Propylene Glycol

is commonly used as a humectant, solvent, and preservative in food and cosmetic products. It helps products maintain moisture and prevents them from drying out. It is also used in pharmaceuticals, e-liquids for vaping, and antifreeze solutions.

Chemical Properties

- **Alcoholic Nature: As a diol, propylene glycol has two hydroxyl groups, which make it a versatile alcohol that can participate in various chemical reactions.**
- **Oxidation: Propylene glycol can be oxidized to lactic acid or pyruvic acid, depending on the conditions.**

- **Esterification: It can react with carboxylic acids to form esters, which are often used in fragrances and flavorings.**
- **Dehydration: Under acidic conditions, propylene glycol can undergo dehydration to form propylene oxide, a more reactive compound used in industrial applications.**
- **Polymerization: Propylene glycol can be polymerized to produce polyesters and polyurethanes, materials used in various industrial applications.**