TroyGuard™ DM40

**Typical Properties**

<table>
<thead>
<tr>
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<th>CAS No.</th>
<th>Assay &amp; Active Ingredients:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6440-58-0 116-25-6 50-00-0</td>
<td>32.0% (Dimethyl dimethylhydantoin)</td>
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<td>7.5% (Hydroxy-5, 5-Dimethylhydantoin)</td>
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<td>EINECS No.</td>
<td>220-132-1 229-222-1</td>
<td>Physical Form: Liquid</td>
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<td>Recommended Dose</td>
<td>0.2 – 0.5%</td>
<td>pH Range:</td>
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<tr>
<td>Appearance</td>
<td>Water white</td>
<td>3 - 10</td>
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</table>

**Description**

*TroyGuard DM40* protects household, industrial, and institutional (HI&I) waterborne cleaning formulations from degradation and malodors caused by bacteria. *TroyGuard DM40* is non-sensitizing, which is an advantage when the formulation is used in applications with skin contact, such as manual dish detergents and consumer laundry detergents. *TroyGuard DM40* is effective across a pH range of 3 - 10, and at elevated temperatures up to 70°C. The optimum range of pH is 4.5 - 9.5.

**Benefits**

- Rapid control of microbial contamination
- Protects against malodors caused by bacteria
- Long-lasting in-package protection
- Useful in a broad range of formulations, compatible in a wide range of pH and at elevated temperatures
- Retains activity in the presence of nonionic surfactants and most common HI&I formulation ingredients
- Favorable toxicity profile
- Protects single use products as well as products that are repeatedly opened and closed over extended periods of time
- Multiple uses: protects HI&I formulas and raw materials, including surfactants, emulsifiers, and emulsions

**Application**

*TroyGuard DM40* is an effective bactericide useful in manual dish detergents, laundry detergents, fabric softeners, floor polish, room deodorizers, and HI&I raw materials such as surfactants and polymer emulsions.

*TroyGuard DM40* is well-suited in products that are subject to repeated exposure to the environment (containers repeatedly opened and closed), such as laundry detergents and floor wax.

**Formulating Considerations**

*TroyGuard DM40* should be added slowly and with good agitation. To help prevent spoilage, DM40 should be added as early in the production process as possible (once temperatures and pH are within the recommended parameters). Prior to commercialization of a new formulation, it is advisable to confirm that microbiological efficacy and stability are maintained during manufacture, under storage conditions, and use.

Continued on reverse.
Broad Spectrum of Activity

TroyGuard™ DM40 is a highly effective preservative used to control bacteria. When control of fungi or yeast is also required, the addition of TroyGuard IP06, an IPBC (iodopropynyl butylcarbamate) based fungicide, creates a highly advanced preservative system. Formulating hydantoin and IPBC preservatives together creates synergistic biocidal performance, the effectiveness of which is well known. The IPBC/hydantoin combined technology in TroyGuard IP06 is patented by Troy Corporation, inventors of IPBC. TroyGuard IP06 represents the most advanced iteration of this technology for HI&I applications.

Troy Microbiological Management Advantage Program: TMMA

Managing Microorganisms in the Production Environment

TMMA is a comprehensive system approach designed specifically for plant, process, and materials protection requirements, including the principles of good plant hygiene and preventive measures. TMMA services can also include an in-depth plant hygiene survey combined with a custom-developed wet-state preservation regimen. TMMA enables manufacturers to achieve contamination-free systems and plant operations, from raw materials to finished products. TMMA provides solutions that improve product quality and reduce cost-in-use.

For more information on TMMA, please contact your Troy representative.

For further information on Troy’s broad line of products for household, industrial, and institutional applications, please visit www.troycorp.com.