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LANOLIN - A VALUABLE NATURAL PRODUCT OBTAINED FROM SHEEP WOOL

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Abstract: The by-products from various animal breeding technologies have always been a challenge for the farmer. Thus, the wool resulting from sheep shearing has become a little-used by-product, but it can be capitalized and used in various fields such as medical-pharmaceutical, cosmetics, textile, and the field of chemical industry.

• Introduction

➤ Lanolin = components of sheep's wool is wax, with long-chain saturated fatty acid esterified with sterols.

• Extraction methods for lanolin

- classic extraction methods with organic solvents (Soxhlet with dichloromethane),
- microwave and ultrasonic-assisted extraction (considered eco-friendly) using distilled water and trichloroethylene as a medium of propagation-degreasing
- extraction with supercritical fluids as carbon dioxide-acetone



• Chemical composition of lanoline

- different sterol esters with various sterols (cholesterol, lano-sterol, dihydrolanosterol) and
- fatty acids: normal acids and isomeric acids (anteiso, normal α -hydroxy, iso α -hydroxy, anteiso α -hydroxy, normal ω -hydroxy, iso ω -hydroxyl, anteiso ω -hydroxy).

• Lanolin uses

- pharmaceutical field: ointments for wounds and nipple; baby cream; sunscreen; drug pigmentation; surgical adhesive tapes
- cosmetics: lip, heel, and hand balms)
- obtaining high-quality PVC products, which improve decomposition temperature replacing other high toxic raw additives (like lead)
- anti-corrosive effect on ferrous metals
- lubrication and conservative effects to most of metals, textile and leather anti-degradation
- glues and jointing paste production
- polishes and varnishes production
- concrete waterproofing products