



Phenoxyethanol is a synthetic chemical compound commonly used as a preservative in cosmetics, personal care products, and pharmaceuticals. It is an aromatic ether and is sometimes referred to as a glycol ether. Its primary function is to inhibit the growth of bacteria, yeast, and mold, thereby extending the shelf life of products.

Uses of Phenoxyethanol

Phenoxyethanol is widely used in various products due to its efficacy as a preservative and its relatively low potential for causing allergic reactions or skin irritation. Common applications include:

Chemical Properties of Phenoxyethanol

- 1. Antimicrobial Activity:**
 - Phenoxyethanol is effective against a broad spectrum of microorganisms, including gram-positive and gram-negative bacteria, yeast, and mold.
 - Its antimicrobial activity is particularly strong against *Escherichia coli*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus*.
- 2. Solubility:**
 - Phenoxyethanol is slightly soluble in water (approximately 2.7 g/100 mL at 25°C) but highly soluble in alcohols and oils.
 - This makes it versatile for use in both aqueous and oil-based formulations.
- 3. Stability:**
 - Phenoxyethanol is chemically stable under a wide range of pH conditions (pH 3 to 10), making it suitable for use in various cosmetic and pharmaceutical products.
 - It is also stable under normal storage conditions and does not degrade easily, contributing to its long shelf life.
- 4. Compatibility:**

- Phenoxyethanol is compatible with many other ingredients commonly found in cosmetics and personal care products, such as emulsifiers, thickeners, and surfactants.
- It is often used in combination with other preservatives, such as ethylhexylglycerin