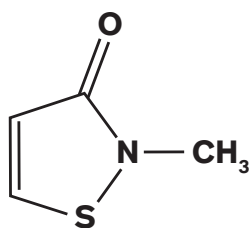


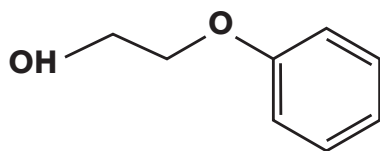
General

A broad spectrum preservative to protect against microbial contamination and facilitate product performance in rinse-off hair care and rinse-off skin care products. Neolone® PE Preservative is a blend of Methylisothiazolinone and Phenoxyethanol preservatives.

Structure



Methylisothiazolinone
C₄H₅NOS
CAS No.: 2682-20-4



Phenoxyethanol
C₈H₁₀O₂
CAS No.: 122-99-6

Formulation/stability

Neolone® PE Preservative active ingredients are formulated with propylene glycol (CAS No.: 57-55-6). This stable blend has a three-year product shelf life.

Physical properties

The following are typical properties of Neolone® PE Preservative; **they are not to be considered product specifications.**

Appearance	Clear, colorless to pale yellow liquid
Density	1.10 g/mL (20°C)
Flash point (closed cup)	121°C (solvent)
Solubility	Miscible in water, lower alcohols and glycols; low solubility in hydrocarbons

Applications

- Shampoos
- Conditioners
- Body wash/shower gels
- Liquid hand soaps
- Cosmetic raw material ingredients such as surfactants, rheology modifiers, silicone emulsions, opacifiers, etc.

We supply more than a preservative

The recommended use level of Neolone® PE Preservative is 0.29% to 0.57% w/w of Neolone® PE Preservative as supplied.

Neolone® PE Preservative should be added as the last ingredient and at the lowest temperature ($\leq 45^{\circ}\text{C}$) possible. Neolone® PE Preservative may tolerate exposure to higher temperatures (70°C), however the stability of the active ingredients should be confirmed. Since the process conditions and components of personal care formulations vary considerably and may have impact on the efficacy of preservatives, we urge each manufacturer to verify the efficacy and stability of Neolone® PE Preservative in use.

Features and benefits

- Global approvals for use as a preservative in rinse-off personal care formulations*
- Excellent activity versus gram-positive and gram-negative bacteria, yeasts, and molds
- Compatible with a wide range of personal care products and ingredients
- Excellent stability in use over a wide pH (2 to 10) and temperature range

* Customers should verify the appropriate legislation in any given jurisdiction.

- Pre-blended combination into a single formulation for ease of use and simplifying manufacturing operations
- Does not release formaldehyde

Neolone® PE Preservative performance in rinse-off personal care products

Neolone® PE Preservative microbiological performance was assessed with a 3-cycle challenge test which uses separate pools of bacteria and fungi. LANXESS's method is a modification of the Personal Care Product Council (PCPC) preservative efficacy test.

Table 1 - Bacteria

Product	Neolone® PE Preservative (% Product)	Bacteria – Estimated CFU/g after day:				
		2	7	14	21	28
Shampoo, pH 5.2	0 (Unpreserved)	>10 ³	>10 ³	>10 ³	>10 ³	>10 ³
	0.57	10 ³	10 ³	<10	<10	<10
Body Wash, pH 5.7	0 (Unpreserved)	>10 ³	>10 ³	>10 ³	>10 ³	>10 ³
	0.30	10 ³	<10	<10	<10	<10
	0.45	10 ³	<10	<10	<10	<10
	0.57	10 ³	<10	<10	<10	<10
		2	7	14	21	28
Hair Conditioner Polymer, pH 10	0 (Unpreserved)	nd	<10	<10	<10	<10
	0.48	nd	<10	<10	<10	<10

B. cepacia (ATCC 25416), *E. coli* 8739, *K. pneumoniae* (ATCC 10031), *P. aeruginosa* (ATCC 15442), *P. aeruginosa* (ATCC 9027), *P. putida* (ATCC 49128), *S. aureus* (ATCC 6538), *S. epidermidis* (ATCC 12228) inoculated at 0, 7 and 14 days

Table 2 - Fungi

Product	Neolone® PE Preservative (% Product)	Fungi – Estimated CFU/g after day:				
		2	7	14	21	28
Body Wash, pH 5.7	0 (Unpreserved)	>10 ³	>10 ³	>10 ³	>10 ³	>10 ³
	0.3	>10 ³	<10	10	<10	<10
	0.45	10	<10	<10	<10	<10
	0.57	<10	<10	<10	<10	<10
Shampoo, pH 5.2	0 (Unpreserved)	>10 ³	>10 ³	>10 ³	>10 ³	>10 ³
	0.57	10 ²	<10	<10	<10	<10
		2	7	14	21	28
Hair Conditioner Polymer, pH 10	0 (Unpreserved)	nd	>10 ³	>10 ³	>10 ³	>10 ³
	0.48	nd	<10	<10	<10	<10

A. brasiliensis (ATCC 16404), *C. albicans* (ATCC 10231) inoculated at 0, 7 and 14 days

Analytical procedures

High Performance Liquid Chromatography (HPLC) analysis is the preferred method for determining use levels of Methylisothiazolinone and Phenoxyethanol. This method can be used to determine Methylisothiazolinone and Phenoxyethanol levels in many personal care products. If you require detailed information on HPLC methods, please contact your local LANXESS representative.

Handling, Storage & Disposal

Store products in tightly closed original containers at temperatures recommended on the product label.

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your LANXESS representative for more information.

Health and Safety Information:

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS products mentioned in this publication. For materials mentioned which are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets, product information and product labels. Consult your LANXESS representative in Germany or contact the Regulatory Affairs and Product Safety Department of LANXESS Deutschland GmbH, or, for business in the USA, the LANXESS Corporation Product Safety and Regulatory Affairs Department in Pittsburgh, PA, USA.

Regulatory Compliance Information:

Some of the end uses of the products described in this publication must comply with applicable regulations, such as the FDA, BfR, NSF, USDA, and CPSC. If you have any questions on the regulatory status of these products, for business in the USA, contact the LANXESS Corporation Regulatory Affairs and Product Safety Department in Pittsburgh, PA, USA or for business outside US the Regulatory Affairs and Product Safety Department of LANXESS Deutschland GmbH in Germany.

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Note: The information contained in this publication is current as of February 2024. Please contact LANXESS Deutschland GmbH to determine if this publication has been revised.

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