



CLARIANT 

Personal Care Preservatives  
**ENVISIONING A SAFE AND  
EFFECTIVE PATH**

what is precious to you?

# Beauty is THE PROOF OF AN INNOVATIVE PRESERVATION TECHNOLOGY

At Clariant, we're constantly researching the optimal way to preserve the most beautiful care. By leveraging our long history with Nipa® preservative products, we continue to build on over 70 years of Personal Care expertise to develop the most innovative solutions in preservation technology.

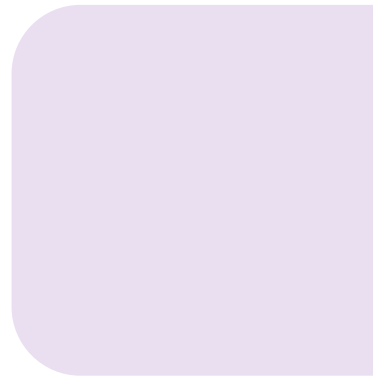
As a market leader in cosmetic preservation, we're proud to offer you one of the broadest portfolios to fulfill your needs. Envisioning beauty – and providing you with the safe path.

Two key pillars shape our portfolio:



**Nipaguard™ Zero** blends are new parabens alternatives that provide comparable cost and performance to parabens.

**Velsan® SC** (Sorbitan Caprylate) is the basis for these blends. The novel, highly effective synergistic booster has been developed and patented by Clariant to reduce the amount of preservatives in cosmetics. One of its main raw materials, called Sorbitol, is produced from the sugar of corn, while the other, Caprylic Acid, is derived from palm kernel or coconut oil.



**Nipaguard™ PO** blends are highly effective blends for Personal Care formulations that deliver broad spectrum efficacy over a wide pH range.

More than 30 years of experience with **Octopirox®** (Piroctone Olamine) have been used to develop these blends. Octopirox® is a highly reliable and well-known preservative and anti-dandruff agent.

## Tested, approved, **AND SUPPORTED.**

Our brands like **Phenonip®**, **Nipagin**, and **Nipaguard™** are well-known for their performance and reliability. To prove their safe and effective preservation results, all our products are extensively tested.

To give you confidence in preservation, global microbiology laboratories also provide you with application support and advice on regulatory requirements in your target markets.

### **Our expertise is based on:**

- Challenge tests according to different market requirements
- Ability to perform challenge tests according to European Pharmacopoeia (Ph. Eur.) for leave-on and rinse-off products
- Minimum Inhibitory Concentration (MIC) tests
- Total viable count measurement via membrane filtration and plate count methods according to Ph. Eur., USP, and ISO 11930
- Identification of bacteria and molds
- Disinfection tests according to ISO 1275/1276 and 1040
- Advice and experience in Plant Hygiene Consultation



# Envisioning beauty IN A WIDE RANGE OF SOLUTIONS



**CLARIANT  
PERSONAL CARE**  
Product portfolio

Broad line of  
actives, blends,  
and synergists

Safe and  
effective

## PRESERVATIVES

Sorbitan  
Caprylate

**VELSAN® SC**

100% renewable  
preservative booster,  
COSMOS approved

**NIPAGUARD™  
ZERO**

Blends based  
on Velsan® SC,  
comparable  
performance and costs  
to parabens

Piroctone  
Olamine

**OCTOPIROX®**

Single active;  
excellent compatibility,  
even with cationic  
surfactants

**NIPAGUARD™  
PO**

Highly efficient blends;  
formula and headspace  
preservation in one

Ethylhexyl-  
glycerin

**VELSAN® EHG**

Deodorant active,  
emollient, and  
preservative  
booster in one

**NIPAGUARD™  
EHP**

Blend based on Velsan®  
EHG, comparable  
performance and costs  
to parabens

Anisic Acid

**VELSAN® AS**

Multifunctional,  
suitable also for natural  
formulations

Silver  
Chloride

**JM ACTICARE™**

Patented silver  
chloride/titanium  
dioxide composite;  
stable over a wide  
pH range and  
high temperature;  
broad spectrum  
antimicrobial  
efficacy, release of  
active on demand

Our portfolio provides you with a range of solutions to meet most cosmetic preservation needs – from innovative specialty blends to highly efficient traditional chemistries. All of our products are designed to be safe and effective.

## Parabens

**NIPAGIN®**

**NIPASOL™**

**NIPABUTYL**

Single actives with broad spectrum of activity

**NIPASTAT™**

**PHENONIP®**

**NIPASEPT™**

Liquid and powder blends

## Formaldehyde Donors

**NIPAGUARD™  
DMDMH**

Broad spectrum single actives and blends; provide high water solubility and particularly good activity against bacteria

**NIPAGUARD™  
DMDMH Plus**

## Halogenated Compounds

**NIPAGUARD™  
CG/CMB**

Liquid blends of MIT/CMIT; highly water soluble

## Alcohols

**PHENOXETOL™**

Solubility at typical use concentrations; low volatility, broad spectrum activity



# Choose beauty, FLEXIBLY

We focus on developing innovative preservation solutions to improve performance and efficiency while meeting new regulatory requirements and your needs for safety and sustainability.

To meet current and future market needs, we offer you a range of classic preservative products as well as innovative specialties.



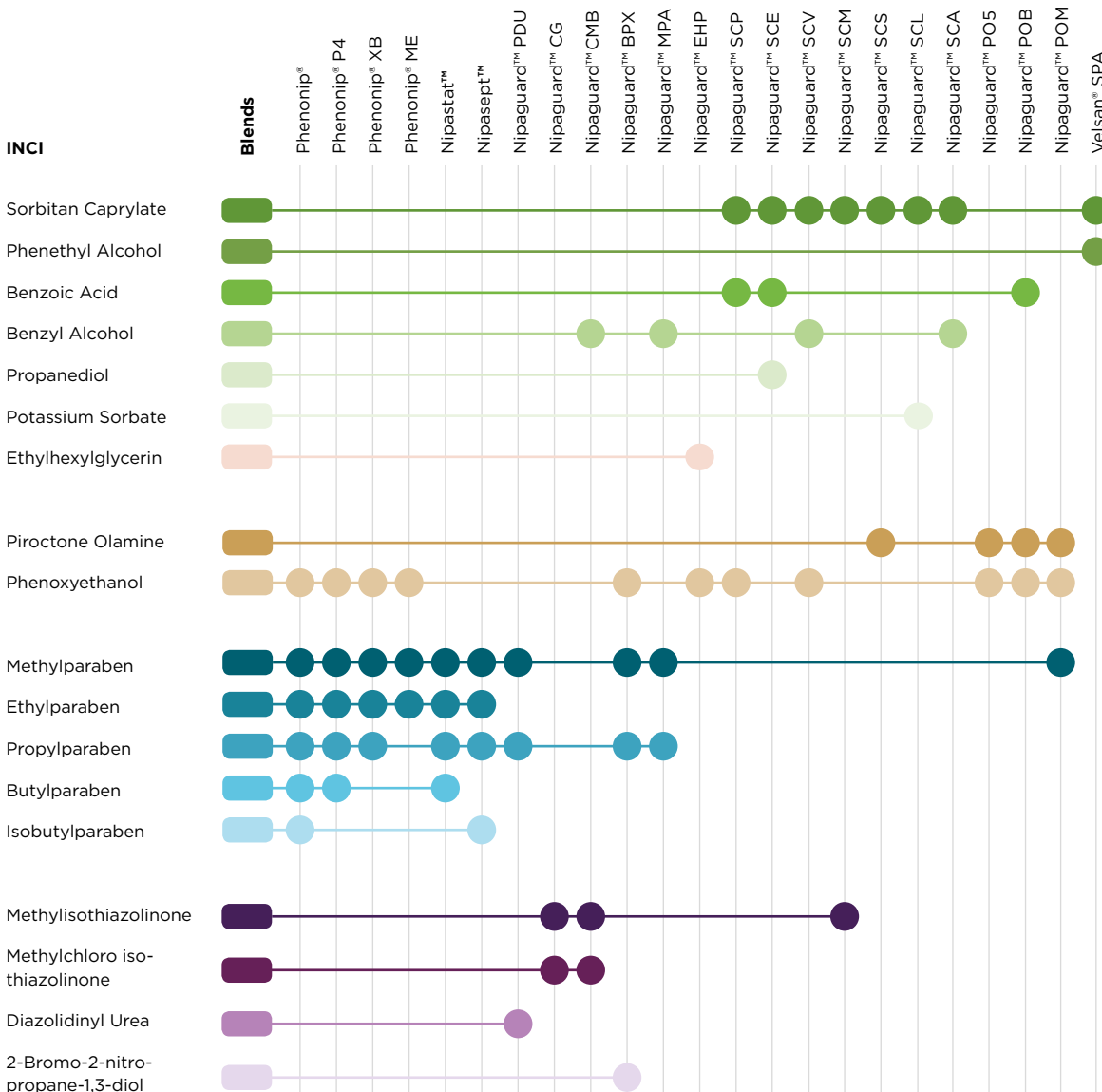
In addition to **single actives** and **synergistic boosters**, we offer a broad variety of proprietary **blends**. They combine single actives into preservative systems to meet nearly every formulation need. All blends are carefully developed, tested, and optimized in concentration and efficacy. Through this, we're able to achieve excellent preservation results, even with the lowest possible concentrations.

**WE PROVIDE PRESERVATIVES FOR A RANGE OF COSMETIC APPLICATIONS:**

- Leave-on
- Rinse-off
- Including wet wipes and difficult to preserve formulations

## BLEND SELECTION CHART










The following chart lists the composition of each blend to enable you to choose the one that's right for you.



## VELSAN® SC

COSMOS approved, 100% renewable, natural derived preservative booster. Preserve more with less.




























A synergistic efficacy booster for preservative systems, which is not listed as a preservative\* and can be used globally and as a multifunctional co-emulsifying agent for cosmetic formulations.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU (%)	US (%)	JP (%)	microbiological efficacy
<b>Single Active</b>			  							G- G+ Y M
Velsan® SC (COSMOS approved)	Sorbitan Caprylate	Liquid	  	4.0-8.0	<80°C	0.5-2.0	NA	NA	NA	O ++ + +
Velsan® SPA	Phenethyl Alcohol, Sorbitan Caprylate		  	4.0-8.0	<80°C	1.0-2.0	NA	NA	NA	++ ++ ++ ++




## NIPAGUARD™ ZERO BLENDS

0% parabens, 100% performance

Preservative blends based on 100% renewable Velsan® synergistic booster to efficiently protect your formulation. Nipaguard™ Zero blends represent a trusted alternative to parabens, halogenated preservatives, and formaldehyde donors and provide comparable cost and performance. They enable an efficient use of consumer accepted preservatives at low concentrations, broad spectrum preservation, and are more effective.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU# (%)	US (%)	JP# (%)	microbiological efficacy
<b>Blends-Liquid</b>			  							G- G+ Y M
Nipaguard™ SCE (COSMOS approved)	Sorbitan Caprylate, Propanediol, Benzoic Acid	Liquid	  	4.0-6.5	<80°C	0.5-1.5	3.1	no restrictions	1.3	++ ++ ++ ++
Nipaguard™ SCM	Sorbitan Caprylate, Propylene Glycol, Methylisothiazolinone	Liquid	  	4.5-8.0	<40°C	0.5-1.5	1.8	no restrictions	1.8	++ ++ ++ ++
Nipaguard™ SCP	Phenoxyethanol, Sorbitan Caprylate	Liquid	  	4.5-8.5	<80°C	0.5-1.0	1.4	considered safe	1.4	++ ++ ++ ++
Nipaguard™ SCV	Sorbitan Caprylate, Phenoxyethanol, Benzyl Alcohol, Benzoic Acid	Liquid	  	4.0-8.0	<40°C	0.5-1.0	3.3	considered safe	1.5	++ ++ ++ ++
Nipaguard™ EHP	Phenoxyethanol, Ethylhexylglycerin	Liquid	  	3.5-8.0	<80°C	0.5-1.0	1.1	considered safe	1.1	++ ++ ++ ++
Nipaguard™ SCS	Sorbitan Caprylate, Capryloyl/Caproyl Methyl Glucamide, Trilaureth-4 Phosphate, Piroctone Olamine	Liquid	  	4.5-8.0	<40°C	0.75-1.0	5.0*	no restrictions	0.5**	++ ++ ++ ++
Nipaguard™ SCL (COSMOS approved)	Sorbitan Caprylate, Capryloyl/Caproyl Methyl Glucamide, Potassium Sorbate	Liquid	  	4.0-6.5	<80°C	0.5-1.5	4.0	no restrictions	0.5	++ ++ ++ ++
Nipaguard™ SCA (COSMOS approved)	Sorbitan Caprylate, Benzyl Alcohol	Liquid	  	4.5-8.0	<80°C	1.0-2.5	2.5	no restrictions	no restrictions	++ ++ ++ ++



\* Maximum allowed use concentration for blends are calculated according to requirements of the listed ingredient at the highest concentration in the blend. The regulations of China, ASEAN, and Brazil state the same maximum allowed use levels as the EU in most cases. Please check local regulations as needed. Per Cosmetic Regulation (EC) 1223/2009 Annex V.

 : Leave-on /  : Rinse-off /  : Wet wipes  
G-: Gram- Bacteria / G+: Gram+ Bacteria / Y: Yeast / M: Mold  
++: good / +: medium / O: none  
NA: Not Applicable

## OCTOPIROX®

A reliable well-known source.

Piroctone Olamine is known under the trade name Octopirox® as a highly effective preservative and anti-dandruff agent. It has been successfully used for over 30 years for its good compatibility, its antimicrobial functionality, and its long shelf life. It is generally considered safe, non-irritating, and non-allergenic.





Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU (%)	US (%)	JP (%)	microbiological efficacy
<b>Single Active</b>										G- G+ Y M
Octopirox®	Piroctone Olamine	Powder		4.0-10.0	<80°C	0.05-0.1	1.0* 0.5**	no restrictions	0.05	++ ++ ++ ++

\* Rinse-off \*\*All others

## NIPAGUARD™ PO BLENDS

Broad spectrum efficacy over a wide pH range.




Nipaguard™ PO blends deliver superior performance compared to other market standards. Derived from Piroctone Olamine, these highly efficient blends provide you with an all-in-one preservation – from formula to headspace. They are easy to handle and process.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU# (%)	US (%)	JP# (%)	microbiological efficacy
<b>Blends-Liquid</b>										G- G+ Y M
Nipaguard™ PO5	Phenoxyethanol, Piroctone Olamine	Liquid		4.0-10.0	<80°C	0.3-1.0	1.0	1.0	1.0	++ ++ ++ ++
Nipaguard™ POB	Phenoxyethanol, Benzoic Acid, Piroctone Olamine	Liquid		4.0-6.0	<80°C	0.3-1.0	1.2	1.2	1.0	++ ++ ++ ++
Nipaguard™ POM	Phenoxyethanol, Methyl-paraben, Piroctone Olamine	Liquid		4.0-8.0	<80°C	0.3-1.0	1.2	1.2	1.0	++ ++ ++ ++




## JM ACTICARE™

Patented silver preservation with broad spectrum antimicrobial efficacy.

JM Acticare™'s activity derives from an inorganic composite that allows the slow release of antimicrobial silver ions on demand. It is highly stable over a wide pH range and effective at temperatures up to 100°C.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU# (%)	US (%)	JP# (%)	microbiological efficacy
<b>Blends</b>										G- G+ Y M
JM Acticare™	Silver Chloride, Titanium Dioxide, Diethylhexyl Sodium, Sulfosuccinate, Propylene Glycol	Liquid		3.0-12.0	100°C	0.05-0.18	0.19	listed TSCA	not permitted	++ ++ ++ ++
JM Acticare™ P	Silver Chloride, Titanium Dioxide	Powder		3.0-12.0	100°C	0.05-0.18	0.19	listed TSCA	not permitted	++ ++ ++ ++

\* Not permitted for children under the age of three.

 : Leave-on /  : Rinse-off /  : Wet wipes  
G-: Gram- Bacteria / G+: Gram+ Bacteria / Y: Yeast / M: Mold  
++: good / +: medium / O: none  
NA: Not Applicable



## VELSAN® EHG

Multifunctional ingredient usable as deodorant active, emollient, and preservative booster.

Velsan® EHG can be used in a broad range of cosmetic applications from pH 2–12. It is a skin care additive acting as an emollient and as an active in deodorants. Its boosting effect enables lower concentrations of the preservatives in cosmetic formulations.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU (%)	US (%)	JP (%)	microbiological efficacy
<b>Single Active</b>										G- G+ Y M
Velsan® EHG	Ethylhexylglycerin	Liquid		2.0–12.0	<80°C	0.3–1.0	NA	NA	NA	+ ++ + +

## VELSAN® AS

Multifunctional ingredient suitable for natural formulations.

p-Anisic acid is an organic acid found in nature that has antiseptic properties and therefore provides a microbial effect. It is a known fragrance ingredient that is not listed as a preservative, yet offers anti-microbial efficacy. It shows excellent performance in rinse-off and leave-on cosmetics at pH < 5.5. It is readily biodegradable.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU# (%)	US (%)	JP# (%)	microbiological efficacy
<b>Single Active</b>										G- G+ Y M
Velsan® AS	p-Anisic Acid/Perfume	Powder		<6.0	<80°C	0.2–0.4	NA	NA	NA	+ + + +

## VELSAN® GU

Skin lightening active combining moisturization and antimicrobial properties.

Velsan® GU combines the moisturization from glycerin with the antimicrobial properties of undecylenic acid. It offers an excellent feel and protection against gram-positive and gram-negative bacteria, fungi, yeast, and mold. Unlike other organic salts, it shows no decrease in activity as the pH is varied from acidic to basic conditions.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU (%)	US (%)	JP (%)	microbiological efficacy
<b>Single Active</b>										G- G+ Y M
Velsan® GU	Undecylenic Glycerides	Liquid		4.0–9.0	<80°C	0.2–1.0	NA	NA	NA	0 ++ ++ ++





## PARABENS

### Quality and effectiveness

Clariant offers a wide range of parabens for all Personal Care applications. Their well-known solubility, their broad spectrum of activity against bacteria and fungi, as well as their effectiveness at low concentrations still make them the most widely used preservatives in Personal Care products. Single actives Nipagin® and Nipasol™ are also available as sodium salts to enable introduction without heating or predissolving in solvents.



Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU# (%)	US (%)	JP# (%)	microbiological efficacy
<b>Single Actives</b>										
										G- G+ Y M
Nipagin® M (also sodium salt and 200 Mesh)	Methylparaben	Powder	● ● ●	4.0-8.0	<80°C	0.1-0.3	0.4	0.4	1.0	0 + ++ ++
Nipagin® A (also sodium salt and 200 Mesh)	Ethylparaben	Powder	● ● ●	4.0-8.0	<80°C	0.1-0.3	0.4	0.4	1.0	0 + ++ ++
Nipasol™ M (also sodium salt and 200 Mesh)	Propylparaben	Powder	● ● ●	4.0-8.0	<80°C	0.1-0.3	0.1*	0.4	1.0	0 + ++ ++
Nipabutyl	Butylparaben	Powder	● ● ●	4.0-8.0	<80°C	0.1-0.3	0.1*	0.4	1.0	0 + ++ ++
<b>Blends</b>										
Nipastat™	Methylparaben, Ethylparaben, Propylparaben, Butylparaben, Isobutylparaben	Powder	● ● ●	4.0-8.0	<80°C	0.05-0.3	not permitted	considered safe	1.0	0 + ++ ++
Nipasept™ (also sodium salt)	Methylparaben, Ethylparaben, Propylparaben	Powder	● ● ●	4.0-8.0	<80°C	0.05-0.3	0.8*	considered safe	1.0	0 + ++ ++
Nipaguard™ MPA	Benzyl Alcohol, Methylparaben, Propylparaben	Liquid	● ● ●	4.5-8.0	40°C	0.3-0.8	1.3*	6.5	not permitted	++ ++ ++ ++
Phenonip®	Phenoxyethanol, Methylparaben, Ethylparaben, Propylparaben, Butylparaben, Isobutylparaben	Liquid	● ● ●	3.0-8.0	<80°C	0.25-1.0	not permitted	considered safe	1.3	++ ++ ++ ++
Phenonip® P4	Phenoxyethanol, Methylparaben, Ethylparaben, Propylparaben, Butylparaben	Liquid	● ● ●	3.0-8.0	<80°C	0.25-1.0	1.3*	considered safe	1.3	++ ++ ++ ++
Phenonip® XB	Phenoxyethanol, Methylparaben, Ethylparaben, Propylparaben	Liquid	● ● ●	3.0-8.0	<80°C	0.25-1.0	1.4*	considered safe	1.4	++ ++ ++ ++
Phenonip® ME	Phenoxyethanol, Methylparaben, Ethylparaben	Liquid	● ● ●	3.0-8.0	<80°C	0.25-1.2	1.3	considered safe	1.3	++ ++ ++ ++

\* Not permitted for children nappy area leave-on.

## FORMALDEHYDE DONORS

### Highly effective at very low concentrations







The following broad spectrum formaldehyde donor products provide high water solubility and particularly good activity against bacteria.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU (%)	US (%)	JP (%)	microbiological efficacy
<b>Single Active</b>										
Nipaguard™ DMDMH	DMDM Hydantoin	Liquid		3.0-8.0	<60°C	0.15-0.4	1.1	considered safe	0.5	++ ++ + +
Nipaguard™ DMDMH Plus	DMDM Hydantoin	Liquid		3.0-8.0	<60°C	0.15-0.4	0.85	considered safe	0.3	++ ++ + 0

## HALOGENATED COMPOUNDS

### Broad spectrum blends

Clariant's offerings are optimized blends that deliver broad spectrum efficacy with the lowest possible concentrations of listed preservatives.

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU# (%)	US (%)	JP# (%)	microbiological efficacy
<b>Blends-Liquid</b>										
Nipaguard™ CG	Methylchloroisothiazolinone, Methylisothiazolinone	Liquid		<9.0	<50°C	0.05-0.1	0.1*	0.1	0.1*	++ ++ ++ ++
Nipaguard™ CMB	Triethylene Glycol, Benzyl Alcohol, Propylene Glycol, Methylchloroisothiazolinone, Methylisothiazolinone	Liquid		<8.0	<40°C	0.03-0.15	0.2*	0.2	not permitted	++ ++ ++ ++
Nipaguard™ BPX	Phenoxyethanol, Methylparaben, Propylparaben, 2-Bromo-2-nitropropane-1,3-diol	Liquid		4.5-8.5	<40°C	0.3-0.7	1.3**	2.0	not permitted	++ ++ ++ ++
Nipaguard™ CP	Chlorphenesin	Solid		5.0-7.0	<80°C	0.1-0.3	0.3	con. safe	0.3**	++ ++ ++ ++
Nipahex G	Chlorhexidine digluconate	Liquid		5.5-7.0	<70°C	0.05-0.3	0.3	0.16	0.05	++ ++ ++ ++
Nipahex DHC	Chlorhexidine dihydrochloride	Powder		5.5-7.0	<70°C	0.05-0.3	0.3	0.16	0.05	++ ++ ++ ++


\*Rinse-off only

\*\*Not permitted for children nappy area leave-on.

## ALCOHOLS

### Versatile preservative over a wide range of applications

Phenoxetol™ has particularly good performance on gram-negative and gram-positive bacteria, but also against yeast and molds. It is typically non-irritating to the skin at allowed use concentrations, has low volatility at ambient temperatures and is soluble at typical use concentrations (approx 2.4% soluble in water).

Product	INCI	Form	Application	pH range	max. temp	rec. use level (%)	EU (%)	US (%)	JP (%)	microbiological efficacy
<b>Single Active</b>										
Phenoxetol™	2-Phenoxyethanol	Liquid		3.5-8.0	<80°C	0.5-1.0	1.0	considered safe	1.0	++ + 0 0

: Leave-on / : Rinse-off / : Wet wipes

G-: Gram- Bacteria / G+: Gram+ Bacteria / Y: Yeast / M: Mold

++: good / +: medium / 0: none

NA: Not Applicable

# Envisioning beauty, **ALL AROUND THE WORLD**

## **CLARIANT INTERNATIONAL LTD BU INDUSTRIAL & CONSUMER SPECIALTIES**

Rothausstrasse 61,  
CH-4132 Muttenz  
Switzerland

[clariant.com/personalcare](http://clariant.com/personalcare)

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