IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 3, Issue 1, January 2023
Impact Factor: 6.252

Cosmetic Science

Amol V. Pore, Sanjay K. Bais, Miss Asawari D Lotake
Fabtech College of Pharmacy, Sangola, Solapur, Maharashtra, India

Abstract: *Cosmetics play a significant role in human culture. Because of the health risks associated with cosmetic use, modern decorative technology is looking for cosmetics that are derived naturally. This chapter discusses cosmetics derived from synthetic polymers, polymers based on polysaccharides, proteins, and silicone-based accessories. The rising usage of beneficial synthetic polymers, which are responsible for colourful organic detergents like methyl chloride, ethyl alcohol, iso-propanol, toluene, and others, has significantly altered the way that special care is administered. The usage of waterless-based detergents in the ornamental assiduity is problematic even though this method is terrain-friendly. Polymers with polysaccharide bases are easily accessible from common natural sources. They have healing capabilities, have been used for ages, are harmless.*

Keywords: Cosmetics

I. INTRODUCTION

Chemical composites derived from either natural materials or artificially manufactured bones make up cosmetics.

Cosmetics serve a variety of purposes. The body or skin can be cleansed or covered with those intended for specific care and skin care. Cosmetics intended to improve or change one's appearance (makeup) can be used to hide flaws, accentuate natural characteristics (such eyelashes and eyebrows), add colour to the face, or completely transform the face's appearance to function as another person, animal, or object. The body can also be scented with the use of cosmetics. (1) Despite what significant Roman literature says, cosmetics were utilised in ancient Rome as well. It is known that certain ladies in ancient Rome created cosmetics using lead-based compositions to lighten the skin and conceal the lines around the eyes. The assiduity that creates and sells ornamental goods is known as the ornamental assiduity. Color cosmetics, such as foundation and makeup, skincare products like moisturisers and cleaners, hair products like soaps, conditioners, and hair colours, and toiletries like bubble bath and cleaner are some examples. Although a limited number of global corporations that date back to the early 20th century dominate the production sector, a diverse variety of companies are involved in the distribution and trading of cosmetics. The biggest decorative businesses are Chanel, Nivea, and Gillette. According to a 2005 report, the annual request volume for cosmetics in Europe and the US is around EUR€ 70 billion. The global cosmetics and incense industry currently generates an estimated US$ 170 billion in annual growth (according to Eurostaf – May 2007). The largest request, amounting to nearly €63 billion, came from Europe. (2) OVERVIEW OF THE 1940 AND 1945 DRUG AND ORNATE ACT The 1940 Medicines and Cosmetics

Act gave the Indian government the authority to create the 1940 Medicines and Cosmetics Rules. These regulations categorise medications into predetermined schedules and provide instructions for the storage, distribution, display, and custom of each schedule. The primary goal of the Drug and Cosmetic Act of 1940 and Rule of 1945 is to uphold the importation, production, distribution, and commerce of drugs and decorative items. This law confirms that only trustworthy individuals with the necessary licences should make, distribute, and sell clothing and pharmaceuticals. It is a privilege for the Central and State Drug Control authorities to oversee this behaviour. The act also authorises the establishment of two advisory boards, the Drug Technical Advisory Board (DTAB) and the Ayurvedic and Unani Medicines Technical Advisory Board, to provide expert opinion to the federal and state governments on issues related to the implementation of the act. [3]

II. CLASSES OF COSMETIC PROHIBITED FROM IMPORT

Following Drug and Cosmetic cannot be imported

1. Any drug or cosmetic which is not standard quality .

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2. Any misbranded or adulterated drug or cosmetic .
3. Any cosmetic or drug containing any ingredient which is harmful .
4. Drugs not labelled in the prescribed manner .
5. Any drug or cosmetic which requires a license for import.[4]

III. PROHIBITION OF MANUFACTURE AND SALE OF DRUGS

3.1 Prohibition on the Machining and Sale of Drug

1. Any drug or cosmetic that has been adulterated, misbranded, or is not of standard quality
2. Any prescription drug, whether it be a patent or a proprietary one, whose ingredients and dosages are not listed on the label or container.
3. Any medication that promotes the prevention, treatment, or migration of any disease listed in Schedule J.
4. Any cosmetic that contains ingredients that make it dangerous to use. [5]

3.2 Offences and Penalties [6]

Offences and Penalties Relating to Import of Drugs:

Sr. No.	Offence	Penalties	
		First conviction	Subsequent conviction
1.	Import of adulterated or spurious drugs or cosmetics or any cosmetic containing any ingredient which may render it unsafe or harmful for the use under directions recommended.	Imprisonment upto 3 years and fine upto ₹ 5000.	Imprisonment upto 5 years or fine upto ₹ 10,000 or both.
2.	Import of drugs or cosmetics other than referred above the import of which is prohibited.	Imprisonment upto 06 months or fine upto ₹ 500 or both.	Imprisonment upto 1 year or fine upto ₹ 1000 or both.
3.	Import of drugs or cosmetics in contravention of any notification issued under section 10-A.	Imprisonment upto 3 years or fine upto ₹ 5000 or both.	

3.3 Offences and Penalties Relating to Sale of Drugs [7]

Sr. No.	Offence	Penalties	
		First conviction	Subsequent conviction
1.	Sale or distribution of:		
	(i) Any adulterated or spurious drugs or drug not of standard quality	Imprisonment upto 5 years and extending upto lifetime and fine of not less than ₹ 10,000.	Imprisonment upto 10 years or fine upto ₹ 20,000 or both.
	(ii) Any adulterated but not containing toxic or harmful substances injurious to health	Imprisonment from 1-3 and fine of not less than ₹ 5,000	Imprisonment for 2-4 years or fine upto ₹ 10,000.
	(iii) Without a license	Imprisonment of less than a year and a lesser fine.	Imprisonment for not less than 2 years or fine upto ₹ 10,000.
	(iv) Spurious drugs but not manufactured under the name of any other drug	Imprisonment for 3-5 years and fine of not less than ₹ 5,000.	Imprisonment for not less than 6-10 years or fine upto ₹ 10,000.
	(v) Any other	Imprisonment for 1 year.	
	(vi) Contravention of this act	Imprisonment from 1-2 years and fine.	Imprisonment for 2-4 years or fine upto ₹ 5,000 or both.
2.	Not keeping records of sale in the specified manner.	Imprisonment upto 3 years or fine upto ₹ 1000 or both.	Same as first conviction
3.	Using the report of Government analyst for advertising any drug.	Fine upto ₹ 500	Imprisonment upto 10 years or with fine or both.

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IV. CONDITION FOR OBTAINING LICENCES

4.1 India's Drug Imports

Through the Central Pharmaceuticals Standard Control Organization (CDSCO), which is led by the Drugs Controller General of India (DCG), the Central Government imposes regulatory control over these drugs and cosmetics imported into the nation.

The State Drug Control Authorities, which are appointed by the State Government, are largely responsible for regulating the production, sale, and distribution of narcotics.

The goal of the nation's drug regulatory system is to guarantee the accessibility of highquality, safe, and effective medicines, cosmetics, and medical devices that are based on superior scientific research and the finest regulatory procedures.

Section 3 of the Drugs and Cosmetics Act of 1940 defines a drug. Any medication, cosmetic, or medical gadget may be designated as a helpful drug by the central government by publication of a notification in the official i. Wholesale drug license ii. Retail drug license iii. Restricted license for general store

4.2 Loan Drug License

This license shall be obtained by the persons who do not have their own land for manufacturing of drugs but want to manufacture the products and services with their brand name on land of others who are already issued with the License of manufacturing.

V. DOCUMENTATION AND VENDOR EVALUATION PROCESS

5.1 Batch Manufacturing Record

Each batch record should be maintained irrespective of product manufactured(classical medications or patent or personal drugs).

Manufacturing records are needed to give an account of the list of raw accoutrements and their amounts attained from the store, tests conducted during the colorful stages of manufacture like taste, colour, physical characteristics and chemical tests as may be necessary or indicated in the medicines and Cosmetics Act.

5.2 Master Formula Records (MFR)

The licensee is required to keep MFRs for each product's manufacturing process, which will be created and approved by the production and quality control head's qualified technical staff. The patent or proprietary name of the product, its strength, and the dosage form should all be listed in the master formula record.

Information on how to identify the finished container's packing materials, including the label and closure that will be applied.

A description of every vessel and piece of equipment utilised, together with their sizes.

Manufacturing and control instructions and parameters are given for important processes including blending, drying, sieving, and sterilising the product, among others.

Detailed guidelines for safety measures should be performed throughout the

5.3 Quality Control

A manufacturer can set-up own quality control section or testing could be done through government approved testing laboratory.

5.4 Distribution Record:

Distribution record (Dispatch register) should be maintained to facilitate process of prompt and complete recall of the batch. Distribution record should be maintained till expiry of batch. [8]

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VI. CURREENT GOOD MANUFACTURING PRACTICES OF COSMETIC AS PER THE REGULATORY AUTHORITIES

6.1 Locations and Surroundings

The factory facility must be positioned and built to prevent contamination from open drains, sewers, pungent or offensive odours, dust, and smoke, among other things.

6.2 Buildings and Premises

1. A building for manufacturing unit shall permit work under hygienic conditions.
2. The building should be suitable for other manufacturing activities taking place on the same grounds.
3. To reduce the possibility of combining or contaminating various pharmaceuticals and components, there should be enough space for placing the necessary tools and supplies.
4. The flooring must be flat and smooth, and it must be constructed in a way that prevents the retention or buildup of trash or dust.
5. The building ought to have a suitable drainage system. Electric and sanitary fixtures must be suitable and secure.

6.3 Water Supply

The water supply must be clean and fit for human consumption. Ample water must be provided for squandering on the property.

6.4 Disposable of Waste

1. Sewage and wastewater disposal at the factory must follow "Environmental Pollution Control Board" guidelines.
2. According to federal and state laws, dangerous, poisonous, and flammable materials must be stored in enclosed spaces that are appropriately built and segregated.

6.5 Stores

An suitable amount of room should be provided in the shop for the independent and separate storage of raw materials, packaging materials, and completed goods.

6.6 Equipment

Equipment used to make pharmaceuticals must be built, installed, and maintained in a manner that:

1. To achieve the necessary quality, increase operational efficiency.
2. Prevent surface contact from causing physical, chemical, or physico-chemical change.
3. Avoid contacting any material that is necessary for the device to operate, such as lubricants..
4. Where cleaning is required, facilitate.
5. Reduce the likelihood of drug and container contamination during production.
6. Equipment used for crucial steps in the process must be kept up to date with a device that can record the parameter or have drawn systems to notify a problem. These instruments must be calibrated, tested, and the results must be kept on file.

6.7 Raw-Materials

The licensee is required to establish an inventory of all raw materials that will be used during any stage of drug production and to maintain the records in accordance with schedule U. Such raw materials must all be:

1. Proper temperature and relative humidity were used during storage.
2. Consistently sampled by quality assurance staff.

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6.8 Container's Cleaning

The washing, cleaning, and drying areas for bottles, vials, and jars should be properly organised and segregated from the manufacturing processes.

6.9 Quality Control

A manufacturer can build up their own quality control department, or they can use a government-approved testing facility for their testing. [9].

VII. STUDY OF ICH GUIDLINES STABILITY STUDIES

7.1 Designing A Cosmetic Stability Study

The following factors should be taken into account in a stability research.
Take into account both the packaging's effect on the product it contains and any affects the product might have on the package.

7.2 Predicting Shelf Life

- Very little generally applicable published evidence is available to support any particular expedited methodology for estimating the shelf life of cosmetics. Among the causes of this information gap are:
- The wide range and complexity of packaging and formulae for cosmetics.
- The use of stability test procedures and many items' private character
- The diversity of changes that need to be looked at, such as those that are physical, chemical, microbiological, functional, or aesthetic.

"Accelerated" Conditions

In several industries, accelerated test circumstances are widely acknowledged as providing accurate product shelf life predictions.

Scale-Up Stability Testing

Initial assessments of product stability can be made throughout the early stages of product development by testing samples from laboratory batches under the right circumstances.

7.3 Packaging

Because of interactions that may take place between the product, the package, and the outside environment, packaging can have a direct impact on the stability of the final product. These interactions could be:
interactions between the product and the container (such as migration, corrosion, and
adsorption of the product's components);

7.4 Predicting Functionality Under Stress Conditions

The methods used to forecast how well cosmetics can withstand everyday pressures like temperature fluctuations and light are described in this section.

Temperature Variations and Extremes

Some sorts of deficiencies can be found more quickly by temperature cycling and/or "freezethaw" tests than through storage at a constant temperature. For some items, freezethaw testing should be taken into account.

Mechanical and Physical Tests

It is common practise to perform mechanical shock testing to ascertain whether shipping movements could harm the product and/or its packaging. For instance, vibration testing can assist in determining the likelihood of de-mixing (separation) of powdered or granular materials.

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VIII. KNOWLEDGE ABOUT SKIN RELATED PROBLEMS

Some of the most common skin diseases include:

- **Acne**, Pore clogging acne, blocked skin follicles that produce oil, bacteria, and dead skin cells.
- **Alopecia areata**, which causes patchy hair loss.
- **Atopic dermatitis (eczema)**, a condition marked by dry, itchy skin that can crack and swell.
- **Psoriasis**, skin that is scaly and may bulge or feel rough t.
- **Raynaud's phenomenon**,Your skin may go numb or change colour as a result of irregularly reduced blood flow to your fingers, toes, or other body parts.
- **Rosacea**, Usually on the face, pimples, flushed skin, and thick skin
- **Skin cancer**, uncontrolled growth of abnormal skin cells.
- **Vitiligo**, pigment-losing skin patches. [10]

IX. KNOWLEDGE ABOUT HAIR RELATED PROBLEMS

- **Dandruff**: A poor diet, an infection, or even a slow metabolism might contribute to dandruff, which is made up of scaly particles that stick to the hair's roots.
- **Hair Loss:** Hair loss and thinning hair are widespread among women even though they have historically been considered an issue for men. It may be male pattern baldness in the majority of guys. Stress, medications, shifting hormones, and even menopause can lead to female hair loss.
- **Dry Hair:** Too much shampooing results in dry hair. Although having spotless hair is ideal, many go overboard by washing their hair once, sometimes twice, every day. The natural oils in the hair will all be removed in this way.
- **Spit Ends:** Split ends are brought on by overbrushing, overperming, using too much heat, and not using a good conditioner.
- **Dull Hair:** Dull-looking hair can be caused by a variety of factors, including chemical or heat-styling damage and environmental toxins. [11]

X. KNOWLEDGE ABOUT NAIL RELATED PROBLEM

- Broken nails
- Pitting
- A yellow or brown colour change
- An accumulation of skin beneath the nails
- Nail-biting blood
- The nail pops free of the bed. [12]

XI. KNOWLEDGE ABOUT ORAL CAVITY RELATED PROBLEMS

- Toothache
- Discolored Teeth
- Cavities
- A cracked tooth
- Missing teeth

XII. CLEANSING AND CARE NEEDS FOR FACE,EYE LIDS,GUMS, DENTAL CAVITIES, HAIRS , LIPS , HANDS, FEET, NAIL, SCALP, NECK, BODY AND UNDER-ARM TO MAINTAIN HYGIENE

12. Skin Care Products

A. Face Wash

It is a skin-cleansing cosmetic for the face.

- Enhances the tone of the skin.
- Help keep too much oil under control.

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- Make the skin more nourished, radiant, and bright.

Examples:

- Neem Tulsi Face Wash 2.Sandal
- Almond Face Wash

B. Cleanser

- A cleanser is a facial care product used to get rid of debris, oil, makeup, and dead skin cells This aids in pore cleaning and the prevention of skin conditions like acne Example:
- Charcoal Cleanser

C. Moisturizer

- It is a cosmetic product used to stop skin from drying out.
- Skin tends to appear dull and dry if it isn't adequately moisturised.

Moisturising products are classified into:

1. Day preparation
2. Night preparation
3. Hand and body lotion

D. Lip Care Products

Lip Balm

- Applying lip balm moisturises and relieves the discomfort associated with dry lips.
- Lip balm aids in shielding lips from wind, cold, and dry air.
- Lip balm is available in a wide range of tastes and fragrant aromas.

Lip Gloss:

- The main purpose of lip gloss is to give lips a glossy lustre.

Lip Liner:

- To give a smoother form, it is meant to fill up any uneven spots on the outside margins of the lips before applying lipstick.
- Lip liner typically comes in the same palette of hues as lipstick, such as Pink, Red, and Brown.

E. Care For Preparation for Eyelid

Eye Shadow

- Eye shadow is used to give the eye a coloured backdrop.
- They are sold in a variety of hues.
- They could be in a paste-like liquid form or a solid form.

Mascara

- The most popular makeup for enhancing eyelashes is mascara.

Different types of mascara:

1. Water soluble mascara
2. Water proof mascara

Eye Liner

- The cosmetic eyeliner is used to draw attention to the eyes. It is used on the Eye's curved edges.

Types:

1. Liquid eyeliner

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2. Gel eyeliner
3. Eyeliner pencil

E. Care For Hands

Hand Moisturizer

- During the winter, when severe weather can cause skin to become dry and even broken, moisturising hands is particularly crucial.

Hand Sanitizer

- A hand sanitizer or hand antiseptic is a hand hygiene product that is not water based.
- Hand sanitizers that contain between 60 and 95 percent alcohol are effective at killing germs.

Feet Care

- Washing
- Maintaining dryness
- Moisturising
- Wearing socks
- Wearing comfortable shoes
- Apply Anti Fungal foot cream

Care for Scalp

- Avoid exposing your scalp to the sun
- Minimize Chemical Therapy
- Massage

Scalp Care Preparation

- Shampoo
- Hair oils

Care for Gums

- Using a fluoride toothpaste to brush your teeth last thing at night and at least one more during the day.
- After brushing, spit instead of rinsing to prolong the duration of the fluoride's presence on your teeth
- Using 'interdental' brushes or floss at least once a day to clean in between the teeth. [13]

Hands on Instruments

Spray Dryer

Using a hot gas to hurriedly dry a liquid or slurry into a dry powder is a process known as spray drying. This method of drying is most suitable for many materials that are heat
sensitive.

Such things include foods and pharmaceuticals, [15] which may need to be exceedingly consistent and finely pulverised. When the product is oxygen-sensitive or the liquid is a flammable solvent like ethanol, nitrogen is employed instead. The hot drying medium is air.[16]

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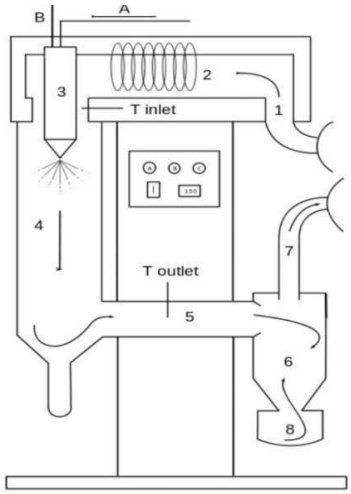

Freeze Dryer

A controlled method of water removal from an object is made possible by freeze-drying. This is essential for the preservation of artefacts that have become waterlogged, such as those from seaside regions. By simply freezing the thing at a low temperature, freeze-drying can be accomplished.

either in a more aggressive procedure like vacuum freeze-drying, where the drying takes place in a vacuum and permits natural sublimation

Tablet Punching Machine

A tablet press can be used to create tablets from pharmaceuticals, nutraceuticals, cleaning products, industrial pellets, and cosmetic products. Granulated powder material is metered into a cavity made by two punches and a die, and then the material is fused together by applying high power to the punches, which is how tablets are made.[17]

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HOMOGENIZER

A homogenizer is a piece of industrial or scientific equipment used to homogenise a variety of materials, including soil, tissue, plants, food, and many more. Utilizing a variety of physical technologies, numerous models have been created for disruption. Even in contemporary laboratories, the mortar and pestle, which have been around for thousands of years, is a common tool. More recent solutions rely on ultrasonic treatment (commonly known as sonication), bead mills, rotor-stator mechanics, high pressure, and numerous other physical forces. [18]

XIII. EXPERIMENT

Preparation and Evaluation of Herbal Shampoos.

Aim :100 ml of methi-shikakai shampoo will be prepared and standardised.

Requirements:

- Apparatus: Conical flask, Pipette, Spatula, Pestle and mortar, Beaker, etc.
- Chemicals: Methi, shikakai, orange peel, distilled water rose water etc.

Procedure:

- Crush the all ingredients in to powder form.
- Dissolve all the ingredients in to water and make up the volume.

Evaluation of MethiShikakai Shampoo.

Moisture content at 1050C:

Weigh approximately 1 g of material into a big weighing bottle, heat on a steam bath, and then heat under an air jet for 30 minutes.

Heating at 105cc in the oven continuously for two hours, cooling in a desiccator, weighing, and reporting non-volatile materials.

Foam test: Shake the drug/ sample extract vigorously with water. Persistent foam observed, confirms the presence of saponins.

Haemolytic test: Add drug/ sample extract or dry powder to one drop of blood placed on glass slide.

Haemolytic zone appear.

Dirt Dispersion: In a sizable test tube containing 10 ml of distilled water, two drops of shampoo were introduced. India ink was added in one drop, and the test container was stopped and shaken ten times. No, light, moderate, or strong ink content was assessed for the foam.

Wetting Time: One-inch-diameter discs with an average weight of 0.44g were cut from the canvas. The disc was placed on top of a 1%w/v shampoo solution, and the stopwatch was activated. The wetting time was precisely calculated as the amount of time it took for the disc to start to sink.

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Result [19]:

Sr. No	Parameter	Observation
1	Colour	Creamcolour
2	Odour	Characteristics
3	Clarity	Unclear
4	Foam Producing ability	Good foam
5	Ph	Neutral
6	Percentage of solid content	Sufficient 20.12
7	Data dispersion	Light
8	Surface tension	Adequate 128.18
9	Foaming ability and foming stability	Good
10	Wetting time test	30sec
11	Specific gravity	1.118

REFERENCES

[1]. Schneider, Gunther; Gohla, Sven; Schreiber, Jörg; Kaden, Waltraud; Schönrock, Uwe; Schmidt-Lewerkühne, Hartmut; Kuschel, Annegret; Petsitis, Xenia; Pape, Wolfgang (2001).
[2]. Skin Cosmetics. Ullmann's Encyclopedia of Industrial Chemistry. John Wiley & Sons, Ltd.
[3]. Schneider, Günther; Gohla, Sven; Schreiber, Jörg; Kaden, Waltraud; Schönrock, Uwe;
[4]. Schmidt-Lewerkühne, Hartmut; Kuschel, Annegret; Petsitis, Xenia; Pape, Wolfgang; Ippen,
[5]. Hellmut; Diembeck, Walter (2001). "Skin Cosmetics". Ullmann's Encyclopedia of Industrial Chemistry.
[6]. Sandeep D.S. Textbook of Pharmaceutical Jurisprudence , NiraliPrakashan, Page No- 1.1
[7]. Sandeep D.S. Textbook of Pharmaceutical Jurisprudence , NiraliPrakashan , Page No-1.7
[8]. Dr. Rajat Kumar Kar Textbook of Pharmaceutical Jurisprudence, Thakur Publication, Page No-24
[9]. Dr. R. Narayana Charyulu Textbook of Pharmaceutical Jurisprudence, NiraliPrakashan, Page No-1.11
[10]. Dr. R. Narayana Charyulu Textbook of Pharmaceutical Jurisprudence, NiraliPrakashan, Page No-2.20
[11]. Anusuya R. Kashi textbook of Pharmaceutical Quality Assurance, NiraliPrakashan Page no 13.4 – 13.6
[12]. Sandeep D.S. Textbook of Pharmaceutical Jurisprudence , NiraliPrakashan, Page No- 2.2 – 2.6
[13]. MedlinePlus. Skin Conditions. (https://medlineplus.gov/skinconditions.html) Accessed 6/4/2021.
[14]. https://www.avenuefive.edu/10-common-hair-problems/
[15]. https://www.medicalnewstoday.com/articles/nail-diseases-chart#common-nail-diseases
[16]. Cosmetic – formulation , manufacturing and quality control by P.P Sharma 5 th edition .
[17]. https://www.tech-faq.com/brookfield-viscometer.html
[18]. Campbell, Heather R.; Alsharif, Fahd M.; Marsac, Patrick J.; Lodder, Robert A. (2020). "The Development of a Novel Pharmaceutical Formulation of D-Tagatose for SprayDrying". Journal of Pharmaceutical Innovation: 1–13.
[19]. A. S. Mujumdar (2007). Handbook of industrial drying. CRC Press. P. 710
[20]. Schwartz, Joseph; Lieberman, Herbert A.; Lachman, Leon (1989). Pharmaceutical dosage forms—tablets.
[21]. "Homogenizers for Mixing, Dispersing, and Emulsifying"wikipedia. Dr. Vijaykumar D., Dr. Akhila S. 'Practical Book of Herbal Drug Technology'; 2nd Edition, NiraliPrakashan.