

## TROYCARE™ PE91

Product Code: 20162

### Description

TroyCare PE91 is a clear, broad spectrum solution comprised of a synergistic ratio of Phenoxyethanol and Ethylhexylglycerin. Both ingredients are globally approved for use in a wide range of personal care applications. Both mild and cost effective, TroyCare PE91 is the perfect preservative solution for many personal care and cosmetic applications but is especially designed for those formulations that require a greater level of bactericidal protection.

### Application/ Use

TroyCare PE91 contains an optimized blend of ingredients which makes it an ideal broad spectrum preservative solution for a wide variety of personal care products, cosmetics and toiletries, but particularly formulations that are more prone to bacterial contamination.

- Shampoos and conditioners
- Body Wash
- Hand soaps

### Highlights

TroyCare PE91 demonstrates the following features and benefits in personal care products:

- Broad spectrum efficacy, optimized for bactericidal protection
- Globally approved for use in all rinse-off and leave-on applications
- Stable and effective across a wide pH range (3 – 10)
- Excellent temperature stability (to 85°C)
- Strong safety profile
- Easy formulating liquid

### Physical Properties

The following are typical properties of TroyCare PE91. They are not to be considered product specifications.

Appearance: ..... Clear Colorless Solution  
Solubility: ..... 1.5% in Water  
Specific Gravity, 25°C: ..... 1.1  
pH (1% solution) ..... 5.9  
Viscosity, 25°C ..... 20 cps

### Chemical Identification

<u>CFTA/INCI Name</u> <u>Ingredients</u>	<u>CAS Number</u>	<u>EINECS Number</u>
Phenoxyethanol .....	122-99-6 .....	204-589-7
Ethylhexylglycerin .....	70445-33-9.....	408-080-2

**Active  
Ingredients**

**Active Ingredients**

2-Phenoxy-1-ethanol .....	90%
3-(2-ethylhexyloxy)propane-1,2-diol .....	10%

Each batch of TroyCare PE91 is produced to exact specifications and a certificate of analysis is provided with each order. The above is presented as typical composition and does not constitute specifications.

**Formulating  
Considerations**

The microbiological performance of TroyCare PE91 is ideally suited for a wide range of personal care formulations but is optimized for those formulations requiring more bactericidal protection, as is common with many rinse-off formulations. The following guidelines are presented for your consideration. As part of a best practice manufacturing strategy, it is advised to confirm long term efficacy, compatibility and stability of TroyCare PE91 in the final formulation.

**Typical Use levels-** The active ingredients in TroyCare PE91, Phenoxyethanol and Ethylhexylglycerin, both have strong safety profiles and are approved for use in all rinse-off and leave-on personal care formulations. TroyCare PE91 is typically used at levels of 0.5 – 1.0 % by weight of the final product. The presence of ethoxylated surfactants may reduce the effectiveness of TroyCare PE91. 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 of TroyCare PE91 in use. Troy can assist you in these matters.

**Addition to the Formulation -** TroyCare PE91 is a clear liquid product that is easy to handle. Because of its low water solubility it may be combined with emulsifiers and solvents prior to the addition of water. Often, however, TroyCare PE91 can be added directly to the aqueous phase. In hot processing, it is recommended to add TroyCare PE91 during the cooling stage of the process after the temperature is below 85°C. As per standard best manufacturing practice, TroyCare PE91 should be added at a point where there is good agitation or mixing to achieve homogeneous distribution throughout the formulation.

**Effect of Temperature –** In a hot process, it is recommended that TroyCare PE91 be added during the cooling stage after the temperature is below 85°C. While TroyCare PE91 is stable and efficacious up to 85°C, we recommend storing indoors at temperatures between 0-35°C.

**pH Stability -** TroyCare PE91 is fully stable and provides superior preservation over the wide pH range of 3-10 which covers most personal care formulations. This allows for considerable flexibility in processing and formulating the end product.

**Regulatory Status**

TroyCare PE91 is widely approved for use in all rinse-off and leave-on applications including products for babies and young children.

**USA** - Maximum concentration of Phenoxyethanol in all applications not to exceed 5%  
**ROW** - Maximum concentration of Phenoxyethanol in all applications not to exceed 1%

**Chemical Inventories**

Please refer to the Safety Data Sheet (SDS).

**Handling, Storage, Health and Safety**

Please refer to the Safety Data Sheet (SDS).  
Store indoors in original packaging 0 - 35°C  
Shelf Life: 2 years

**Shipping and Packaging**

TroyCare PE91 is packaged in:

Shipping Container	Net Weight
Pail (US)	45 lb / 20 kg
Pail (Thailand)	66 lb / 30 kg
Drum	441 lb / 200 kg

## Technical Support

Troy offers a broad array of technical support services to our customers free of charge. Our world class microbiology, formulation and analytical laboratories are ready to help you identify and implement the optimum preservative solution for your specific personal care formulation needs.

**Microbiology** – Troy offers preservative challenge testing for all types of personal care formulations, including liquids, creams, wipes, solids and more. We can isolate and identify specific micro-organisms that are challenging your system. In addition, Troy routinely performs minimum inhibitory concentration (MIC) testing, preservation (longevity) testing, sterility checks and more.

**TMMA** — Troy offers a technical consultative service called TMMA (Troy Microbiological Management Advantage Program). TMMA is a comprehensive system approach designed specifically for plant, process, and materials protection requirements, including the principles of good plant hygiene and preventative measures. TMMA services can also include an in-depth plant hygiene survey combined with a custom-developed preservation regimen. The program thereby enables personal care formulators to achieve contamination-free systems and plant operations, from raw materials to finished products. The intention of TMMA is to provide solutions that lead to reduced costs, improved product quality and risk minimization.

**Custom Solutions** – Troy can work with key customers to develop truly unique preservative blends that deliver convenience and value, optimized to the customer's specific preservation needs.

Please contact Troy Technical Service or your local Troy Sales Representative for further information regarding any of the support services described above.

For further information visit our website:  
[www.troycorp.com](http://www.troycorp.com) or call...

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