TroyCare™ FP99
Product Code 10118X

Description
TroyCare™ FP99 is an extremely effective and cost efficient antifungal preservative for use in Personal Care, Cosmetic and Toiletry Products. TroyCare™ FP99 is a formaldehyde free white crystalline powder comprised of 99% IPBC (iodopropynyl butylcarbamate). It exhibits broad-spectrum antifungal control, excellent pH and temperature stability and is readily compatible with a wide range of antibacterial chemistries commonly used in personal care applications.

Application/Use
TroyCare™ FP99 provides superior antifungal protection in personal care products, cosmetics and toiletries such as:
- Shampoos
- Hair Conditioners
- Creams
- Lotions
- Sunscreens
- Makeup and powders
- Many other personal care cosmetics and toiletries

Features and Benefits
TroyCare™ FP99 exhibits the following features and benefits in personal care products:
- Formaldehyde Free
- Broad spectrum of activity against fungi, molds, yeast
- Strong safety profile
- Readily biodegradable
- Global regulatory approval for rinse-off and leave-on products, including Japan
- Low concentration of heavy metals
- Compatibility with surfactants, emulsifiers and proteins
- pH stable over the range typically encountered in personal care formulations
- Cost effective

Physical Properties
The following values are typical physical properties, not specifications of TroyCare™ FP99

- Appearance: White crystalline powder
- Specific Gravity, 25°C: 1.54 g/cc
- Heavy Metals (Hg, As, Sb, Cd, Ni, Cu, Cr, Pb, Fe): <10 ppm

Chemical Identification
<table>
<thead>
<tr>
<th>CFTA/INCI Name</th>
<th>CAS Number</th>
<th>EINECS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodopropynyl Butyl carbamate</td>
<td>55406-53-6</td>
<td>259-627-5</td>
</tr>
</tbody>
</table>

Typical Properties
Active Ingredient
3-Iodo-2-propynyl butyl carbamate: ≥ 99.0 %

Inactive Ingredient
- Moisture: ≤ 1.0%
- Total Ingredients: 100%

TroyCare™ FP99 is a 100% active white crystalline powder comprised of 3-Iodo-2-propynyl butyl carbamate. TroyCare™ FP99 is produced to exact specifications and a certificate of analysis can be provided with each order. The above is presented as typical composition and does not constitute specifications.
TroyCare™ FP99 provides superior antimicrobial performance against fungi, molds, and yeast. The high (100%) active concentration makes TroyCare™ FP99 extremely efficient and effective at low dosage concentrations. This performance is illustrated in the following table which shows the minimum inhibitory concentration* in ppm of TroyCare™ FP99, as the amount of active ingredient that inhibited microbial growth in laboratory testing.

<table>
<thead>
<tr>
<th>Strain</th>
<th>TroyCare™ FP99</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ATCC No.</td>
</tr>
<tr>
<td><strong>Fungi</strong></td>
<td></td>
</tr>
<tr>
<td>Alternaria alternata</td>
<td>20084</td>
</tr>
<tr>
<td>Aspergillus brasiliensis</td>
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<td>Aspergillus niger</td>
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<td>Aurobasidium pullulans</td>
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<td>Penicillium pinophilum</td>
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<tr>
<td><strong>Yeast</strong></td>
<td></td>
</tr>
<tr>
<td>Candida albicans</td>
<td>10231</td>
</tr>
<tr>
<td>Saccharomyces cerevisiae</td>
<td>7752</td>
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</tbody>
</table>

*Minimum inhibitory concentration (MIC) is an indication of which microorganisms can be controlled by a preservative and the concentration at which growth of the test organism is inhibited under laboratory conditions. MIC values are expressed in parts per million (ppm) and % as supplied. The lower the MIC value, the greater the product effectiveness. MIC values should only be used for relative comparisons. Practical use concentrations are generally much higher and should be established through field tests and actual use.

### Regulatory Status

#### Europe
- TroyCare™ FP99 may be used up to a maximum IPBC concentration of 0.02% in rinse-off products and up to a maximum concentration of 0.01% in leave-on products.
- For products that remain on the skin after application, if the concentration exceeds 0.02%, the product’s label should include the following warning: Contains Iodine.
- Not to be used for children under three years of age except in bath products, shower gels and shampoos. Products which might be used for children under three years of age need to be labeled “not to be used for children under three years of age”.
- This product is not to be used in oral hygiene products, lip care products and aerosol products.

#### USA
- TroyCare™ FP99 is accepted by the Personal Care Products Council (PCPC – formerly CTFA) for use in both rinse-off and leave-on applications up to 0.1% active IPBC concentration (0.1% as received product).
- This product is not to be used in oral hygiene products, lip care products and aerosol products.

#### Japan
- TroyCare™ FP99 can be used up to a maximum IPBC concentration of 0.02% in rinse-off and leave-on applications. This product is not to be used in aerosol products.

TroyCare™ FP99 has an excellent safety profile and is environmentally responsible.
- The environmental fate of IPBC is quite favorable. IPBC is readily biodegradable and has low potential to bioaccumulate.
The active ingredient in TroyCare™ FP99, 3-Iodo-2-propynyl butyl carbamate (IPBC) has a strong safety profile and has been deemed safe for use in personal care, cosmetic and toiletry products. TroyCare™ FP99 is typically used at levels of 0.01 – 0.1% by weight of the final product. The actual level of treatment to protect any particular system depends on a variety of factors including, but not limited to, the initial level of microbiological contamination, the components of the system, and the likelihood of exposure to repeat microbiological challenges, and the temperature and pH of the system. Because personal care formulations vary with each manufacturer and these variations may impact the preservative, it is recommended that the manufacturer confirm the efficacy and stability of TroyCare™ FP99 in use. Troy Technical Service can assist you in this evaluation. Contact your local Troy Sales Representative for assistance.

### Formulating Considerations

The microbiological performance of TroyCare™ FP99 in most personal care, cosmetic and toiletry products is excellent. The use of proper handling and application techniques as it is incorporated into your formulation will enhance the overall performance of TroyCare™ FP99 and help to optimize your treatment costs. The following guidelines are presented for your consideration. As part of a best practice manufacturing strategy, it is advised to confirm compatibility and stability in the development of new products.

**Addition to the Formulation - TroyCare™ FP99**

It is fully compatible with surfactants, emulsifiers and proteins used in personal care and cosmetic applications. TroyCare™ FP99 should be added to the liquid vehicle at a point where there is good agitation or mixing to achieve homogeneous distribution throughout the formulation.

**TroyCare™ FP99** exhibits excellent temperature and pH stability in the ranges commonly encountered in personal care and cosmetic applications. As part of a best practice evaluation, performance and compatibility should be determined for each specific manufacturing process and formulation.

**TroyCare™ FP99** (IPBC) is fully compatible with many antibacterial chemistries commonly used to protect personal care and cosmetic products from microbiological deterioration. Some example antibacterial chemistries include, but are not limited to, Chloro-methyl isothiazolinone, Benzisothiazolin, DMDM Hydantoin and Triazines.

Do not store TroyCare™ FP99 at temperatures above 112°F (45°C) for extended periods.

### Technical Support

Troy's Technical Service is available to provide assistance in determining the proper level of protection needed and formulation guidance to ensure compatibility in your final product. Contact your local Troy Sales Representative for assistance.

### Regulatory Considerations

Please refer to the Safety Data Sheet (SDS) for Toxicity, Ecotoxicity, Shipping and Labeling Information.

### Handling, Storage, and Disposal

Keep container tightly closed and use only with adequate ventilation. Ensure that all equipment is grounded to prevent static discharge. Do not permit dust to collect on walls, floors, sills, ledges, machinery or equipment. Avoid spills of bulk material. Do not store above 112°F (45°C) for extended periods.
Health and Safety

Please refer to the Safety Data Sheet (SDS)

Chemical Inventories

This product, or its components, are listed on, or are exempt from:

<table>
<thead>
<tr>
<th>Country</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>TSCA</td>
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<tr>
<td>Canada</td>
<td>DSL</td>
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<tr>
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<td>EINECS</td>
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<tr>
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<td>Japan</td>
<td>MITI / ENCS</td>
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<td>China</td>
<td>IECSC</td>
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<td>New Zealand</td>
<td>NZIoC</td>
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Shipping and Packaging

TroyCare™ FP99 is packaged in:

<table>
<thead>
<tr>
<th>Shipping Container</th>
<th>Product Code</th>
<th>Net Weight</th>
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</thead>
<tbody>
<tr>
<td>Pails</td>
<td>101182</td>
<td>55 lbs. / 25 kg.</td>
</tr>
<tr>
<td>Small Drum</td>
<td>101186</td>
<td>100 lbs. / 46 kg.</td>
</tr>
</tbody>
</table>

For further information visit our website: www.troycorp.com

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