



**Stearyl Alcohol** is a fatty alcohol derived from stearic acid, a naturally occurring saturated fatty acid found in various animal and vegetable fats. It is widely used in the cosmetic, personal care, and pharmaceutical industries as an emollient, thickener, and emulsifier

### **Chemical Properties**

- **Fatty Alcohol Nature:** Stearyl alcohol is a saturated fatty alcohol, meaning it does not contain any double bonds in its carbon chain, which contributes to its stability.

- **Esterification:** The hydroxyl group (-OH) in stearyl alcohol allows it to react with acids to form esters. These esters are used in cosmetics and personal care products for various applications, including as emollients and lubricants.
- **Oxidation:** Stearyl alcohol can be oxidized to stearic acid ( $C_{18}H_{36}O_2$ ) under certain conditions, such as in the presence of strong oxidizing agents.
- **Reduction:** It can be reduced to hydrocarbons (alkanes) under specific conditions, although this is less common in practical applications.
- **Non-Ionic Nature:** As a non-ionic surfactant, stearyl alcohol does not ionize in water, making it compatible with a wide range of other ingredients in formulations

