

# Cosmetic Science

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**Abstract:** *Cosmetic science is a prominent interdisciplinary area in several scientific disciplines that spans The natural sciences, humanities, and social sciences. The 35-year-old predecessor, Cosmetic Science, has been totally revised in New Cosmetic Science The “Usefulness of Cosmetics,” a Subject that is quickly gaining importance, is also discussed in addition to the topic of cosmetic Safety and is shown with study. A viewpoint that covers skin care products as well as cosmetics Including makeup, hair care, perfumes, body care, and oral care items. Oral care cosmetics and Body cosmetics’ functions, varieties, essential elements, dosages, and manufacturing procedures Are all illustrated. Methods that are both psychologically and physically beneficial. Formulas are used in cosmetics to accentuate the beauty of lips. Lipstick is a cosmetic item that Gives the lips colour, texture, and protection while also containing dyes, oils, and waxes.*

**Keywords:** Skin beauty enhancement, face colouring, and body attractiveness improvement. Bixa Orenella, natural colourants, herbal lipstick, and cleaning requirements

## I. INTRODUCTION

Chemical compound mixes originating from synthetic or natural sources are included in Cosmetics. There are several goals for cosmetics. The skin can be cleansed or protected using Those intended for personal care and skin care. Cosmetics are made to improve skin, and they Can be used to hide flaws, highlight one’s inherent characteristics, add colour to the face, or Entirely alter the appearance of the face. Cosmetics may be created to enhance body scent.



The cosmetics industry is the field of commerce that produces and distributes cosmetics. These Include of comforts like bubble baths and soaps, as well as cosmetics like foundation and Mascara, hair care items like shampoos, conditioners, and hair colours, and skincare items like Moisturiser and cleansers. Johnson & Johnsons is the largest producer of cosmetics

### 1.1 Drug and Cosmetic Act 1940 and 1945

- When it was first passed in 1940, this law was known as the Drug Act. In 1945, the relevant Drugs Rules were adopted. The act, currently known as the Drugs and Cosmetics Act of 1940, Has undergone numerous revisions since it was first passed in 1940.

- To the legislation, a “cosmetic” is any item that is intended to be used on the body to Enhance, cleanse, or beautify the appearance of the skin. The statute was revised in 1964 to Cover medicines from Ayurveda and Unani drugs.
- Quality requirements for medications are described in Section 16 of the act. “Misbranding” is Defined in Section 17. If a medicine implies that it has more therapeutic benefit than it actually Does, it is said to be misbranded. A request under Section 18 may be made to the maker of such A medicine to halt production. Drugs that are false or contaminated are covered by Section 27. More drug ingredients must be listed on the label as a result of the law.

The drug inspectors’ qualifications are outlined in Section 22 while the tight protocol they must Follow during any raids is outlined in Section 23.

The Pharmaceuticals and Cosmetics Rules, 1945, contain requirements for classifying drugs According to the available schedules, as well as rules for each schedule’s storage, sale, Exhibition, and prescription. The terms of licences are outlined in Rule 67. The labelling Guidelines are contained in Rule 97.

Schedule D: List of pharmaceuticals free from the importation requirements.

Schedule Q: List the authorised colours and pigments for use in soap and cosmetics.

Schedule M: Contains a variety of rules for equipment, facilities, waste disposal, and Manufacturing.

#### **Penalties under the Drugs and Cosmetic Act for the Sale, and manufacture of drugs:**

Any of the following actions by any of the following people on their behalf, make for sale or Distribution; sell; stock; show; or offer for sale or distribution.

Any drug that is determined to be adulterated under Section 17 A or spurious under Section 17 B, or that, when used by anyone for the treatment, diagnosis, mitigation, or prevention of any Disease, is likely to result in their death or is likely to cause such harm to their body as would Amount to significant hurt under Section 320 of the IPC solely on the report of such drug being Adulterated, as the case may be, is punishable by imprisonment for a certain amount of time.

#### **Condition for obtaining a license to import and export cosmetics in India and Abroad:**

The Drugs and Cosmetics Act of 1940 and the Drugs and Cosmetic Rules of 1945 goveanimport licence must be submitted in the format and manner outlined in Rule 24 in order to Be considered for a Grant of Import License. When all requirements are met, the licencing body Will issue an import licence. After its issuance, the Import licence is valid for three years be considered for a Grant of Import License. When all requirements are met, the licencing body will issue an import licence. After its issuance, the Import licence is valid for three years.

In India, the Drugs and Cosmetics Act of 1940 and the Drugs and Cosmetic Rules of 1961 govern The import, manufacture, sale, and distribution of drugs.

#### **1.2 Documentation**

- Batch Manufacturing Record.
- Master Formula Record.
- Quality Audit Report.
- Return Goods.
- Handling Return Goods
- Returned good.
- Recalling and Waste Disposal
- Products Waste Disposal.
- Evaluation Process .

#### **A. Batch Manufacturing Record**

A batch manufacturing record (BMR) is a crucial file for producers of chemicals and processes: It Instructs consumers on how to make a batch of a given product and then documents the entire Process from beginning to end.

### **B. Master Formula Record**

An essential part of regulatory compliance and crucial for efficient process management, a Master Formulation Capture is utilised to record the precise information regarding each batch. This thorough process describes how the medication product is made.

### **C. Quality Audit Report**

An internal or external quality auditor will conduct a quality audit, which is the methodical Investigation of a quality system. It is a crucial component of the ISO 9001 quality system Standard and a fundamental feature of an organization's quality management system.

### **D. Distribution Report**

**Primary Distributor's License:** Applications for primary distributor's licences are submitted to The prefectural pharmaceutical affairs division with the necessary authority, which oversees the Business office where the marketing supervisor-general works. Five years later, licences are Renewed. Candidates had to have appointed a marketing supervisor-general and adhered to the Good Quality Practice (GQP) and Good Vigilance Practice (GVP) standards.

The Act expressly places responsibility for ensuring post-marketing product quality and taking Acceptable safety management measures on primary distributors. A business code number Must be acquired in advance by applicants. Documents certifying the qualifications of the Marketing supervisor-general and an employment agreement are included in the application. Other documents include a main plan of the business office and storage facility, a copy of the Corporate registration, a list of the segregation of duties, a medical certification attesting to the Applicant's qualifications, and documents verifying the quality management system and the Post-marketing safety management system. Another's. A physical facility overview, Manufacturing facility floor plan, certifications of the relevant engineering manager's Credentials, an employment contract, and a copy of kiupany agreements with testing Laboratories are also necessary. Either they must include with those forms a list of the Ingredients from the import supplier maker or a record of the testing and examination results Attesting to the absence of any forbidden combinations in the product.

### **Approval for Primary Distribution by Product Category**

The Cosmetics Standards specify which components are authorised in cosmetics combinations In particular component categories and which ones are subject to embargo or limits in Cosmetics combinations. Except for those covered by a negative list of combinations that either limits them, all other Components may be used in cosmetics combinations following the safety verification and Selection. All of the component names in this case must be stated on the labelling. Approval for Primary distribution per product item is not required as long as the components comply with Cosmetics Standards and are all listed on the labelling. Products with component quantities Over the notifiable limit, nevertheless.

### **E. Handling Return Goods**

#### **Responsibilities – Handling of Returned Goods**

The warehouse staff is responsible for keeping track of returned goods and notifying the Quality Assurance & Production department when finished goods are received. The warehouse Staff must verify all of the returned goods' paperwork and physical condition, and they must Store them in accordance with the advised manner.

The physical condition of returned items should be examined by quality assurance staff, who Should also guarantee that the established procedure is followed in accordance with SOP. After All packing activities have been completed, the batch will be released and the Control Sample Withdrawn. The review and approval process should be handled by the plant head and quality Head, acceptance of the SOP.

#### **Returned Goods**

The material that does not adhere to the stated specifications or the requirements of the client. The material that is returned due to commercial or administrative qualities, packaging damage, Or breakage. Removal of particular batches from the market based on the product recall Process.

### **Procedure – Handling of Returned Goods**

#### **Receipt and Handling of Returned Goods**

The returned merchandise must be picked up by warehouse staff from the market or other Location, and all materials must be stored on separate pallets according to the proper storage Conditions for the individual products, either in the designated area for return merchandise or In a different area marked with blue rope.

#### **F. Recalling and Waste Disposal:**

- **Recall:** Recall is an action taken to withdraw pharmaceuticals from circulation or usage, including Remedial activities for which quality, effectiveness, or safety issues have been reported. Serious Adverse reactions as well as causes of mortality are included in recalls that are safety and Effectiveness related. Drugs that are prohibited by the Drug & Cosmetics Act's provisions as Well as goods whose product licences have been suspended or revoked are included in recalls. Only those alerts whose urgency and seriousness do not allow for any delay in information Should be transmitted via the Rapid Alert System. The severity of the flaw, as well as its Potential to hurt patients, animals, consumers, operators, or the environment, must be Evaluated.
- **Recall Classification:** Recall classification is a numerical designation, I, II, or III, given to a Specific product recall by national regulatory bodies to indicate the relative level of health Hazard. All recalled drugs and products that are illegal to sell and whose licences have been Suspended or revoked must also be classified as Class I recalls exclusively.
- **Class I :** is a circumstance when there is a reasonable chance that using a faulty product will Have major negative health effects or result in death and where the product is also prohibited Under Section 26A of the Drugs and Cosmetics Act of 1940.
- **Class II:** is a circumstance in which the usage of a defective product may result in brief health Issues or in which the likelihood of major health implications is remote.
- **Class III :** is a circumstance in which using or being exposed to a defective product is unlikely to Have any negative effects on one's health.
- **Recall Procedures:** Every batch of a product that doesn't adhere to the established quality Criteria needs to be pulled from the market. Recall is divided into two categories: statutory Recall and voluntary recall.

#### **G. Cosmetic Products Waste Disposal**

##### **The challenge as we see it**

Common cosmetics like lipstick, mascara, eye shadow, foundation, rouge, skin cleansers and Lotions, shampoo, finger nail polish, polish removers, perfume, and cologne have all been Harmed or abandoned by numerous companies.

##### **Our solutions for cosmetic products waste disposal:**

Depending on how many cosmetic goods you need to discard, we can try a recycling program Repeatedly. We'll work with you to set up a collection program and examine your present Waste sources. We will inform your personnel about the advantages of appropriate disposal.

##### **Recycling designed to fit your needs:**

We have created recycling strategies for both large and little amounts of cosmetics. We can Provide a range of mail-back, pre-paid recycling containers for small quantities, whether you Require service for a single facility or numerous locations across the nation. In addition, we set Up a pickup for larger orders of the product.

##### **On-time pick up:**

We shall keep our word when we say that we will pick up a merchandise. Once plans have been Established, you can rely on us to arrive promptly.

**Documented compliance:** We will give a certificate, showing that your cosmetic items were Received and handled in line with all laws, once they have been recycled or properly disposed Of.

##### **Vendor Evaluation Process :**

A procedure of evaluation and approval is called vendor assessment. Which companies can use To assess whether potential suppliers and vendors can fulfil their contractual responsibilities And organisational standards. Securing a portfolio of top-tier, low-risk vendors and suppliers is The ultimate goal.



II. REVIEW LIST OF INGREDIENTS ON THE COSMETICS

Current good manufacturing practices of cosmetics as per the regulatory authority

FDA monitors drug manufacturers' compliance with its Current Good Manufacturing Practice (CGMP) requirements to assure the quality of drug products. The CGMP laws for medications Define minimal standards for the processes, settings, and controls utilised in a drug product's Production, processing, and packaging. The regulations provide assurance that a product is Secure for use and that it possesses the components and sturdiness it represents.

A examination of the manufacturer's adherence to the CGMPs is part of the approval process For new and generic drug marketing applications. Assessors and investigators from the FDA Determine whether the company has the facilities, tools, and capacity to produce the Medication it proposes to market.

**Federal Rules of Regulation (CFR).** Title 21 of the CFR, which interprets the Federal Food, Drug, And Cosmetic Act and related laws, such as the Public Health Service Act, is where the FDA's Section of the law is located. Several sections of Title 21 address pharmaceutical or drug Quality-related laws, including sections 1-99, 200-299, 300-499, 600-799, and 800-1299.

The regulations enable the common understanding of the regulatory process by describing the Provisions to be followed by drug manufacturers, applicants, and FDA.

**21 CFR Part 314** -should obtain FDA authorization before launching a new medicine.

**21 CFR Part 210**-Current Good Manufacturing Practice for Drug Processing, Manufacturing, and Packaging.

**21 CFR Part 211**-Good Manufacturing Practices for Finished Pharmaceuticals at the Present Time.

**21 CFR part 212**-Pharmaceuticals for Positron Emission Tomography: Current Good Manufacturing Practice.

**21 CFR part 600** -Biological product.

**Study of ICH Guidelines for stability studies:**

**Q1A (R2):** Stability testing for new drugs substance and products

**Q1B :** Stability testing: Photostability testing of new drug substances and products

**Q1C :**Stability testing for new dosage form.

**Q1D :**Designs for bracketing and matrixing are used to test the stability of new medicinal Ingredients and products.

**Q1E :**Evaluation of stability data .

**Q1F :** stability data package for registration application in climatic zones III & IV .

**Cleansing and care needs for Body and face :**

**Face cleansers :**

A cleanser is a facial care product used to clean the skin on the face of makeup, dead skin cells, Oil, grime, and other sorts of impurities. Additionally, it aids in pore opening and the prevention Of skin conditions like acne. It is used in conjunction with a toner and moisturiser as part of a Skin care routine.

**Face wash :**

These are the products that aid in removing dead skin cells, oiliness, and flecks from the face. They provide skin the greatest complexion.

**Face moisturizer :**

Face moisturizer is used to prevent dryness in the skin. It provides moisture to skin by opening The pores and removing the dirt from them, hence repairing the pores.

**Face moisturizer:** Use of a face moisturiser might help to keep the skin from drying out. By Expanding the pores and cleaning the dirt out of them, it repairs the pores and gives the skin Hydration.



**Face masks:** Face masks aid in improving skin hydration and pore refinement. It reduces fine Wrinkles and gives the face with stronger skin an even intonation.

**Care needs for face:**

After washing your face in the morning, use toner.

After toning, moisten.

Every morning, use sunscreen.

Before going to bed, wash and moisturiser your face again.

Apply a serum on areas before going to be.

Exfoliate every one to two weeks.

Conduct a self-check once a month.

Establish a schedule for face care.

Make time just for taking care of your face.

Cleanse your skin first thing in the morning



**Cleansing and care needs for eyelids :**

Care should be taken to preserve the eye and eyelids because the eyes are a particularly Sensitive area of the body. In addition to taking care of oneself, one must also clean one’s face And apply makeup.

**Eye care and makeup products are:**

**Eye shadow** – Eye shadows are utilised to give the eye’s backdrop colour. They are sold in a Variety of colours; common ones include blue, green, and brown. They can either take the form Of a liquid paste or a solid. Eye shadow in solid form might come in powder compact, oil-based Stick, or pencil form. Eyeshadows with a liquid base can have an oil base paste or an emulsion Type: - Type of emulsion, o/w or w/o .

**Eye mascara :**

A common cosmetic for enhancing the look of eyelashes is mascara. TheEyelashes could get darker, thicker, or longer. Modern mascara products typically come in Liquid, cake, or cream form, but they all generally have the same basic ingredients: pigments, Oils, waxes, and preservatives.

**Eye liner :** Applying eyeliner around the eye’s contours is a cosmetic technique for defining the Eyes.

**TYPES:**

**Liquid Eyeliner:** Liquid eyeliner is in a liquid form, and a brush is used to apply it.

**Gel eyeliner:** is applied with a little brush and is packaged in a jar. Bold lines and catlike eyes Can also be made using gel.

**Eyeliner Pencil (Kohl) :** To create a range of aesthetically pleasing effects, it is applied directly to The eyelids in pencil form.

**Care needs for eyelids :** Use eyelid moisturizer’s to help reduce expression lines. The best times To moisturiser are right after a shower and before bed.

**Cleansing and care needs for dental cavities:**

- Brushing your teeth at least twice a day or after every meal.
- Floss your teeth regularly .
- proper diet .
- Other interdental cleaning .
- Rinsing .
- Regular dental checkups.



**Cleansing and care needs for lips:** The most beautiful part of our bodies, the lips draw people To us like a magnet. As it reveals the index of wellness both within and outside the body, care And cleansing are required

**Lip care products types:**

Sr .no	Natural	Synthetic
1	Aloe Vera	Lip scrubs
2	Honey, butter, milk cram	Lip sticks
3	Sugar	Lip balm
4	Tomatoes, beet roots, rose petal etc	Lip gloss

**Lips care products are:**

- **Lip Scrub** -Lip scrubs and lip balms are relatively similar, and both products serve to hydrate and Moisturiser the skin. Most lip scrubs are made of waxes, oils, fats, and butter. It helps to get rid Of a little bit of dry skin on the lips.
- **Lip Balms** : Lip scrubs and lip balms are relatively similar, and both products serve to hydrate And moisturiser the skin. Most lip scrubs are made of waxes, oils, fats, and butter. It helps to Get rid of a little bit of dry skin on the lips.
- **Lip Balms** : Lip balm is a wax-like product that hydrates lips and lessens the discomfort Associated with dry lips. Lips show signs of dryness earlier other sections of the skin because of Their thin skin. Lip balm aids in defending lips against wind, cold, and dry air. Lip balms are Available in a wide range of flavors' and appealing smells. Lips lack perspiration and sebaceous Glands, in contrast to other areas of our skin, and are only partially covered by skin.
- **Lipstick** : goods for cosmetic use that contain oils and waxes. Emollients and pigments that Provide lips colour, texture, and protection. These preparations are used to colour the lips and Improve the lip's look.
- **Lip Gloss** : Lip gloss is a product used primarily to give lips a glossy luster, and sometimes to add A suitable color. It is distributed as a liquid or a soft solid or lipstick, which generally is a solid, Cream-like substance that gives off a more pigmented color.

**Care needs for lips:**

- Avoid touching or licking your lips.
- Follow a healthy diet.
- Stay hydrated by drinking a lot of water.
- Remove makeup and keeps your lips hydrated overnight
- Massage your lips. Scrub your lip.
- Always carry a lip balm. Use lipstick when stepping out.

**Cleansing and care needs for feet:**

**Cleansing products of feet**

- **Foot creams** :These are the items that cleanse the feet by getting rid of dead skin and aid in regenerating the cells, preventing dry, chapped, and cracked feet.
- **Foot washes**: These are the items that clean the skin on the foot and smoothen it by having a Calming impact. Patients with diabetes typically utilise it.

**Care needs for foot :**

- Keep your feet clean and dry
- Rest and relax your feet every day
- Exercise your feet to maintain blood circulation. Walking is best.
- Check your feet regularly.
- Clip your toenails straight across
- If you notice problems with your feet, get it treated right away so it does not get worse.
- **Cleansing and care needs for hands**: Hands can come in contact with many bacteria and Viruses. So cleansing and taking care of your hands is a very important task of the day in today's Life.
- **Hand moisturizers**: Wintertime is a crucial time to moisturiser hands because the severe weather can cause Dryness and even cracking of the skin.
- **Hand moisturizers**: Wintertime is a crucial time to moisturiser hands because the severe weather can cause Dryness and even cracking of the skin.

- **Hand sanitizers:** A non-water based hand hygiene product is a hand sanitizer or hand antiseptic. For simplicity of Use and to lessen the drying effect of the alcohol, the majority of them are based on isopropyl Alcohol or ethanol that has been blended with a thickening agent like carbomer into a gel or Humectants like glycerin into a liquid or foam. Alcohol-based hand sanitizers with a minimum Alcohol content of 60% to 95% are effective at killing germs.
- **Hand washes:** The soap compositions used in hand washes are superior to soaps and portable. More soaps Are removed as a result. Avoid spreading illness while using.

#### Care needs for hands:

- Use a salt and oil/coconut oil scrub to remove the dead skin.
- oil to massage your hand.
- Dip in concentrated tea solution for 15-20 minutes.
- Apply almond oil and honey to the hands overnight.

#### Cleansing and care needs for nail:

##### Nail care methods and products

##### Manicure

##### Steps involved in manicure:

- **Nail polish remover:** It takes off any nail polish that is still on the nail Plate. Cotton ball with nail Paint remover on it. Removers for nail enamel disintegrate. Nail plate lipids and nitrocellulose. Use of nail polish remover shouldn't exceed once per week.
- **Cutting, Filling, and Pumicing :** lightly soapy water is used to wash the nails. This makes the Nails softer and cleaner.
- **Cuticle removers:** They typically have a 2.5% concentration of NAOH and KOH. They cause the Cuticle and cuticle remnants that stick to the nail plate surface to become softer.
- **Daily care:** entail applying: Cuticle softeners fragile skin creams nails polished Cuticle.
- **Nutritional steps to healthy nails:** Consume 50% fruit and 50% raw veggies in your diet to Acquire the vitamins, minerals, enzymes, and other nutrients you require. Wear hand gloves And clean your nails frequently, especially after engaging in outdoor activities. Apply foot cream To toenails and hand cream to fingernails.
- **Cleansing and care needs for scalp:** the scalp is where hairs grow, the healthier the scalp, the Healthier the hair. It's crucial to wash and nurture the scalp. Hair care and cleansing products
- **Hair cleansers :** Hair cleansers are soap formulations that exfoliate the scalp and clear it of dirt, Debris, and dead skin cells.
- **Hair conditioners:** A hair care product called a conditioner is used to enhance the look and Manageability of hair. The main function of conditioner is to lessen friction between hair Strands to make brushing and combing easier, which could otherwise harm the scalp.
- **Hair packs:** Deep conditioning treatments, according to proponents of hair packs, can aid in the Healing of damaged hair. Rich components, like organic oils and lipids, are frequently included In the formulation of hair packs. These helpful ingredients stay on your hair for intervals ranging From a few minutes to a few hours.

#### Care needs for scalp:

- Do not forget to preserve moisture.
- Massage your scalp mentally.
- Limit chemical treatments.
- Shampoo regularly.
- Protect your scalp from the sun and daylight.
- Eat healthy.



Cleansing and care needs for neck



1. **Cleanser:** To ensure there is no filth buildup, scrub your neck with a light cleanser or cleansing Milk a few times per week. Utilize cleansers packed with antioxidants to effectively cleanse, Brighten, and shield your skin from free radical damage.

2. **Exfoliate :** To get rid of old skin, dead cells, and surface dead skin, exfoliate your neck once Each week. Lemon has a built-in lightening effect that helps lighten the look of dark skin.

**Moisturizing :** protect your neck from the sun, which is the main cause of skin ageing, by Applying a moisturiser containing SPF.

Cleansing and care needs for body:

- **Soaps:**– Soaps are crucial cosmetic and osmometrical preparations that cleanse the body of Pollution and dead skin cells. They give the body scent and moisturiser the skin at the same Time.
- **Shower gels :** Shower gel is a unique liquid cleaner that is used in showers. Shower gels don't Include spoon-feed oil, so don't confuse them with liquid soaps. Instead, it makes use of synthetic detergents derived from petroleum or plants. Because they have a lower pH than regular soap, which is also believed to feel less drying to the skin, body washes and shower gel In certain capsules, sodium stearate is included in the chemical mixture to create a solid shower gel.
- **Talcum powder:** These are the products that eliminate bodily smells.

Care-needs for Body :

- Bath every day.
- Make your body hydrated.
- Moisturize the skin every day.
- Use washed dresses
- Follow balanced diet

Cleansing and care needs for underarms

Care for underarms

Hair Removal

- **Shaving:** The proper shaving technique will get rid of stubble while avoiding ingrown hairs and Any potential discomfort. Keep in mind that the hair there might occasionally grow in different Directions, so you might need to use more than one downward stroke when shaving. For Flawless results, gently exfoliate the region before shaving and use a conditioning aftershave Cream. Always use a fresh blade for a close, comfortable shave.

- **Waxing:** While waxing isn't particularly enjoyable, it's really effective and can keep you hairfree for weeks as opposed to days. To get rid of the everyday stubble, either do it at home if You're daring or seek the advice of a licences esthetician or waxing specialist.
- **Deodorants :** A deodorant is a chemical applied to the body to stop body odors brought on by Bacteria breaking down sweat in places like the feet, armpits, and other body parts. Antiperspirants, a subclass of deodorants, work on sweat glands to inhibit perspiration and Reduce odors. Deodorants, which come in the form of body sprays, can also be applied to the Feet and other places. Antiperspirants are commonly administered to the underarms. Deodorants frequently contain alcohol. Alcohol initially increases sweating but also has the Potential to momentarily destroy microorganisms. Sodium stearate, sodium chloride, and Stearyl alcohol are some of the other active components included in deodorants. Other, longerlasting antimicrobials, including triclosan, which inhibits bacterial development, or metal Chelate substances, like EDTA, can be used in the formulation of deodorants. Deodorants used To contain formaldehyde, ammonium chloride, zinc oxide, acids, sodium bicarbonate, and other Substances that were dirty, irritating to the skin, or even cancerous.

**Formulation consideration ethnics' needs of cosmeceuticals like:**

- **Vanishing cream:** Vanishing creams are referred called as such because they spread freely and Appear to vanish quickly when applied to the skin. Emollient esters, which make up these Lotions, leave a thin film on the skin. Stearic acid is the base of the traditional formulas for Disappearing creams. Stearic acid melts at temperatures higher than body temperature and Crystallites into an undetectable state, producing a non-greasy coating. It also gives the cream a Beautiful appearance.

**FORMULA:**

Sr.no	Ingredient	Quantity
1	Stearic Acid	17%
2	Potassium hydroxide	0.7%
3	Glycerin	5%
4	Water	100%
5	Perfumes and preservatives	Q.S.

**Procedure for preparation of vanishing cream:-**

- Stearic acid should melt in a china dish submerged in water.
- In a beaker, combine glycerin and potassium hydroxide for dissolution. In a water bath, warm The aqueous solution to 70°C.
- Add aqueous phase to melted stearic acid while stirring continuously once both the aqueous And oily phases have reached the same temperature (70°C).
- When the temperature reaches 40°C, remove the china dish from the heat and continue Stirring. Add the scent and mix thoroughly until the mixture cools and a homogeneous cream is Produced.

**III. UNDERSTANDING AND BASIC CONCEPTS**

**3.1 Preparation of sop of different machineries**

**Ball Mill:**

**Standard Operating Procedure for Ball Mill:**

1. Open side of the vessel by opening the screw situated over the both sides of the vessel And remove the cap from the vessel.
2. Pour the ingredients desired no. and size of balls into the vessel.
3. Close the mouth of the vessel by placing its cap and tightening the screws on it.
4. Insert the main plug into the main switch.
5. On the ON/OFF button of the ball mill.
6. After completion of milling open the cap of the blender and collect the sample from vessel.

- After completion of practical, remove the main plug from the switch & clean it with dry cloth.

### SOP on Operation of Colloid Mill

This standard operating procedure (SOP) is intended to establish a process for operating a Colloid mill. This approach is suitable to the use of colloid mills at pharmaceutical industry manufacturing Facilities.

#### Procedure:

- Ensure that area is cleaned as per SOP.
- Ensure that all the parts of the colloid mill are cleaned as per SOP.
- Ensure mains are 'OFF' and plug top is removed from socket.
- By hand, turn the rotor to make sure it can travel freely.
- To align the scale with the indication mark, position the outer ring and turn it clockwise (the Scale should be adjusted according to the product requirements'
- To secure the ring in place, tighten the handles on the sides the top ring and hopper first, then the food-grade neoprene gaskets.
- Put 'ON' the mains and check direction of rotation (direction of rotation should be long, the Arrow marked on the body of the machine).
- Hopper's bolts should be tightened.
- Fix the gasket and recirculation/outlet nozzle.
- Assume line clearance in accordance with SOP, and document line clearance activity in the Annexure.
- Try it out with filtered water.
- Verify that there are no leaks or strange noises. Attach a "USE FOR" label to the machine along With the product name, the date, and the production officer's signature.
- Put the suspension or solution to be processed in the hopper and turn the colloid mill "ON."
- Using the knob on the outflow nozzle, mill the solution or suspension in a single pass or many Passes (recirculation) (as per product requirement). Verify how gritty the upcoming suspension Is.
- Use solvent or distilled water to rinse the colloid mill.
- Turn the colloid mill "OFF."
- Attach a label reading "TO BE CLEANED" along with the equipment number, prior product Batch number, date, and production officer's signature to the hopper.
- Enter cleaning activities into the equipment and area's Cleaning and Usage Log in accordance With SOP.



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**Calibration:**

RPM of colloid mill every 12 months by outside party. Frequency every 12 months.

**SOP On Moulds:**

While handling the lipstick mold, screw must be tightened

Pour the lipstick liquid into the mold and refrigerate for about 30 minute

The cooled paste must be separated from the mold left or right along the direction of the arrow

Screw of lipstick mold must be tightened.

Pour the lipstick mixture into the mold and refrigerate for about 30 minutes.

Insert and remove the cooled lipstick with a lipstick tube

**Different types of equipment used in lipstick preparation:**

- Boll mill
- Roller mill
- Colloidal mill
- Mixing jacket kettles
- Lipstick mold

**Ball mill:** Using the information gathered in small laboratory-scale mills, these models forecast The behaviour of huge industrial-scale mills. The predictions, however, suffer from large Inadequacies because of the variations in charge motion between mills operating at plant- and Lab-scales. This article explains a batch-grinding model that makes use of the mill's impact energy distribution. The simulation of the charge motion using the discrete element method yields the distribution of impact energy.

**Quality control test for lipstick preparation:**

**Evaluation of lipstick:**

- Melting point determination test
- Breaking load point test
- Determination of thixotropic characters
- Microbiological test
- Test for rancidity
- Test for application force
- Storage stability
- Stability to oxidation
- Determination of surface characteristics
- Determination of color dispersion

**Melting point determination test:**

The melting point is calculated in order to determine the product's storage properties. To Prevent the occurrence of friction or dryness during application, the inciting point of lipstick Base should be between 60 and 65°C. The measurement method is called the capillary tube Method:

In this procedure, a glass capillary tube that is open on both ends is filled with approximately 50 Mg of lipstick.

The capillary tube is inserted in a beaker with hot water and a magnetic stirrer after being ice Cold for a few hours.

The melting point temperature is thought to be the temperature at which a substance begins to Flow through a capillary.

The droop point, which establishes the temperature at which the product begins to leak oil and Flattens out, is another important component.

The safe handling and storage of completed goods is determined by the melting point, which Should be greater than the droop point.

#### IV. HANDS ON INSTRUMENTS

##### Hands on instruments depending on type of cosmetic product (lipstick)

###### Texture analyzer:

Lipstick is a moulded, solid fatty basis with a variety of teanalyze Requirements for the colourant that is dissolved and suspended in it. The ability of the product To remain rigid during use is a crucial feature that users look for. Overall, texture research Showed that lipstick based on 12-HAS was particularly difficult to bend compared to control, Whereas other formulations become softer and more flexible throughout the course of the Stability trial.Eventually, it was permissible to divide lipsticks into two groups using both sensory And instrumental analyses. The results of this study point to the potential for LMOGs to be used As a structural agent for lipsticks, opening the door to additional photoprotective and naturally Derived choices.

**Methods:** Measurements were made on the particle size, viscosity, spreadability, wetting, oil Absorption, and colour. In order to create lipsticks, four of the nine dispersions were combined With the 40% meadowfoam seed oil dispersion and all the 30% pigment dispersions. Lipsticks Underwent a four-week test to assess their tensile strength, payoff, friction, rheology, colour, And stability.

**Results:** Across the dispersions, the average particle size was between 6 and 9 m. In comparison To the other dispersions, the castor oil dispersions were more viscous, stickier, and difficult toSpread. Due to variations in the viscosity of the dispersion agents and the powder's ability to Absorb oil, the lipsticks' varying hardness was to be expected. The toughest and most flexible Lipsticks were made of castor oil and meadowfoam seed oil with 40% pigment. The lipstick with Octyldodecanol was the smoothest. The lipstick containing 40% meadowfoam seed oil had the Lowest friction, whereas the lipstick containing octyldodecanol had the highest payoff. The Lipsticks' colours were extremely comparable whether they were on a stick and when they were Spread out on paper.

###### Experimental / Hands on activity:

###### Preparation and evaluation of lipstick:

It was noted that lipsticks are sold in hundreds of different colour tones to meet female Demand.

**Aim:** The current inquiry was done to develop herbal lipstick with the purpose of having little to No side effects due to the increased negative impacts of synthetic preparations.

###### Requirements:

###### Ingredients:

Coconut oil, cocoa butter, beeswax, beetroot juice or Bixa orellana as coloring agent,Rose essence and vanilla essence as flavoring agent.

###### Instruments:

Moulds, water bath, weighing balance, beaker, china dish, mortar and pestle.

###### Procedure:

1. The moulding procedure was used to create the herbal lipstick.
2. The materials were combined with the cocoa butter that was melting in a certain ratio, either In a crushed or dry and powdered form. The mixture was then added to the already-existing Cosmetic beeswax over a low flame.
3. Lipstickas eventually given to the molten substance.
4. Colorur, pH, melting point, breaking point, thixotropic properties, and stability of the created Lipstick were all assessed.

**Formulation of herbal lipstick:** The composition and preparation of the herbal lipstick was sufficiently supported by efficacy And general information on the safety of regular lipstick. In the literature, the components are Mentioned.The components included coconut oil (6 g), cocoa butter (28 g), beeswax (36 g), Beetroot juice (6 g), and Bixa orellana (6 g) as colouring agents, as well as rose essence (0.1 ml) And vanilla essence in adequate amounts. Herbal lipsticks are becoming increasingly popular. The process of melting and moulding was used to create the lipstick. The materials were Combined in a beaker, dried to a semi-solid state in a predetermined ratio, and then blended With beeswax from an existing cosmetic at a low heat.The semisolid mass was then formed in The appropriate moulds. In the present, lipsticks have been created that are being scrutinised By several health watchers. The entire process is carried out in a spotless and sanitary setting.



**Evaluation of herbal lipstick:**

Users frequently nibble away at lipsticks. Maintaining consistency is crucial, thus it is essential That herbal lipstick meet certain health standards. With this in mind, controllers took a close Look at the formulation of the lipstick, assessing its components’ stability, melting point, Melting point, colour, and melting point.

**Evaluation tests for herbal lipsticks:**

- Melting Point test
- Breaking point test
- Thixotropic characteristics
- Force of application
- Surface anomalies
- Aging stability
- Solubility test
- PH parameter
- Skin irritation test

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**V. CONCLUSION**

Therefore, based on the results of the inquiry, it can be said that the produced Herbal lipstick offers better options for women with few adverse effects, albeit a thorough Clinical thesis may be conducted to assess the formulation’s efficacy.

**VI. RESULTS**

The information regarding the criteria used to evaluate lipstick was great, with the skin pH range being shown as being compatible with skin and being stable under all test settings.

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