

## Chemical in cosmetics.

The word cosmetics is derived from the Greek word Kosmetikos. It means decorating, beautifying or improving complexion of skin. In India from the ancient times Henna has been used to decorate hands and some other parts of the body. Some of the cosmetics which find use in daily life are discussed below,

(1) **Creams:** Creams are used for facial make-up. These are often classified as : cleansing creams, cold creams, vanishing creams, sunburn creams and bleach creams.

(i) **Cleansing creams:** Remove facial make up, surface grime, lipstick and oil.

(ii) **Cold creams:** Lubricate the skin and prevent roughness and chaffing.

(iii) **Vanishing creams:** Keep the skin cool and oily.

(iv) **Sunburncreams:** Save the skin from sunburn in summer.

(v) **Bleach cream:** Exert a bleaching effect on dark skin.

(2) **Perfumes:** Perfumes are the materials, used to provide fragrance. Several requirements have to be fulfilled to make a good perfume and any material, which just gives good smell, may not be a perfume.

A perfume invariably consists of three ingredients: a vehicle, fixative and odour producing substance.

(i) **Vehicle:** The vehicle is also called solvent. The role of the solvent is to keep the odour-producing substances in solution. Ethanol and water mixture is the most common vehicle used in perfumery.

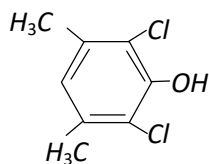
(ii) **Fixative:** The function of the fixative is to equalize the rate of evaporation of various odouriferous components of the perfume by suitably adjusting their volatility. Sandalwood oil

finds use as fixative. Other substances used as fixative are benzoin, glyceryldiacetate and esters of cinnamyl alcohol.

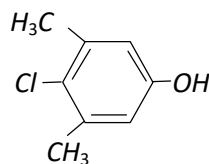
(iii) **Odourous substances:** Both natural and synthetic substances are used to impart odour to a perfume. For example, terpenoids like linalool which occur in essential oils are natural odour producing compounds, while anisaldehyde (p-methoxybenzaldehyde), is a synthetic odour producing compound.

(3) **Talcum powder:** Talcum powder is used to reduce irritation of the skin. Talcum powders like face powders contain talc ( $Mg_3(OH)_2Si_4O_{10}$ ). Chalk, zinc oxide, zinc stearate and a suitable perfume act as the other main constituents of talcum powder. Often specific ingredients like antiseptic and cooling agents are added. The role of the talc is to act as a powder base and to make skin smooth. Chalk absorbs secretion (perspiration) without showing any evidence of such absorption. Zinc oxide masks enlarged pores and minor blemishes, whereas zinc stearate makes powder adhere to skin. Baby talcum powders contain considerable amounts of zinc stearate for adhesiveness and boric acid, for antiseptic purposes. Talcum powders need to be dusted with care to prevent inhalation of the fine particles, which irritate the lungs.

(4) **Deodorants:** As the name suggests, deodorants are applied primarily to mask the body odour. The body odour results from the bacterial action following perspiration. A deodorant must therefore, possess anti-bacterial properties. Aluminium salts, have been found to possess excellent antibacterial properties. In addition to aluminium salts,  $ZnO$ ,  $ZnO_2$  and  $(C_{17}H_{35}COO)_2$  Zn also find use in deodorant preparations because they are astringents as well as antiseptics. Phenolic antibacterials, which have figured as effective body deodorant are parachlorometaxyleneol and dichlorometaxyleneol having following structures.



Dichlorometaxyleneol



p-Chlorometaxyleneol

Powder formulations generally have deodorants