



# Formulation

|                                 |   |  |
|---------------------------------|---|--|
| Name                            | <b>I&amp;I AUTOMATIC DISHWASH DETERGENT-PHOSPHATE FREE</b>  |  |
| No.                             | 1150  |  |
| Description                     | This is a phosphate-free automatic dishwash detergent designed for use on restaurant and food service equipment.  |  |
| Formulation                     | <b>INGREDIENTS:</b>   | <b><u>% by Weight</u>   <u>Functionality</u></b> |
|                                 | Deionized Water   | 54.95 Diluent                                    |
|                                 | Potassium Hydroxide, 85% active pellet  | 10.00 Builder                                    |
|                                 | Potassium Carbonate   | 8.00 Builder                                     |
|                                 | Gantrez S-95 (ISP), 35% vinyl ether/ maleic acid copolymer  | 5.00 Anti-Redep Agent                            |
|                                 | BIO-TERGE® PAS-8S   | 1.05 Surfactant                                  |
|                                 | AMMONYX® LO   | 0.50 Surfactant                                  |
|                                 | Kasil 6 (PQ Corporation) (Potassium Silicate)   | 10.00 Builder                                    |
|                                 | Sodium Hypochlorite, 6% concentration   | 10.00 Whitening Agent                            |
|                                 | Zinc Chloride   | 0.50 Additive                                    |
|                                 | <b>Total</b>  | <b>100.00</b>                                    |
| Procedure                       | Charge tank with Deionized Water. Add ingredients in the order listed above. Mix until homogenous.  |  |
| Physical Properties             | Appearance at 25°C  | Clear liquid                                     |
|                                 | Viscosity at 25°C, cps  | Water thin                                       |
|                                 | pH, as is concentrate   | 14.0   |
|                                 | Solids, %   | 20.0   |
| Storage/ Stability              | 4 weeks at 50°C   | Reconstitutes upon mixing.                       |
|                                 | 4 weeks at 25°C   | Stable   |
|                                 | 4 weeks at 4°C  | Stable   |
|                                 | Freeze/Thaw, 3 cycles   | Reconstitutes upon heating and mixing.           |
| Instructions for Use            | Add the proper amount to the dishwasher as stated in the commercial dishwasher use instructions.  |  |
|                                 | This formulation performed similarly to commercially available products based on ASTM 3556-85 method for spotting and filming.  |  |
| External Comment                | Marketing Notes: AMMONYX® LO and BIO-TERGE® PAS-8S are approved ingredients on <a href="http://www.cleangredients.org">www.cleangredients.org</a> . For further; information, visit <a href="http://www.cleangredients.org">www.cleangredients.org</a> or Stepan's website. This formulation is designed for use in commercial equipment that operates at temperatures of 140°–180°F (60°C–82°C) and a cycle time of 30–40 seconds. It is not intended for use in home dishwashers. |  |
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Company

For  
Additional  
Assistance

For applications or product handling assistance, call our Technical Service Department at 1-800-745-7837 (U.S.) or 011-334-76-505-100 (Europe).

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**Stepan** 

Stepan Company  
Northfield, Illinois 60093  
Telephone (847) 446-7500

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