

FORMULATION

Premium Automatic Dishwasher Powder

Overview

- Premium automatic dishwasher powder 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 and chlorine

Composition

| Ingredient | Trade Name | Function | % w/w |
|--|---|---|------------|
| Sodium Carbonate | | Buffering Agent/Mineral Based Cleaner | 20.0 |
| Sodium Citrate | | Plant-Based Biodegradable Chelant | 20.0 |
| Aminocarboxylates | Trilon M Granules SG (BASF) Dissolvine GL-PD-S (Nouryon) | Biodegradable Chelant | 15.0 |
| Sodium Percarbonate | | Peroxygen Safe Bleach | 12.0 |
| Tetraacetythylenediamine (TAED), Sodium Salt | | Bleach Activator | 3.5 |
| Sodium Disilicate | Britesil H2O (PQ Corp) | Metal Corrosion Inhibitor | 2.0 |
| Tetrasodium Etidronate | | Scale Inhibitor | 2.0 |
| Low Foam Surfactant | Plurafac SLF-180 (BASF) | Biodegradable Nonionic Surfactant | 2.5 |
| Protease | Excellenz P2250 (IFF) | Facilitates the Breakdown of Protein Stains | 1.0 |
| Amylase | Excellenz S3300 (IFF) | Facilitates the Breakdown of Starch Stains | 0.75 |
| Sodium Polyaspartate (92% active) | Soltellus 2101S (Lygos) | Biodegradable Multi-functional Polymer <ul style="list-style-type: none"> • Prevents filming by inhibiting the formation of calcium carbonate scale • Mitigates spotting and streaking | 3.0 |
| Sodium Polyacrylate Copolymer | Acusol 588G (Dow) | Controls the Formation of Silicate/Phosphonate Scale | 0 - 2 |
| Fragrance/Dyes | Adjuvants | Product Aesthetics | |
| Sodium Sulfate | Sodium Sulfate | Process Aid | QS to 100% |

Directions

1. Add sodium carbonate and sulfate with uniform mixing (twin shell blender or ribbon mixer)
2. Spray the surfactant onto the ingredients above while mixing until no clumps are present
3. Add sodium citrate, aminocarboxylate (where applicable), silicate, and phosphonate (where applicable)
4. If the temperature of the powder remains below 95°F (35°C), add sodium percarbonate and the bleach activator, TAED (when present) until homogeneous with no clumps
5. 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
6. Add the Soltellus 2101S and any optional polyacrylate polymer and continue mixing
7. Slowly blend in the enzymes and any adjuvants (fragrance/dye) and mix thoroughly until the powder is homogeneous and clump free

Potential Claims

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

Product Properties

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

