

1 H Hydrogen 1.008	2 He Helium 4.003	3 Li Lithium 6.941	4 Be Beryllium 9.012	5 B Boron 10.81	6 C Carbon 12.01	7 N Nitrogen 14.01	8 O Oxygen 16.00	9 F Fluorine 19.00	10 Ne Neon 20.18	11 Na Sodium 22.99	12 Mg Magnesium 24.31	13 Al Aluminum 26.98	14 Si Silicon 28.09	15 P Phosphorus 30.97	16 S Sulfur 32.06	17 Cl Chlorine 35.45	18 Ar Argon 39.95	19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69	29 Cu Copper 63.55	30 Zn Zinc 65.39	31 Ga Gallium 69.72	32 Ge Germanium 72.64	33 As Arsenic 74.92	34 Se Selenium 78.96	35 Br Bromine 79.90	36 Kr Krypton 83.79	37 Rb Rubidium 85.47	38 Sr Strontium 87.62
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COSMETIC

Vermilion

The chemical synthesis of vermilion (Pb3O4) is a mixture of lead sulfide (PbS) and iron sulfide (FeS). Vermilion is finely ground mineral cinnabar, but more cinnabar can be produced without the addition of calcium hydroxide. Calcium helps to achieve the bright red color.

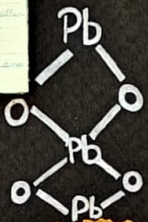
In global competition, most vermilion is produced in the United States from the beauty and personal care industry.

This can be made in two processes. Any oxidation in the presence of lead readily with oxygen sulfide under the form of anhydrous PbS. This form can be transformed into a red form by oxidation.



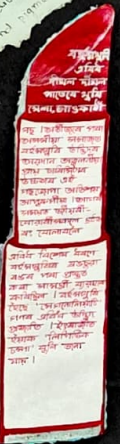
Well, necessary to form can be transformed into the red form by heating. It is the solution of ammonium or potassium sulfide (K2S) line being in which sulphur and the chlorine method. Then the substitution in the dry process.

Arsenic has high amount of lead and it is very toxic. When lead is present in the body, it can cause damage to the brain and other organs.



Lead is found in the structure of lipstick. A number of different natural waxes are used including beeswax, lanolin, and carnauba wax. Carnauba wax is also used in cosmetics.

Waxes and oils provide the structure of lipstick. A number of different natural waxes are used including beeswax, carnauba wax, and candelilla wax. Waxes also give emollient properties and glossiness.



HAIR DYE

Dyes have a range of different compounds that react with each other to produce the desired color.

Ground cinnabar is the source of vermilion dye.

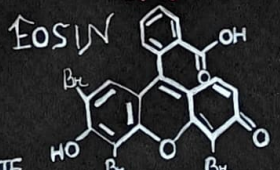
Individuals are exposed to individual chemicals on their skin each day through...

LOREAL is the largest cosmetic company in the world. It started in 1909. Shiseido is the world's oldest cosmetic company.



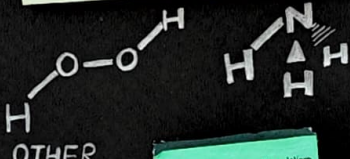
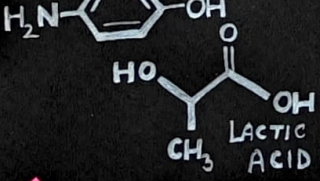
PARAPHENYLENEDIAMINE (PPD) & PARA-AMINOPIPERINE. These are used in hair dyes. PPD is a common allergen. Para-aminopiperine is used in hair dyes to provide a permanent color.

Most cosmetics include water, emulsifiers, preservatives, and antioxidants. Cellulose derivatives are also used.



HYDROGEN PEROXIDE, AMMONIA & ETHANOLAMINE. Hydrogen peroxide oxidizes the colorant. Ammonia helps to lighten the natural color. Ethanolamine helps to stabilize the colorant.

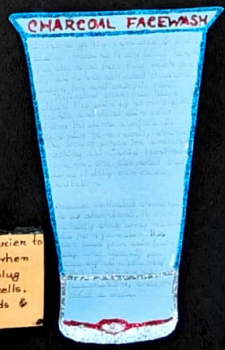
PRIMARY INTERMEDIATE



Many cosmetics, like lotions and creams, are emulsions. Water, oil, and other ingredients are combined using emulsifiers.

Emollients are added to prevent the degradation of cosmetic formulations causing a longer shelf life.

Emollients can form barrier to transdermal water loss when applied heavily. They help plug gaps between dead skin cells, replacing natural skin lipids & help smoothen the skin.



CHEMISTRY

what enhances your BEAUTY

EYELINER

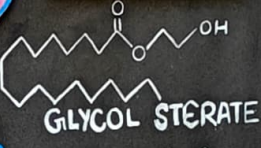
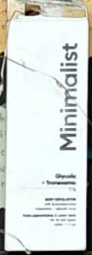
MOISTURIZER



When you're suffering from sunburn or sunburn itchy skin or sunburn, moisturizers are an ideal. They help soothe the skin and prevent further damage. Some moisturizers contain ingredients that help soothe the skin and prevent further damage.

Humectants are hydrophilic and help draw water from dermis to epidermis. Evaporation from skin can cause extra dryness.

Emollients prevent water loss by forming a hydrophobic barrier over the upper epidermis. They make skin feel greasy.



PROLACTIN



Properties of Gold (Au):
 - Highly malleable
 - Excellent conductor of heat and electricity
 - Does not react with most acids

Properties of Silver (Ag):
 - Excellent conductor of heat and electricity
 - Reacts with sulfur to form silver sulfide

Properties of Platinum (Pt):
 - Highly malleable
 - Excellent conductor of heat and electricity
 - Does not react with most acids



Composition of moisturizer:
 - Humectants
 - Emollients
 - and Solvents



Properties of Gold (Au):
 - Highly malleable
 - Excellent conductor of heat and electricity
 - Does not react with most acids

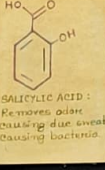
Composition of face cream:
 - Hydrocarbons
 - Acids
 - Lipids
 - and Vitamins C



Properties of Silver (Ag):
 - Excellent conductor of heat and electricity
 - Reacts with sulfur to form silver sulfide

Properties of Gold (Au):
 - Highly malleable
 - Excellent conductor of heat and electricity
 - Does not react with most acids

Perfume



PERFUME

The production of a perfume basically comprises the following components: denatured ethanol (C₂H₆O), essence, fixative, propylene glycol (C₃H₈O) and distilled water (H₂O). The main ingredients of a perfume are ethyl alcohol and essential oils. The concentration of essential oils such as ylang-ylang, rosewood, cedarwood determines how long it can last on your skin. Dipropylene glycol (DPG) is a high viscosity product designed for use in delicate sensitive applications such as fragrances and cosmetics.

Understanding microbiology is crucial to present contamination during the manufacturing process and throughout the product shelf life.

Edited by - Sadam & Rishabh students
 Designed & Prepared by - Latika students

56 Ba Barium 137.3	57 La Lanthanum 138.9	58 Ce Cerium 140.1	59 Pr Praseodymium 140.9	60 Nd Neodymium 144.2	61 Pm Promethium 144.9	62 Sm Samarium 150.4	63 Eu Europium 151.9	64 Gd Gadolinium 157.2	65 Tb Terbium 158.9	66 Dy Dysprosium 162.5	67 Ho Holmium 164.9	68 Er Erbium 167.3	69 Tm Thulium 168.9	70 Yb Ytterbium 173.0	71 Lu Lutetium 174.9	
72 Hf Hafnium 178.5	73 Ta Tantalum 180.9	74 W Tungsten 183.8	75 Re Rhenium 186.2	76 Os Osmium 190.2	77 Ir Iridium 192.2	78 Pt Platinum 195.1	79 Au Gold 197.0	80 Hg Mercury 200.5	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98	84 Po Polonium 209	85 At Astatine 210	86 Rn Radon 222	87 Fr Francium 223	88 Ra Radium 226
103 Lr Lawrencium 260	102 No Nobelium 259	101 Md Mendelevium 258	100 Fm Fermium 257	99 Es Einsteinium 252	98 Cf Californium 251	97 Bk Berkelium 247	96 Cm Curium 247	95 Am Americium 243	94 Pu Plutonium 244	93 Np Neptunium 237	92 U Uranium 238	91 Pa Protactinium 231	90 Th Thorium 232	89 Ac Actinium 227		

The chemical composition of sindoor is vermilion (Pb_3O_4) or mercuric sulphide. Vermilion is finely ground mineral cinnabar but mercuric sulphide can be produced artificially. The addition of calcium hydroxide $Ca(OH)_2$ helps to achieve the bright red colour.

55%

15%

10%

5%

5%

PIGMENT AND DYES

Lipstick colour originates from a range of different pigments and dyes. Carmine red is a commonly used pigment. Eosin, also known as D & C Red No. 22, is a dye which reacts with the amino groups in the proteins of the skin to produce a deep red colour.

Wet process :- Black form can be transformed into the red form by heating it in the solution of ammonium or potassium sulphide (II). This being a much simpler and the cheaper method than the sublimation in the dry process.

Sindoor has high amounts of lead and other heavy metals which can paralyze vocal chords, cause food poisoning and can impact the brain too when consumed. It can also cause itching and dandruff problems.

Pb
I
D

PIGMENTS AND DYES

Lipstick colour originates from a range of different pigments and dyes. Carminic acid is a commonly used pigment. Eosin, also known as D & C Red No. 22, is a dye which reacts with the amino groups in the proteins of the skin to produce a deep red colour.

fragrances and aldehydes enhance the scent of cosmetics while titanium dioxide enhances the colour and pigmentation.

বর্ষাখুশি
এমিথ
দীঘল দীঘল
পাত্রেখুশি
মেলা, জাওকাঠী
পছ। জুতীজুমে পষা

WAXES AND OILS

Waxes provide the structure of lipstick. A number of different natural waxes are used including beeswax, Carnauba wax, and Candelila wax.

Waxes also gives emollient properties and glassiness.

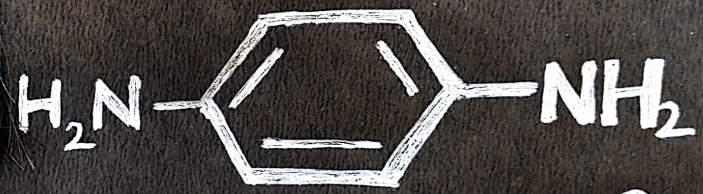
Waxes provide the structure of lipstick. A number of different natural waxes are used including beeswax, Carnauba wax, and Candelila wax. Waxes also gives emollient properties and glassiness.

Women place around 515 individual chemicals on their skin each day through cosmetic use.

- L'OREAL is the largest cosmetic company in the world, it started in 1909.
- Shiseido is the world's oldest cosmetic company.



PARAPHENYLENEDIAMINE (PPD) & PARA-AMINOPHENOL
All permanent hair dyes contain a "primary
intermediate"; these are often p-diamines or
p-aminophenols. They are oxidized by hydrogen
peroxide to give reactive species which then
react with melanosomes to produce color.



PRIMARY INTERMEDIATE



HYDROGEN PEROXIDE, AMMONIA & ETHANOLAMINE
Hydrogen Peroxide oxidizes the 1° (primary)
intermediate & lightens the natural pigment
present in hair, the melanin, eumelanin
& pheomelanin.

1900

Many cosmetics, like lotions and creams, are emulsions, where water and oil-based ingredients are combined using emulsifiers.

Stabilizers are added to prevent the degradation of cosmetic formulations ensuring a longer shelf life.

Emollients can form barrier to transipidermal water loss when applied heavily. They help plug gaps between dead skin cells, replacing natural skin lipids & help smoothen the skin.

CHARCOAL FACEWASH

1. Wash your face with warm water and a gentle cleanser.
2. Apply a thin layer of charcoal facewash to your face.
3. Gently massage the product into your skin for 1-2 minutes.
4. Rinse your face thoroughly with warm water.
5. Pat your face dry with a clean towel.
6. Apply a moisturizer to keep your skin hydrated.

Charcoal facewash is a popular skincare product that helps to remove dirt, oil, and impurities from the skin. It is particularly effective for people with acne-prone or oily skin. The charcoal particles in the facewash act as a natural exfoliant, helping to unclog pores and prevent the formation of blackheads and whiteheads. Additionally, charcoal has antibacterial properties that can help to reduce inflammation and prevent acne outbreaks. Regular use of charcoal facewash can also help to improve the overall texture and tone of your skin, leaving it looking clearer and more radiant.

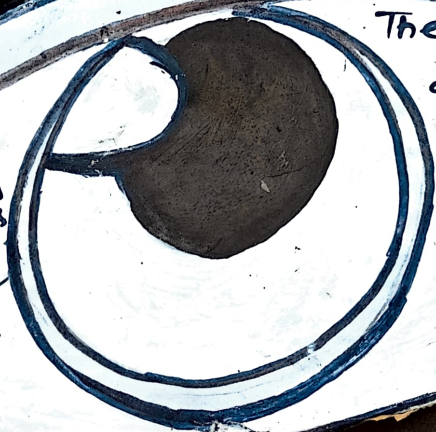
When using charcoal facewash, it is important to be gentle and avoid scrubbing your skin too hard. This can irritate the skin and lead to redness and dryness. It is also important to use a moisturizer after washing your face, as charcoal can be drying. For best results, use charcoal facewash once or twice a day, depending on your skin type and the severity of your skin concerns.

Eyeliners are formulated to contour the eyes by drawing a precise line.

Stearyl heptanoate is found in most cosmetic eyeliner. Typical pigment include black iron oxide as well as small amount of titanium dioxide and prussian blue.

Commercially produced Katol is an eye preparation consist of galena (PbS), minium (Pb_3O_4), amorphous carbon, magnetite (Fe_3O_4), and zincite (ZnO).

95% eyeliner is
continuously being
applied on eyes
tiny particles
build up.



The residue can
damage eyes leads
to infection,
irritation and
blurred
vision

EMOLLIENT

Humectants are hydrophilic and help draw water from dermis to epidermis. Evaporation from skin can cause extra dryness.

(284)
112
Cn
Copernicium
(285)

111
Rg
Roentgenium
(280)

110
Ds
Darmstadtium
(281)

Composition of liquid lipstick:
Acrylates/octylacrylamide copolymer, a thickener, a colorant and at least one alcohol.



Composition of moisturizer:-
Humectants,
Occlusives,
and emollients.



Composition of face moisturizer:-
with SPF zinc
titanium dioxide
benzoyl peroxide




Composition of face serum :

Hyaluronic Acid, glycolic Acid
and Vitamin C.

Nava Dayan, Ph.D;

received The Florence Wall
award, honoring women's scientific
and leadership contributions to
the cosmetics and personal
care industry





Edited by - 3rd Sem & 5th Sem students

Designed & Prepared by - 1st Sem students

Hs

Hassium
(277)
107

Bh

Bohrium
(270)
106

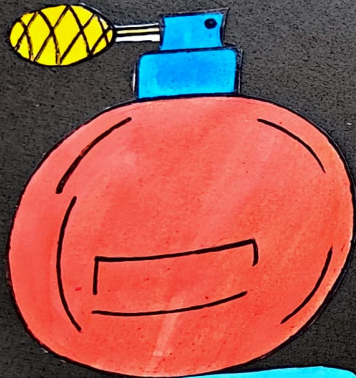
Sg

Seaborgium
(271)
105

Db

Dubnium
(268)
104

The cosmetics and personal care industry



PERFUME

Ingredients list:
All the best wishes
11/11/2023
work



The production of a perfume basically comprises the following components: denaturated ethanol (C_2H_6O), essence, fixative, propylene glycol ($C_3H_8O_2$) and distilled water (H_2O). The main ingredients of a perfume are ethyl alcohol and essential oils. The concentration of essential oils such as agarwood, sandalwood, cedarwood determines how long it can last on your skin. Dipropylene Glycol LO+ (DPG LO+) is a high purity product, designed for use in odour-sensitive applications such as fragrances and cosmetics.

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