

SPECIFICATION

Product Name: PEG 400
Chemical Formula: $\text{H}(\text{OCH}_2\text{CH}_2)_n\text{OH}$
CAS Number: 25322-68-3
Molecular Weight: 400.01 g/mol
Appearance: Clear viscous liquid
Odor: Odorless

Chemical Composition

Parameter	Unit	Typical Value	Specification (Min/Max.)
pH 5% in Distilled water	-	6.15	4.50 – 7.50
Moisture content (By KF)	%	0.11	Max. 1.00
Hydroxyl value	mg KOH/gm	280.54	250 - 350

Physical Properties

- Solubility: Soluble in water. Soluble in ethanol. Soluble in chloroform. Soluble in acetone. Soluble in glycerin. Insoluble in ether. Soluble in propylene glycol. Insoluble in volatile oils.

Shelf Life & Storage

- Shelf Life: 2 years from date of manufacture under recommended storage.
- Storage Conditions: Store PEG 400 in a cool, dry, and well-ventilated place, preferably at 15–30°C. Keep the container tightly closed in the original, properly labeled packaging to prevent moisture absorption, as PEG 400 is hygroscopic. Protect from direct sunlight, excessive heat, and contamination. Store away from strong oxidizing agents, strong acids, and incompatible materials. Use clean, dry dispensing equipment to maintain the product's purity, clarity, stability, and compliance with IP/BP/USP quality standards. Under the recommended storage conditions, PEG 400 remains stable for its designated shelf life.

Applications

- Use: Widely used in pharmaceutical, cosmetic, personal care, food, and industrial formulations as a solvent, vehicle, humectant, plasticizer, lubricant, and viscosity-modifying agent. In the pharmaceutical industry, it is commonly incorporated into oral liquids, capsules, topical creams,

ointments, gels, suppositories, and ophthalmic formulations to improve the solubility and stability of active ingredients. In cosmetics and personal care products, it functions as a moisturizer, emollient, and formulation aid in creams, lotions, shampoos, conditioners, and toothpaste. PEG 400 is also used in food processing (where food-grade quality is applicable) as a processing aid and carrier, and in various industrial applications as a lubricant, heat-transfer fluid, and chemical intermediate.

- Dosage: Depends on the dosage form and the intended function in the formulation.

Packaging

- Standard Packing: 230 Liter plastic drum or as per customer requirement.

- Labeling: Product name, batch number, net weight, manufacture date, expiry date, and manufacturer details.

* Specifications are based on the manufacturer's provided specifications.