

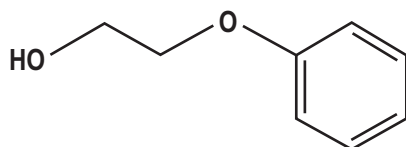


## NEOLONE™ PE

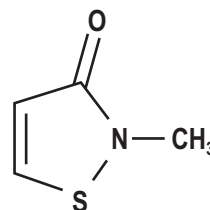
### General

A safe, broad spectrum preservative for leave-on products based on methylisothiazolinone and phenoxyethanol

### Structure



Phenoxyethanol  
C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>  
CAS No.: 122-99-6



Methylisothiazolinone  
C<sub>4</sub>H<sub>5</sub>NOS  
CAS No.: 2682-20-4

### Physical Properties

The following are typical properties of NEOLONE™ PE; **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): ..... 126°C (solvent)  
Solubility: ..... Miscible in water, lower alcohols and glycols;  
Low solubility in hydrocarbons

### Features and Benefits

- Activity versus gram positive and gram negative bacteria, yeasts, and molds
- Effective alternative to formaldehyde releasers
- Effective alternative to parabens
- Ease of use in manufacturing
- Compatible with a wide range of personal care raw materials including surfactants and emulsifiers, zinc pyrithione and avobenzone
- Excellent stability over a wide range of temperature

### Applications

- Skin care lotions and creams
- Body moisturizers
- Suncare products (including those with avobenzone)
- Suitable for all types of rinse-off applications
- Hair gels

### Recommended Use Rates

NEOLONE PE % Product	Methylisothiazolinone AI PPM
0.29%	50
0.43%	75
0.57%	100

NEOLONE PE preservative should be added as the last ingredient and at the lowest temperature (45°C if possible). Since the components of personal care formulations vary considerably and may have impact on the effect of preservatives, we urge each manufacturer to confirm the efficacy and stability of NEOLONE PE in use.

**Performance Data****Efficacy on Bacteria**

Preservative	Concentration (% Product)	Estimated CFU/g after day:					
		3	7	14	17	21	28
Unpreserved Control	–	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>7</sup>	10 <sup>6</sup>	10 <sup>6</sup>
NEOLONE™ PE	0.43	10 <sup>2</sup>	< 10	< 10	< 10	< 10	< 10
	0.57	< 10	< 10	< 10	< 10	< 10	< 10
Phenonip <sup>1</sup>	0.3	< 10	< 10	< 10	< 10	< 10	< 10
	0.7	< 10	< 10	< 10	< 10	< 10	< 10
Germaben <sup>2</sup> II	1.0	< 10	< 10	< 10	< 10	< 10	< 10
Glydant <sup>3</sup> Plus	0.3	< 10	< 10	< 10	< 10	< 10	< 10

*B. cepacia* (ATCC 17765), *E. coli* 8739, *K. pneumoniae* (ATCC 17765), *P. aeruginosa* (ATCC 15442), *P. aeruginosa* (ATCC 9027), *S. aureus* (ATCC 6538), *S. epidermidis* (ATCC 12228) inoculated at 0 and 14 days

**Efficacy on Fungi**

Preservative	Concentration (% Product)	Estimated CFU/g after day:					
		3	7	14	17	21	28
Unpreserved Control	–	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>4</sup>	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>
NEOLONE PE	0.43	10 <sup>3</sup>	10	< 10	10 <sup>3</sup>	10	< 10
	0.57	< 10	< 10	< 10	< 10	< 10	< 10
Phenonip	0.3	10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>2</sup>	10 <sup>4</sup>	10 <sup>3</sup>	10 <sup>2</sup>
	0.7	< 10	< 10	< 10	< 10	< 10	< 10
Germaben II	1.0	< 10	< 10	< 10	< 10	< 10	< 10
Glydant Plus	0.3	< 10	< 10	< 10	< 10	< 10	< 10

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

Dow typically uses a modification of the CTFA Preservative Efficacy Test Method (REFERENCE: Determination of the Efficacy of Preservation of Non-Eye Area Water Miscible Cosmetic and Toiletry Formulations: Collaborative Study. Machtiger et al. 2001. Journal of AOAC International Vol. 84, NO.1: 101-109).

**Analytical Procedures**

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

**Storage**

NEOLONE PE should be stored at room temperature in tightly closed original containers, protected from heat and frost.

**Safety Hazards and Handling**

Please refer to the product Safety Data Sheet (SDS).

<sup>1</sup>Phenonip is a trademark of Clariant International Ltd.

<sup>2</sup>Germaben is a trademark of ISP.

<sup>3</sup>Glydant is a trademark of Lonza Inc

## Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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[www.dowmicrobialcontrol.com](http://www.dowmicrobialcontrol.com)  
or call:

Central and Eastern Europe:  
Turkey +90-216-571-16-00  
Russia +7-495-663-78-20  
Poland +48-22-543-18-00  
Western Europe:  
+800-3-694-6367 (toll-free)  
+31-115-67-26-26 (phone)  
+31-115-67-28-28 (fax)  
North America:  
+1-800-447-4369 (toll-free)  
+1-989-832-1560 (phone)  
+1-989-832-1465 (fax)  
Middle East and Africa:  
UAE +971-4-332-88-66  
South Africa +800-99-5078 (toll-free)  
Greater China:  
Shanghai +86-21-3851-1000  
Beijing +86-10-8527-9199  
Guangzhou +86-20-3813-0600  
Taiwan +886-227-718-000  
Southeast Asia:  
Philippines +63-2-867-3293  
Indonesia +62-21-2995-6273  
Singapore +65-6830-4575  
+65-6796-6217  
Thailand +66-2365-7371  
Vietnam +84-8-3822-5808  
Malaysia +603-7965-5200  
Australia and New Zealand:  
+613-9226-3500 (phone)  
+61-3-9226-3562 (fax)  
Japan and Korea:  
Japan +81-3-5460-2261  
Korea +82-2-3490-4348  
Indian Subcontinent:  
+91-22-6793-4953 (phone)  
+91-22-6793-4924 (fax)  
Latin America:  
+55-11-5188-9555 (phone)  
+55-11-5188-9400 (fax)  
Other Global Areas:  
+1-989-832-1560 (phone)  
+1-989-832-1465 (fax)

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