Foam Surfactant	Plurafac SLF-180 (BASF)	Biodegradable Nonionic Surfactant	3.0
Alcohol Ethoxylate		Biodegradable Nonionic Surfactant	1.5
Dipropylene Glycol		Biodegradable Degreasing Co-Solvent	5.0
Water			1.0
Fragrance/Dyes	Adjuvants	Product Aesthetics	

Directions

POWDER CHAMBER

1. Add sodium carbonate, sodium citrate, aminocarboxylate, silicate and sulfate, then mix thoroughly utilizing a twin shell blender or ribbon mixer
2. Once the dry components are uniformly mixed, add the Soltellus 2101S, any optional polyacrylate polymer and the enzymes with continuous agitation
3. If the temperature of the powder remains below 95°F (35°C), add sodium percarbonate and the bleach activator (TAED) until homogeneous with no clumps
4. If the powder exceeds 95°F (35°C) during or after blending in sodium percarbonate, stop blending and undertake standard safety procedures to cool and isolate the powder

LIQUID CHAMBER

1. Add surfactants to a clean vessel with constant mixing
2. Mix in the dipropylene glycol and water (containing the colorant) and continuously agitate to ensure homogeneity

MULTI-CHAMBER UNIT DOSE

1. Add the powder to the powder chamber
2. Add the liquid to the liquid chamber(s)

lygos.com
info@lygos.com
+1 (510) 356-0555

Potential Claims

- Sparkling glasses
- Spotless dishes
- Removes stuck-on food
- Excellent performance in hard water
- Free-from polyacrylates
- Skip the prewashing
- Free-from phosphates, phosphonates, and chlorine
- Safe for septic tanks
- Biodegradable

Product Properties

Parameter	Value
Appearance	Compacted granular powder, clear liquid
pH (1% Solution)	10.5-11.5
Storage Conditions	Store in a dry, low humidity environment at room temperature