



# **Polyethylene Glycol 4000 (KEPEG 4000)**

Pharmaceutical grade



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**Technical Data Sheet**





## Polyethylene Glycol 4000 (KEPEG 4000)

### **Chemical Name:**

Polyethylene Glycol 4000

### **Trade Name:**

KEPEG 4000/Pharmaceutical grade

### **Introduction:**

Polyethylene glycols (PEGs) are condensation polymers of ethylene oxide and water with the general formula  $H(OCH_2CH_2)_nOH$ . They are the most commercially important type of polyether. The low molecular weight compounds up to 700 are colorless, odorless viscous liquids with a freezing point from  $-10^{\circ}C$  (diethylene glycol), while polymerized compounds with higher molecular weight than 1,000 are wax like solids with melting point up to  $67^{\circ}C$ . While PEGs with different molecular weights find use in different applications and have different physical properties (e.g. viscosity) due to chain length effects, their chemical properties are nearly identical.

The numbers that are often included in the names of PEGs indicate their average molecular weights, e.g. a PEG with  $n=9$  would have an average molecular weight of approximately 400 and would be labeled PEG 400. Most PEGs include molecules with a distribution of molecular weights, i.e. they are polydisperse.

PEGs are soluble in water and most organic solvents.

### **General Applications:**

Polyethylene glycols are non-toxic, odorless, neutral, lubricating, nonvolatile and nonirritating and are used in a variety of pharmaceuticals and in medications as a solvent, dispersing agent, ointment and suppository bases, vehicle, and tablet excipient.



### **Packaging:**

Packaging Type	Net weight	No. of bags per pallet	No. of pallets in a 20 FLC	Shelf life	IMCO Class
PE bags	25 Kgs	40	20	2 yrs	Non-Imco

### **Notice:**

We can produce other types of Pharmaceutical grades of polyethylene Glycols (PEGs), moreover customized packing will be available according to customer's request.

### **Safety, Handling & Storage:**

Full information on the safety, handling and storage of pharmaceutical PEGs is available in the corresponding Material Safety Data Sheet ([MSDS](#)).



## Polyethylene Glycol 4000

Trade Name: **KEPEG 4000/Pharmaceutical grade**

### Specification

No.	Test	Standard	References
1	Description	practically odorless and tasteless, white, waxy, plastic material having a consistency similar to beeswax, or as creamy white flakes, beads, or powders	USP42-NF37
2	Solubility	freely soluble in water, soluble in acetone, alcohol, chloroform, ethylene glycol monomethyl ether, ethyl acetate, and in toluene; insoluble in ether and in hexane	USP42-NF37
3	Completeness and Color of Solution, 5g/50ml of Water	Slightly Hazy	USP42-NF37
4	Viscosity @ 98.9±0.3°C, Cst	110-158	USP42-NF37
5	pH, 5% Solution in Water	4.5-7.5	USP42-NF37
6	Residue on ignition	Max 0.1	USP42-NF37
7	Assay (Average Molecular Weight), g/mol	3600-4400	USP42-NF37
8	Residual solvents, ppm	Defined as Organic volatile Chemicals	USP42-NF37
9	Ethylene Oxide & 1,4-Dioxane, µg/g	Max. 10 (for each of them)	USP42-NF37



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