



PRODUCT DATA SHEET

EsoDant 9010

PHENOXYETHANOL & ETHYLHEXYLGLYCERIN

(INCI: PHENOXYETHANOL, ETHYLHEXYLGLYCERIN)

EsoDant - 9010

Product Code FP021 | Synonym : EHGP (90 : 10 Blend) | INCI : Phenoxyethanol, Ethylhexylglycerin

Description : EsoDant - 9010 is a broad-spectrum, ready-to-use liquid preservative blend of Phenoxyethanol and Ethylhexylglycerin in a 90 : 10 ratio, engineered for use in Personal Care, Cosmetic and Home Care formulations. It is free from parabens, formaldehyde and formaldehyde donors, isothiazolinones (MIT / CMIT) and halogen-organic compounds. The Ethylhexylglycerin component lowers the interfacial tension at the microbial cell membrane and thereby potentiates the activity of Phenoxyethanol, allowing dependable preservation at low use levels while contributing an additional skin-conditioning and deodorant benefit. Supplied by Ester India under the trade name EsoDant - 9010, this EHGP type blend has a long history of safe use across the entire range of rinse-off and leave-on formulations.

Features and Benefits

EsoDant - 9010 demonstrates the following features and benefits in personal care products:

- Effective against Gram-negative and Gram-positive bacteria, yeast and mould
- Ethylhexylglycerin boosts the performance of Phenoxyethanol - low cost-in-use
- Free from parabens, formaldehyde and formaldehyde donors
- Free from isothiazolinones (MIT / CMIT) and halogen-organic compounds
- Effective and stable over a wide pH range of 3 - 12, independent of pH
- Temperature stable - may be added to formulations up to 80°C
- Compatible with anionic, cationic, nonionic and amphoteric surfactants
- Clear, colourless and virtually odourless - no effect on colour or fragrance
- Globally approved for both leave-on and rinse-off applications

Application / Use EsoDant - 9010 provides reliable protection against microbiological spoilage and is easily incorporated into water-based and emulsified products, such as:

Personal Care & Cosmetics

- Creams, lotions and emulsions
- Shampoos and conditioners
- Body washes and liquid soaps
- Wet wipes and baby wipes
- Micellar waters, toners and serums
- Sun care products
- Colour cosmetics
- Deodorants and antiperspirants
- Shaving creams, gels and lotions
- Hand washes and sanitising gels

Home Care

- Floor cleaners
- Window / glass cleaners
- Home care detergents
- Surface and bathroom cleaners
- Fabric softeners
- Shampoo / detergents for automobiles

Physical properties and Product Specifications

Appearance	Clear colourless liquid
Odour	Characteristic
Density at 25°C	1.07 - 1.10 gm/ml
Refractive Index at 25°C	1.510 - 1.540
Moisture (Karl Fischer)	Not more than 1.0 %
Phenoxyethanol	88.0 - 92.0 %
Ethylhexylglycerin	8.0 - 12.0 %
Free Phenol	Not more than 10 ppm

Chemical Identification	CTFA / INCI Name	CAS Number	EINECS Number
Active Ingredients			
Phenoxyethanol		122-99-6	204-589-7
Ethylhexylglycerin		70445-33-9	408-080-2

Ingredient Information

Active Ingredients	
Phenoxyethanol	88 - 92 %
Ethylhexylglycerin	8 - 12 %

EsoDant - 9010 is an anhydrous blend of the active ingredients Phenoxyethanol and Ethylhexylglycerin. Each batch is produced to exact specifications and a certificate of analysis is provided with each order.

Formulating Considerations

The microbiological performance of EsoDant - 9010 in most personal care and cosmetic products is excellent. Proper handling and application technique will enhance that performance and help to optimize treatment costs. The following guidelines are presented for your consideration. As part of a best practice manufacturing strategy, confirm compatibility in the development of new products.

Typical Use Levels - EsoDant - 9010 is typically used at levels of 0.5 - 1.1 % by weight in the final formulation, depending on the application. In the European Union the use level must not exceed 1.1 %, corresponding to the maximum permitted Phenoxyethanol concentration of 1.0 % in the ready-to-use product. The optimum level depends on the initial level of microbiological contamination, the components of the system, the likelihood of repeat microbial challenge, and the temperature and pH of the system. Because formulations vary, it is recommended that the manufacturer confirm the efficacy and stability of EsoDant - 9010 in use. Ester India can supply samples and technical support to help determine the optimum use level.

Addition to the Formulation - EsoDant - 9010 is a liquid product that can be added at any stage of the production process, at a point where there is good agitation to achieve homogeneous distribution. In emulsions it may be added to either the water phase or the oil phase; in clear aqueous systems it should be added slowly under vigorous stirring, or pre-diluted, as the solubility of the blend in water is limited to about 2 %.

Effect of Temperature - EsoDant - 9010 remains effective over a wide temperature range and can be heated to 80°C with no loss in performance. For systems that exceed 80°C, add it during the cooling stage, after the temperature has decreased below 80°C.

Effect of pH - EsoDant - 9010 is stable and provides consistent preservation over the wide formulation and product pH range of 3 - 12. Unlike organic acid preservatives its activity is essentially independent of pH, allowing considerable flexibility in processing and final formulation conditions.

Compatibility - EsoDant - 9010 is fully compatible with most personal care formulation ingredients, including cationic, nonionic, anionic and amphoteric surfactants. High levels of ethoxylated nonionic emulsifiers and solubilisers may reduce the free, active fraction through micellar solubilisation; confirm the use level by challenge testing in such systems.

Regulatory Status

EsoDant - 9010 is globally approved, subject to the following regional limits on Phenoxyethanol:

Europe

- Phenoxyethanol is listed in Annex V, entry 29 of Regulation (EC) No 1223/2009 at a maximum concentration of 1.0 % - rinse-off and leave-on
- Ethylhexylglycerin is not restricted under Annex V and is used as a skin-conditioning agent
- Maximum recommended EsoDant - 9010 use level: 1.1 %

Americas Approved for use - no restriction on Phenoxyethanol

Asia

- Japan: Maximum Phenoxyethanol concentration of 1.0 % - rinse-off and leave-on
- China: Maximum Phenoxyethanol concentration of 1.0 %
- ASEAN: Harmonised with the European Union at 1.0 %

Regulations are subject to revision. Users should confirm the status of both components against the current local regulation before placing a finished product on the market.

**Handling,
Storage, and
Disposal**

Store in a cool and dry place away from heat and direct sunlight, in tightly closed original containers. Shelf life 24 months from the date of manufacture when stored as directed.

Health and Safety Please refer to the Safety Data Sheet (SDS).

Efficacy Challenge Test as per USP 46, Chapter No. 51.

Test Micro Organism	Pseudomonas aeruginosa ATCC-9027 CFU/ml	Staphylococcus aureus ATCC-6538 CFU/ml	Candida albicans ATCC-10231 CFU/ml	Aspergillus brasiliensis ATCC-16404 CFU/ml	E. coli ATCC-8739 CFU/ml
Inoculum	12×10^7	08×10^8	09×10^7	06×10^6	08×10^7
Sample + Inoculum (Initial) (20/12/2024)	08×10^7	05×10^8	06×10^7	04×10^6	05×10^7
Sample + Inoculum (After 14 Days) (03/01/2025)	03×10^4	01×10^5	03×10^4	02×10^4	02×10^4
Sample + Inoculum (After 28 Days) (17/01/2025)	NI	NI	NI	NI	NI

NI - No increase in the number of viable micro-organisms compared with the previous reading. Based on the above data the product conforms to USP 46, Chapter No. 51, Category 2.

Challenge Test performed by 3rd party Laboratory - Choksi Laboratories Limited, Ref. No. 16049.

Sample batch No. EHP/2024-25/018, tested as supplied.

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