Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

TECHNICAL DATA SHEET

Product Name: Polyethylene Glycol 400

INCI Name: PEG-8

CAS: 25322-68-3

Synonyms: Poly(ethylene glycol); PEG; PEG 3350

Chemical Class: Alcohols ~ Alkoxylated Alcohols, Polymeric Ethers

Functional Category: Viscosity Modifier

IUPAC Name: Poly(oxyethylene), Poly(ethylene oxide)

Chemical-Physical Properties: Polyethylene Glycol 400 (PEG 400) is a poly(ethylene oxide), a polymer consisting of repeating ethylene oxide units. When multiple ethylene oxide units link together in a chain, polyethylene glycol is formed, with the number of repetitions determining the molecular weight of the polymer. For PEG 400, the average molecular weight is about 400 grams per mole, corresponding to approximately 9-10 repetitions of ethylene oxide. The chemical structure of PEG 400 is hydrophilic, meaning it attracts water. These properties make PEG 400 useful in many applications, including cosmetics, pharmaceuticals, and the food industry. In cosmetics, PEG 400 is used as a humectant, emollient, and carrier for other active ingredients due to its ability to attract moisture and form a hydrating layer on the skin. It is also used in pharmaceutical preparations as a solvent and to enhance the bioavailability of drugs. PEG has also been shown to have antimicrobial properties. At room temperature, PEG-8 is a clear, colorless liquid soluble in water. The density is approximately 1.13 g/cm³, and the flash point is approximately > 250°C.

Benefits:

- ***Hydration:*** PEG 400 has the ability to attract moisture and retain it on the skin, hydrating and softening it.
- ***Emollience:*** This ingredient softens the skin and improves its texture.
- ***Penetration:*** PEG 400 can enhance the penetration of other active ingredients into the skin, helping beneficial ingredients be absorbed more effectively.

Avena Lab
Farmadria d.o.o. Since 1991.

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

TECHNICAL DATA SHEET

• ***Emulsion Stabilization:*** In products containing both aqueous and oily components, PEG 400 can help maintain emulsion stability, preventing phase separation.
• ***Carrier for Active Ingredients:*** PEG 400 can be used as a carrier for other active ingredients, helping them distribute evenly on the skin and provide desired effects.
• ***Irritation Reduction:*** PEG 400 can help reduce skin irritation, making it less sensitive to external aggressors such as sunlight or certain chemical substances.
• ***Improvement of Product Texture:*** Adding PEG 400 can give products a better texture and creamy consistency, facilitating application and contributing to a pleasant feel on the skin.

Usage Instructions: PEG-400 is often used as an emollient in skin care creams and lotions. In these products, the concentration of PEG-400 can range from 1% to 10%, depending on the formulation and skin type for which the product is intended. In skin cleansers, such as shower gels or facial cleansers, PEG-400 can be used as a moisturizer. The concentration in these products is usually lower, around 1% to 3%. PEG-400 can also be used as a carrier for other active ingredients in cosmetic products, such as antioxidants or moisturizers. Concentrations range from 1% to 5%. In some products, such as serums and gels, PEG-400 can be used as a thickening agent. The concentration in these products can be higher, from 3% to 10% or more, depending on the desired texture. PEG-400 can be used as an auxiliary agent in formulations to improve the texture, stability, and absorption of other ingredients. The concentration in this case can vary depending on the formulation needs but is typically lower, around 1% to 5%.

Animal Testing: The substance has not been tested on animals.

GMO: Not GMO

Vegan: Does not contain animal-derived components