

# HAIR DYE

## 1. INTRODUCTION:

Hair coloring, or hair dyeing, is the practice of changing the hair color. The main reasons for this are cosmetic: to cover gray or white hair, to change to a color regarded as more fashionable or desirable, to restore the original hair color after it has been discolored by hairdressing processes or sun bleaching. Hair coloring can be done professionally by a hairdresser or independently at home. Today, hair coloring is very popular, with over 55% women dyeing their hair. At home coloring in the world reached more than 30 billion US \$ in 2011 and is expected to raise to 32 US \$ billion by 2016. Recently Indian herbal Hair Dye has good market scope.

## 2. PRODUCT & ITS APPLICATION:

The dyeing of hair is an ancient art that involves treatment of the hair with various chemical compounds. In ancient times, the dyes were obtained from plants. Some of the most well-known are henna (*Lawsonia inermis*), indigo, *Cassia obovata*, senna, turmeric and amla. Others include katam, black walnut hulls, red ochre and leeks. In the 1661 book *Eighteen Books of the Secrets of Art & Nature*, various methods of coloring hair black, gold, green, red, yellow, and white are explained. The development of synthetic dyes for hair is traced to the 1860s discovery of the reactivity of para-phenylenediamine (PPD) with air. Eugene Schueller, the founder of L'Oréal, is recognized for creating the first synthetic hair dye in 1907. In 1947 the German cosmetics firm Schwarzkopf launched the first home color product, "Poly Color". Hair dyeing is now a multi-billion-dollar industry that involves the use of both plant-derived and synthetic dyes. Henna is an orange dye commonly used as a deposit-only hair color whose active component, lawsone, binds to keratin. It is therefore considered semi-permanent to permanent, depending on a person's hair type. Most people will achieve a permanent color from henna, especially after the second dye. With

repeated use the orange color builds up into red and then auburn. While "natural" henna is generally a red color, variations exist. These variations usually contain ingredients from other plants and even synthetic dyes. Natural dye from a plant (*Indigofera tinctoria*, *suffruticosa*, or *arrecta*) that can be added to henna or layered on top of it to create brown to black colors in the hair. Henna is orange, and indigo is blue, so as complementaries on a standard color wheel, the two colors' combined effect is to create brown tones. Like henna, indigo may fade after one application, but it becomes permanent on the hair with repeated use. Using a plant-based color such as henna can cause problems later when trying to do a perm or permanent hair color. Some store-bought henna contains metallic salts which react to hydrogen peroxide that is used in hair lightening. This may lead to unpredictable results, such as green or blue tones in the hair. Henna is a healthy way to color hair, as long as no metallic salts are used.

### **3. DESIRED QUALIFICATIONS FOR PROMOTER:**

Graduate in any discipline, preferably science.

### **4. INDUSTRY LOOK OUT AND TRENDS**

Hair dyes are composed of basically combination of few dyeing chemical compounds. It may be in powder form or in solution form. Selection of chemicals should be non-toxic and non-corrosive to the skin as well as in the eyes. It is manufactured by some organized company with very good quality product in competitive price. Hair dye is used for hair leaning and also used for beautification of hair by making black color or any other fancy color. There are many organized and unorganized companies engaged for the production of black hair dye. There is growth demand in India every year increase by 5% per annum from the previous year. It can be predicted that the demand of hair dye will be increase more to protect hair as well as make much more beautiful. The new entrepreneur can well venture into this field.

## **5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:**

There is more recognition for herbal products in the country now than the past few decades. This herbal concept is gaining ground and attracting attention worldwide. There is more and more scientific research being conducted in our country for treatment of various skin and hair problems through herbal therapy which is not having side effects on skin and hair, thus been recognized world over. Thus herbal products are becoming popular day-by-day and demand for its usage is increasing not only in the country but also worldwide, the inherent quality of herbal treatment of having negligible side/ after effects has made great potential for its production. A large number of medicinal plants, herbs, shrubs etc. are available in our country in the hilly / forest regions.

In order to boost the production of herbal products, Government of India has also set up a board namely Indian System of Medicine and Homeopathy to encourage production of herbal products especially in the regions where basic raw materials are available in plenty. As the side effects of cosmetics and other chemical based product is increasing day by day. It gives an indication that there are some harmful chemical based ingredients, which are harmful for our body. Therefore, to get remedy for all above problems only one solution is there and i.e. using of herbal products instead of others. As the demand of herbal products is increasing day by day and you can sell your products in general market of the country including this type of products can also be supplied to the Government Store Department /canteen for further distribution among the employees of Defence, Railways and other Government Departments.

## **6. RAW MATERIAL REQUIREMENTS:**

Hair dye is one of the oldest known beauty preparations, and was used by ancient cultures in many parts of the world. Records of ancient Egyptians, Greeks, Hebrews, Persians, Chinese, and early Hindu peoples all mention the use of hair colorings. Early hair dyes were made from plants, metallic compounds, or

a mixture of the two. Rock alum, quicklime, and wood ash were used for bleaching hair in Roman times, and herbal preparations included mullein, birch bark, saffron, myrrh, and turmeric. Henna was known in many parts of the world; it produces a reddish dye. Many different plant extracts were used for hair dye in Europe and Asia before the advent of modern dyes. Indigo, known primarily as a fabric dye, could be combined with henna to make light brown to black shades of hair dye. An extract of the flowers of the chamomile plant was long used to lighten hair, and this is still used in many modern hair preparations. The bark leaves, or nutshells of many trees were used for hair dyes. Wood from the Brazil wood tree yielded brown hair dyes, and another hair dye known in antiquity as fustic was derived from a tree similar to the mulberry. Other dyes were produced from walnut leaves or nut husks, and from the galls, a species of oak trees. Some of these plant-derived dyes were mixed with metals such as copper and iron, to produce more lasting or richer shades. The golden red hair captured by many Renaissance painters was artificially produced by some women. The Italian recipe was to comb a solution of rock alum, black sulphur, and honey through the hair and then let the hair dry in sunlight. Other hair dyes, dating from the sixteenth century, were preparations of lead, quicklime, and salt, or silver nitrate in rose water. Another early method of coloring hair was to apply powder. Pure white powder for hair or wigs was the mark of aristocratic dress in Europe during the seventeenth and eighteenth centuries. White powder was made of wheat starch or potato starch, sometimes mixed with plaster of Paris, flour, chalk, or burnt alabaster. Similarly colored powders were sometimes used as well. These were made by adding natural pigments such as burnt sienna or umber to white powder to make brown, and India ink was sometimes used to make black powder. In Biblical times, people used powdered gold on their hair. The use of powdered gold and silver returned briefly as a fad in Europe among the wealthy in the mid-nineteenth century. Other hair colorant were blocks similar to crayons made with wax, soap, and pigments. These could be wetted and rubbed on the hair, or applied with a wet brush. However the project , we will require a standard formula for manufacturing different type of Hair Dye. One can select the raw materials as decided.

## 7. MANUFACTURING PROCESS:

There are so many types of herbal hair dye, in form of powder, creams and oil or liquid mix are available in the market. The manufacturing process of each product is different. However, for the manufacture of powder, cream, oil or liquid, the formulation of specific raw material and its quality are tested first and accordingly are mixed with required conditions, like, temperature, pressure and aqueducts status. e.g. Bee-Wax. Paraffin's, oils in alkali type material is heated at appropriate temperature to form creamy base. The base so formed can be added aloe Vera some emulsifying preservative color perfume and other stabilizing agent can be added in the last of manufacturing process. For preparation of herbal powder all the herbs can be grinded into fine powder with the help of pulveriser and it can be diluted with the help of fuller earth/ masoor ki dal and other ingredients. All the ingredients are mixed together in a mixer and packed in desired size packs.

## 8. MANPOWER REQUIREMENT:

The enterprise requires 6 employees as detailed below:

Sr. No.	Designation of Employees	Monthly Salary ₹	Number of employees required				
			Year-1	Year-2	Year-3	Year-4	Year-5
1	Chemist @ 12000	12000.00	1	1	1	1	1
2	Skilled workers @ 8000	24000.00	3	3	3	4	4
3	Manager @ 15000	15000.00	1	1	1	1	1
4	Accounts/Sales Asst @12500	12500.00	1	1	1	1	1
5	Office Boy @ 9000	9000.00	1	1	1	1	1
	<b>Total</b>	72500.00	7	7	7	8	8

## 9. IMPLEMENTATION SCHEDULE:

The project can be implemented in 3 months' time as detailed below:

<b>Sr. No.</b>	<b>Activity</b>	<b>Time Required (in months)</b>
1	Acquisition of premises	1.00
2	Construction (if applicable)	1.00
3	Procurement & installation of Plant & Machinery	2.00
4	Arrangement of Finance	2.00
5	Recruitment of required manpower	1.00
	Total time required ( <i>some activities shall run concurrently</i> )	3.00

## 10. COST OF PROJECT:

The project shall cost ₹ 25.30 lacs as detailed below:

<b>Sr. No.</b>	<b>Particulars</b>	<b>₹ in Lacs</b>
1	Land	2.00
2	Building	5.00
3	Plant & Machinery	7.00
4	Furniture, Electrical Installations	1.00
5	Other Assets including Preliminary / Pre-operative expenses	0.70
6	Working Capital	9.60
	<b>Total</b>	<b>25.30</b>

## 11. MEANS OF FINANCE

The proposed funding pattern is as under:

<b>Sr. No.</b>	<b>Particulars</b>	<b>₹ in Lacs</b>
1	Promoter's contribution	6.33
2	Bank Finance	18.98
	<b>Total</b>	<b>25.30</b>

## 12. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹ 9.60 lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	4.80	0.25	1.20	3.60
2	Receivables	2.40	0.25	0.60	1.80
3	Overheads	2.40	100%	2.40	0.00
4	Creditors	-		0.00	0.00
	<b>Total</b>	9.60		4.20	5.40

### 13. LIST OF MACHINERY REQUIRED:

Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value (₹ in Lacs)
	<b>Plant &amp; Machinery / equipments</b>				
<b>a)</b>	<b>Main Machinery</b>				
i.	M.S. Vat 1000 kg capacity	NOS.	1	20000	0.40
ii.	Trey Drier Cap 96 Trey fitted with exhaust fan & Heating cost	Nos	1	100000	1.00
iii.	Pulverizer capacity 100 kg fine powder of 400 mesh per shift	Nos	2	100000	2.00
<b>IV</b>	Distillation apparatus SIEVES,PACKING MACHINE, MIXING VESSELS, FILTERING, ETC.	Nos	1	100000	2.60
V	installation , erection electr.			100,000	0.50
VI	taxes and transportation			100000	0.50
	<i>sub-total Plant &amp; Machinery</i>				<b>7.00</b>
	<b>Furniture / Electrical installations</b>				
Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value
a)	Office furniture	LS	1	50000	0.50
b)	Stores Almirah	LS	1	0	0.00
c)	Computer & Printer	L. S.	1	50000	0.50
	<i>sub total</i>				<b>1.00</b>
	<b>Other Assets</b>				
a)	preliminary and preoperative				0.70
	<i>sub-total Other Assets</i>				0.70
	<b>Total</b>				<b>8.70</b>

All the machines and equipment are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed here below:

- Kamdhenu Agro Machinery  
Plot No. 6, Near Power House,  
Wathoda Road, Wathoda  
Nagpur - 440035  
Maharashtra, India
  
- Future Industries Private Limited  
Shed No. 15, Ambica Estate,  
Corporation Municipal Plot,  
Opposite Sadvichar Hospital,  
Naroda, Ahmedabad - 382330,  
Gujarat, India
  
- The Global Pharma Equipments  
Star Industrial Estate,  
D-32, Naik Pada,  
Near Hanuman Mandir,  
Opposite Dwarka Industrial Estate,  
Vasai East, Vasai - 401208,  
Maharashtra, India

#### **14. PROFITABILITY CALCULATIONS:**

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
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1	Capacity Utilization	%	60%	70%	80%	90%	100%
2	Sales	₹. In Lacs	28.80	33.60	38.40	43.20	48.00
3	Raw Materials & Other direct inputs	₹. In Lacs	20.74	24.19	27.65	31.10	34.56
4	Gross Margin	₹. In Lacs	8.06	9.41	10.75	12.10	13.44
5	Overheads except interest	₹. In Lacs	5.10	5.42	6.06	6.25	6.38
6	Interest@ 10 % on 2.20 lakhs	₹. In Lacs	1.90	1.90	1.27	0.95	0.76
7	Depreciation	₹. In Lacs	4.90	3.50	2.45	1.75	1.58
8	Net Profit before tax	₹. In Lacs	<b>-3.84</b>	<b>-1.41</b>	<b>0.98</b>	<b>3.14</b>	<b>4.73</b>

The basis of profitability calculation:

The growth of selling capacity will be increased 10% per year. (This is assumed by various analysis and study, it can be increased according to the selling strategy.)

Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per litre. The depreciation of plant is taken at 10-12 % and Interest costs are taken at 14 -15 % depending on type of industry.

## 15. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at % of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	48.00
2	Variable costs	₹. In Lacs	34.56
3	Fixed costs incl. interest	₹. In Lacs	7.14
4	BEP = $FC / (SR - VC) \times 100 =$	% of capacity	53.12%

## 16. STATUTORY / GOVERNMENT APPROVALS

As per the allocation of business rules under the Constitution, labour is in the concurrent list of subjects. It is dealt with by the MOLE at the Central and Departments of Labour under State Governments in respective States / UTs. The MOLE has enacted workplace safety and health statutes concerning workers in the manufacturing sector, mines, ports and docks and in construction sectors.

Further, other Ministries of the Government of India have also enacted certain statutes relating to safety aspects of substances, equipment, operations etc. Some of the statutes applicable in the manufacturing sector are discussed below:

### **The Static and Mobile Pressure Vessels (Unfired) Rules, 1981**

These (SMPV) Rules are notified under the Explosives Act, 1884. These rules regulate storage, handling and transport of compressed gases. These rules stipulate requirements regarding construction and fitments, periodic testing, location, fire protection, loading and unloading facilities, transfer operations etc. in respect of pressure vessels whose water capacity exceeds one thousand litres. These rules are enforced by the Chief Controller of Explosives under the Ministry of Industry and Commerce, Govt. of India (PESO).

### **The Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC), 1989**

These MSIHC Rules are notified under the Environment (Protection) Act, 1986. These rules are aimed at regulating and handling of certain specified hazardous chemicals. The rules stipulate requirements regarding notification of site, identification of major hazards, taking necessary steps to control major accident, notification of major accident, preparation of safety report and on-site emergency plan; prevention and control of major accident, dissemination of information etc. These rules are notified by the Ministry of Environment and Forests (MOEF) but enforced by the Inspectorates of Factories of respective States / UTs in the manufacturing sector.

## **The Factories Act, 1948 and State Factories Rules**

The Factories Act, 1948 is very comprehensive legislation dealing with the matters of safety, health and welfare of workers in factories. The Act places duties on the occupier to ensure safety, health and welfare of workers at work. Some of the salient provisions of the Act include:

- Guarding of machinery
- Hoists and Lifts; Lifting Machines and Appliances
- Revolving Machinery
- Pressure Plant
- Excessive Weight
- Protection of Eyes
- Precautions against dangerous fumes, gases etc.
- Explosive or inflammable dust, gas etc.
- Precautions in case of fire
- Safety of buildings and machinery
- Permissible limits of exposure of chemical and toxic substances
- Entrepreneur may contact State Pollution Control Board where ever it is applicable.

## **17. BACKWARD AND FORWARD INTEGRATIONS**

Chemical companies often become integrated and undergo other activities outside the chemical industry. Increased competition prompts many companies to reduce supply chain costs by looking outside the chemical sector at suppliers and customers. While most companies within the chemicals sector primarily produce chemicals, some companies also conduct other manufacturing activities. The exact proportion of chemicals sector companies that are integrated with other sector activities is unknown, but many companies actively seek vertical

integration. Many manufacturers pursue vertical integration to secure suppliers and customers for their products.

Mergers and acquisitions are a common way for companies to undertake new chemical ventures. By purchasing their chemical suppliers, some manufacturers secure future chemical feedstock for their products or other chemicals that they use in manufacturing. The company making the purchase obtains valuable expertise and equipment. Some mining and petrochemical production is more cost-effective when integrated within a chemical company.

Energy and feedstock costs are often a significant expense for chemical companies. Integrating chemical production with activities that secure supplies of chemical feedstock and energy is relatively common as chemical companies grow. Chemical companies are located near mines, oil fields, ammonia factories and water supplies. This reduces transportation costs and increases the reliability of supplies by reducing the distance between feedstock and the factory.

Some companies, such as Sino-Coking Coal and Coke Chemical Industries Incorporated, own their mines. BHP Billiton operates a broad range of mines and is primarily a mining company. It does, however, also produce petrochemical feedstock for the chemical industry and therefore operates within the chemical industry as well. These companies technically operate within both the chemical and mining industries in their normal business operations.

Integrating a chemical company with other activities provides several direct benefits for the company and is becoming increasingly common. High energy costs necessitate greater control of energy resources and minimal reliance on expensive transportation. Chemical companies experience volatile profitability due to fluctuations in feedstock and energy expenses. Some companies control

this volatility through careful supply chain management and by charging supply surcharges. Actively researching and developing alternative feedstock and energy supplies helps the company reduce costs.

Vertical integration supports these activities by eliminating redundant activities at multiple companies and increasing efficiency. By consolidating activity among multiple, similar operations, chemical companies achieve cost savings that contribute to higher profitability. End products are often very profitable, and some chemical companies purchase their former customers to take advantage of the marked-up prices of products further along in the supply chain.

Integration may become more common for many chemical companies as competition strengthens and traditional feedstock becomes more expensive. Market demand for chemical feedstock increases as emerging market economies grow and result in increased consumer spending around the world.

## **18. TRAINING CENTERS AND COURSES**

There is no such training required to start this business but, basic chemical bachelor's degree is plus point for enterpriser. Promoter may train their employees in such specialized institutions to grow up the business. There are few specialised Institutes provide degree certification in chemical Technology, few most famous and authenticate Institutions are as follows:

1. Department of chemical LD college of engineering  
No.120, Circular Road, University Area, Navrangpura,  
Opposite Gujarat University, Ahmedabad, Gujarat 380015

2. MIT College of chemical Engineering, Pune  
Gate.No.140, Raj Baugh Educational Complex,  
Pune Solapur Highway,  
Loni Kalbhor, Pune - 412201  
Maharashtra, India

Udyamimitra portal ( link : [www.udyamimitra.in](http://www.udyamimitra.in) ) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates.

**Disclaimer:**

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.

Source:- Udyami Mitra/Sidbi