

NEW FOR 2006

# Maguard™ PLUS P

## Globally Approved Broad Spectrum Liquid Blend of Paraben Esters in Phenoxyethanol Preservative for Personal Care Products

### Overview

**MAGUARD PLUS P** is characterized as a globally approved, liquid blend of paraben esters in phenoxyethanol. MAGUARD Plus P is a versatile and cost effective preservative that provides a high level of broad spectrum antimicrobial activity. Functional at low concentration, Plus P is compatible with wide range of raw materials and stable over wide pH and temperature ranges.

Paraben blended preservatives have a strong safety history based on comprehensive toxicology results and significant use experience. Toxicology studies performed over the years rate this paraben blended system as one of the safest preservatives available today. Maguard Plus P has been tested extensively to meet personal care regulatory standards in the key global regions including Japan.

Soluble in water based surfactants and oil phase ingredients in emulsions, use MAGUARD Plus P to preserve **Shampoos, Conditioners, Personal Scrubbing and Cleansing Wipes, Creams and Lotions, Sun Screens, Makeup and Powders** with confidence.

**INCI Name: Phenoxyethanol, CAS#: 122-99-6, EINECS# 204-589-7**  
**Methylparaben, CAS#: 99-76-3, EINECS# 202-785-7**  
**Ethylparaben, CAS#: 102-47-8, EINECS# 204-399-4**  
**Butylparaben, CAS#: 94-26-8, EINECS# 202-318-7**  
**Propylparaben, CAS#: 94-13-3, EINECS# 202-307-7**  
**Isobutylparaben, CAS#: 4247-02-3, EINECS# 224-208-8**

### Typical Properties

Physical form ..... Colorless Liquid  
Odor ..... Slight  
Specific Gravity..... 1.124  
Density ..... approx. 1.12g/ml  
Solubility @25°C:  
Water..... 0.5 wt%  
Ethanol ..... miscible  
Ethanol/Water – (50/50)..... >95 wt%  
Propylene glycol .....miscible  
Triethanolamine lauryl sulphate 40%..... 35 wt%  
Storage ..... Store between 0°C(32°F) and 32°C(90°F)

### Handling Information

Refer to the Material Safety Data Sheet (MSDS) available from Mason Chemical Company for information on the safe use, handling and disposal of this product.

*Maguard is a Trademark of Mason Chemical Company.*

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## EFFICACY DATA – MINIMUM INHIBITORY CONCENTRATION

Microorganism	% Maguard Plus P
Candida albicans	0.15
Saccharomyces cerevisiae	0.10
Aspergillus niger	0.12
Pseudomonas aeruginosa	0.23
Escherichia coli	0.20
Staphylococcus aureus	0.20

## EFFICACY DATA – PRESERVATIVE CHALLENGE TEST

Cationic Conditioner Sample w/addition of Preservative	Challenge Data – Colony Forming Units per Gram (cfu/g) Mixed Fungi ( <i>A. niger</i> & <i>C. albicans</i> )					
	Day 0	Day 2	Day 7	Day 14	Day 21	Day 28
0.3% Maguard Plus P	1-3x10 <sup>5</sup>	<10	<10	<10	<10	<10
Unpreserved Conditioner	1-3x10 <sup>5</sup>	1-3x10 <sup>5</sup>	1-3x10 <sup>5</sup>	1-3x10 <sup>5</sup>	1-3x10 <sup>5</sup>	1-3x10 <sup>5</sup>

Cationic Conditioner Sample w/addition of Preservative	Challenge Data – Colony Forming Units per Gram (cfu/g) Mixed Bacteria ( <i>P. aeruginosa</i> , <i>E. coli</i> and <i>S. aureus</i> )					
	Day 0	Day 2	Day 7	Day 14	Day 21	Day 28
0.3% Maguard Plus P	1-3x10 <sup>6</sup>	<10	<10	<10	<10	<10
Unpreserved Conditioner	1-3x10 <sup>6</sup>	1-3x10 <sup>6</sup>	1-3x10 <sup>6</sup>	1-3x10 <sup>6</sup>	1-3x10 <sup>6</sup>	1-3x10 <sup>6</sup>

## TYPICAL USE LEVELS

Typical use level range is 0.25% to 1.0%.

Products with high proteins and/or non-ionic surfactant may require levels 0.5% to 1.0%.

## pH Range

Typical pH range is 3 – 8.

## REGULATORY INFORMATION

### North America

All components are permitted for use as a preservative.

### Europe

All components are included in EC Cosmetic Directive Annex VI list of permitted preservatives.

### Japan

All components are permitted for use as a preservative.

Refer to Material Safety Data Sheet for Handling and Safety Information and Toxicology Summary.