



## PHYSICO-CHEMICAL EVALUATION OF HINGWADI CHURNA: AN AYURVEDIC FORMULATION FOR SHOOLA

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**DOI:** <https://doi.org/10.59551/IJHMP/25832069/2026.7.1.103>

**How to cite this article:** Lata S, Anmol, Sarina. Physico-Chemical Evaluation of Hingwadi Churna: An Ayurvedic Formulation for Shoola. *Indian J. Health Care, Med. Pharm. Pract.* 2026;7(1):17-22.

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Received: 15 Feb, 2026, Decision for Acceptance: 19 March, 2026

### ABSTRACT

Hingwadi Churna is a classical Ayurvedic formulation indicated for Shoola (abdominal pain). This study evaluates its physicochemical characteristics and chromatographic profile for standardization.

**Methods:** Hingwadi Churna was prepared according to classical Ayurvedic pharmaceuticals. Organoleptic, physicochemical parameters—including pH, loss on drying, ash values, extractive values—and High-Performance Thin Layer Chromatography (HPTLC) were evaluated at 254 nm, 366 nm, and 510 nm.

**Results:** The formulation showed characteristic brown color, aromatic odour, and a fine soft texture. Physicochemical parameters were within acceptable ranges. HPTLC revealed major peaks at Rf 0.82–0.87 across wavelengths, indicating stable and consistent phytochemical components.

**Conclusion:** Hingwadi Churna exhibits a reproducible physicochemical and chromatographic profile, supporting its quality, purity, and therapeutic relevance in abdominal pain disorders.

**KEYWORDS:** Hingwadi Churna, HPTLC, Physicochemical Standardization, Ayurvedic Formulation, Shoola.

### Introduction

Vangsen Samhita is an ayurvedic valuable text by Vangsen which belongs to 12<sup>th</sup> century AD. It is Chikitsasarasangraha written by Vangsen. Different tested Ayurvedic formulations are described here and one of them is Hingwadi churna in management of Shoola[1]. Shool is chronic or Subacute condition of abdominal pain that is described in different ayurvedic ancient text. There is eight types of Shoola described in Vangsen Samhita.; one from each dosa ,one from the combination of all three dosa ,one each from combination of two dosas and eight from ama. but in all types, vata is predominant causative dosa[2]. Hingwadi churna has been selected for the study as it has very popular

and easily available contents and widely used in different diseases.

Hingwadi Churna is described in Shoola chikitsa in Vangsen Samhita. It is used in pain in sides, heart, waist, back and shoulders ,drowsiness, convulsions , oedema ,excessive mucus secretion and throat disease[3].

Ingredients of Hingwadi churna are Hingu , Sauvarcala, Haritaki, Vida, Saindhava, tumburu and pushkarmula[4].

Ingredients which are commonly present in Hingwadi churna possess action over dosha i.e Vata –pacifying properties and beneficial in pain in sides, heart, waist, back and shoulders, drowsiness, convulsions, oedema, excessive mucus secretion and throat disease.

The recommended general dose of churna is 1-3 gm twice daily. This powder should be taken with decoction of Dashmula and barley[5].

In the present Study Hingwadi Churna was prepared and physico-chemical analysis of churna is done. In this study, different parameters for assessment of quality and safety of Hingwadi churna will be carried out like organoleptic characteristic, loss on drying, total ash, acid insoluble ash, water-soluble extractives and alcohol soluble extractives, ph, HPTLC etc. which all contributes in its standardization. Hingwadi Churna is an Ayurvedic formulation prominently mentioned in *Vangasena Samhita* for the management of Shoola—a Vata-dominant painful abdominal condition. Classical texts describe multiple categories of Shoola based on doshic involvement, with Vata being the primary contributor. Hingwadi Churna contains seven ingredients with Vata-Pacifying (Vatashamaka), Deepana (digestive stimulant), and Pachana (carminative) properties, making it therapeutically significant.

Despite frequent clinical use, there is limited scientific standardization data. Therefore, this study evaluates its physicochemical profile and generates a reproducible HPTLC fingerprint as per modern quality standards.

## Materials and Methods

### Raw Materials and Authentication

All crude drugs were procured locally and authenticated. Analytical work was conducted at S.R.Labs & Research centre, Jaipur.

### Method

Hingwadi churna was prepared as per churna kalpana i.e. all ingredients were taken in mentioned quantity, dried completely and made fine powder of them filtered through 100 number meshes then mixed thoroughly. Prepared churna will be packed in plastic containers and used for analysis.

In this churna hingu is taken as small quantity[6] and other are taken as 1 part.

### Dose

1-3gm twice daily with dashmool decoction in adults.(AFI).  
Saviryata avadhi (Shelf life)-

1. 2 months according to Sharangadhara[7].
2. 1 year according to AFI[8].
3. 2 year according to official Gazette of India[9].

**Table 1: Showing ingredients of Hingwadi Churna and their quantity**

S. No.	Name of Ingredients	Scientific Name/ Botanical Name	Quantity <sup>(14)</sup>	Parts Used
1.	Hingu	<i>Ferula asafoetida</i>	1/7 parts	Resin
2.	Sauvarchal Lavan	<i>Black Salt</i>	1 part	Powder
3.	Haritaki	<i>Terminalia chebula</i>	1 part	Fruit
4.	Vida Lavan	<i>Ammonia chloride</i>	1 part	Powder
5.	Saindhava	<i>Sodium chloride</i>	1 part	Powder
6.	Tumburu	<i>Zanthoxylum armatum</i>	1 part	Fruit
7.	Pushkaramula	<i>Inula racemosa</i>	1 part	Root



**Figure 1: Raw Ingredients of Hingwadi Churna**

Organoleptic Characters[10]. (such as colour, odour, texture and physico-chemical analysis[11] like organoleptic characters, loss on drying, total ash, acid insoluble ash, water-soluble extractives, HPTLC[12,13] etc. which contribute to great extent in its standardization.

**Preparation Method**

Ingredients were cleaned, dried, powdered, sieved through a 100-mesh filter, and uniformly mixed. Hingu was used in prescribed classical quantity (1/7th part).

**Physicochemical Analysis**

Tests performed as per Ayurvedic Pharmacopoeia:

- Organoleptic characters
- Loss on Drying (LOD)
- Total ash
- Acid-insoluble ash
- Extractive values (water/alcohol)
- pH (1% aqueous)
- HPTLC at 254 nm, 366 nm, 510 nm



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TEST REPORT

DTL Lic. No.	Ayush DTL/03	Report Date	23/09/2025	Report No.	TR-R-0107/0925
Mfg. By	Dr. Anmol Shri Krishna Ayush University, Umri Road, Kurukshetra, Haryana-163118			Sample ID	SRN-R-250911-02
Name of Drug	Hingwadi Churna			Pack Size	01 X 150 g
Batch No	HGC 09/25			Mfg. Date	09/09/2025
Test Start Date	11/09/2025	Test End Date	23/09/2025	Expiry Date	08/09/2026

**Description:-**

Appearance	Powder	Color	Brown
Odour	Characteristics	Taste	-

S. No.	Test Parameters	Test method	Limits	Unit	Results
A.	<b>Physiochemical Analysis</b>				
1.	pH (1%w/v Aq. Solution)	API Part I, Vol.-VI, 2009	NS	-	6.50
2.	Loss on Drying	API Part I, Vol.-VI, 2009	NS	%w/w	9.85
3.	Total Ash	API Part I, Vol.-VI, 2009	NS	%w/w	19.25
4.	Acid Insoluble Ash	API Part I, Vol.-VI, 2009	NS	%w/w	3.45
5.	Water Soluble Extractive	API Part I, Vol.-VI, 2009	NS	%w/w	38.25
6.	Alcohol Soluble Extractive	API Part I, Vol.-VI, 2009	NS	%w/w	20.14
7.	High Performance Thin Layer Chromatography	By HPTLC	-	-	Data Attached

API- Ayurvedic Pharmacopoeia of India, NS- Not Specified

Date: 23/09/2025  
Place: Jaipur, Raj.



Signature Analyst/Chemist



Signature In-Charge QC

**Note: Party asked for above test only.**  
 1. The result listed refer only to the sample (as provided by the party) and tested for applicable parameter, on the date of analysis, endorsement of products is neither inferred nor implied.  
 2. The certificate of analysis is not to be reproduced -wholly or in part and cannot be used as an evidence in the court of law and should not be used in any advertising media without our special permission in writing.  
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## Results

### Organoleptic Characteristics

Parameter	Observation
Colour	Brown
Odour	Characteristic
Texture	Fine, soft

### Physicochemical Parameters

Parameter	Result
pH	6.50
Loss on Drying	9.85%
Total Ash	19.25%
Acid-Insoluble Ash	3.45%
Water-Soluble Extractive	38.25%
Alcohol-Soluble Extractive	20.14%

### HPTLC Analysis

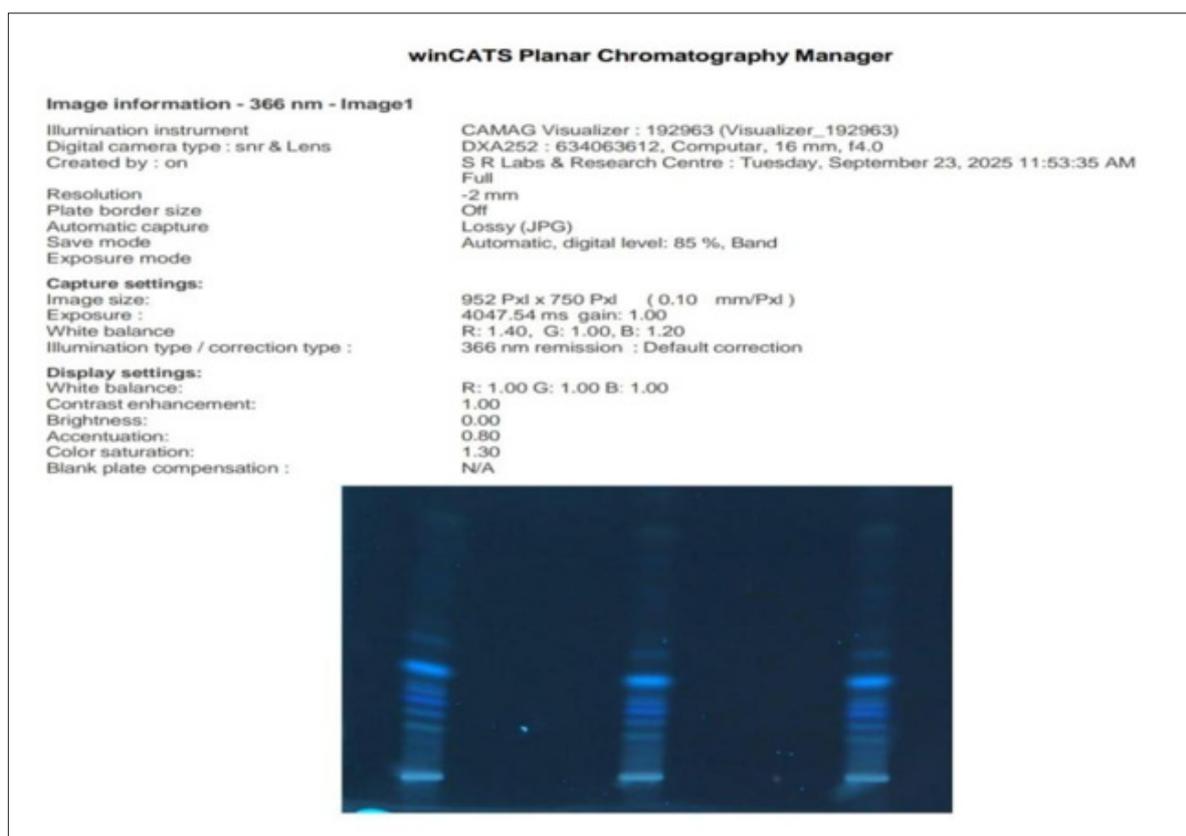
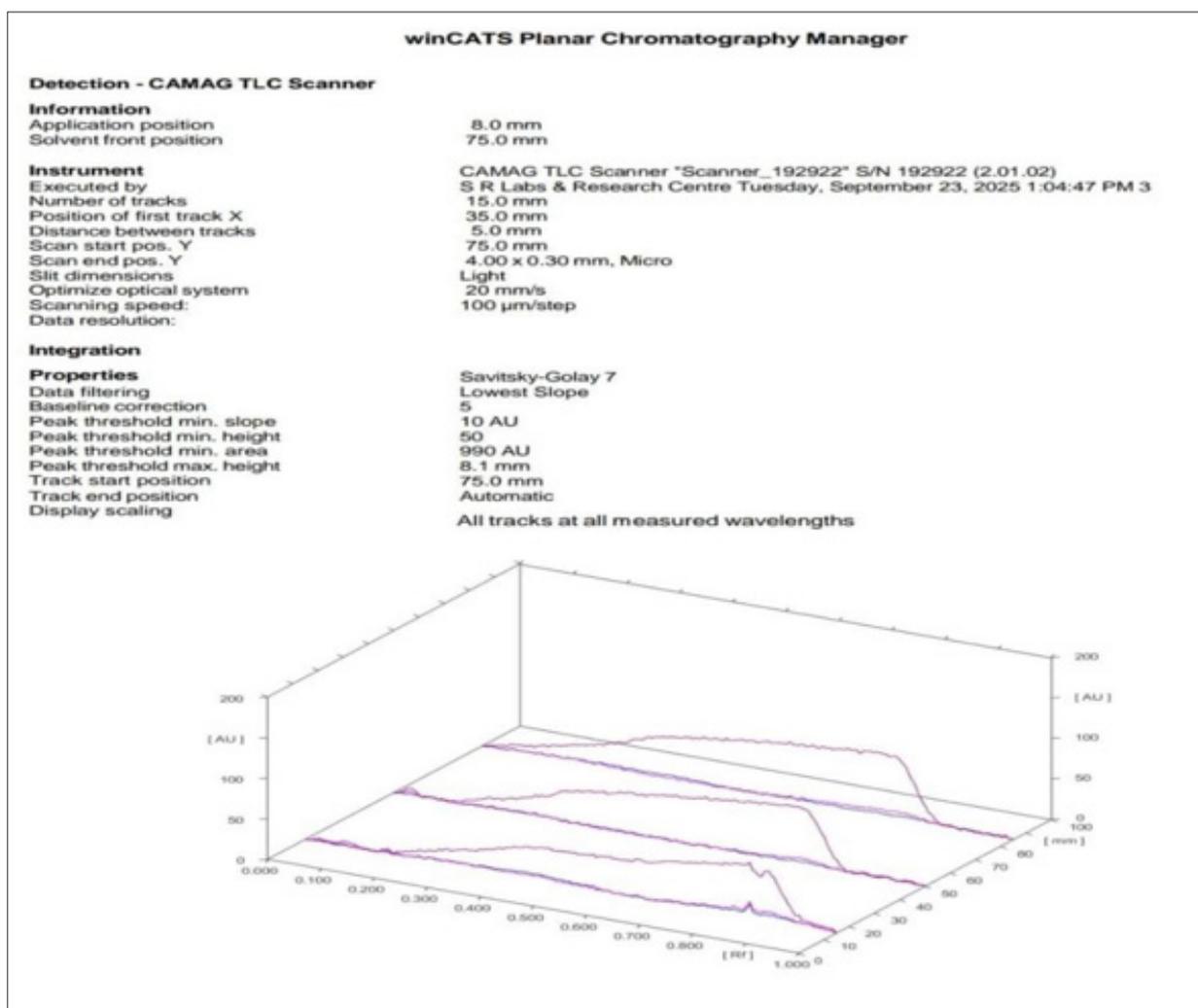


Figure 2: HPTLC Plate at 254 & 366 nm



**Figure 3: HPTLC Plate at 510 nm**

## Discussion

Hingwadi Churna, Hingu is Katu Rasa; Laghu, Snigdha, Tikshan in Guna; Ushna Virya and Katu Vipaka. These Characters enhance digestion and balance Kapha and Vata dosa which finally treat the shoola [15]. Haritaki is Laghu, Ruksha in Guna; has panch rasa and Kashya pradhan; Madhur in Vipaka and Ushna virya and tridosha hara mainly has an effect on Vatashamak [16]. Pushkarmula has Ladhu, Tikshan in Guna and tikta and katu in Rasa and has katu vipak and Ushan virya because all these properties it has special effect on kapha and vata dosha. [17]. Tumburu is Laghu, Ruksha and tikshan in Guna and has katu and tikta in rasa; Katu vipaka and Ushan Virya [18]. because of all these properties it is Kapha vata shamak and relieve the pain. All salts like Sauvarchala and vida Lavana are possess Ushana Virya, Laghu and agnidipak so they are indicated in abdominal pain [19]. So Hingwadi churna is able to balancing all doshas in body and show great effect in management of colic and shoola.

Hingwadi Churna was prepared as per the reference of Vangasena. The analytical findings of the sample show

that the prepared Hingwadi Churna is of required quality and purity, its physico-chemical analysis play a great part in its standardization. Regarding the therapeutic part, it also contains essential elements in minor quantity which is beneficial in pain in sides, heart, waist, back and shoulders, drowsiness, convulsions, oedema, excessive mucus secretion and throat disease. Hingwadi Churna demonstrates consistency in physicochemical parameters, ensuring purity and stability. The HPTLC fingerprints confirm a multicomponent herbal profile with reproducible chromatographic markers, validating classical Vata-pacifying and Deepana-Pachana properties.

## Conclusion

The study establishes comprehensive physicochemical and chromatographic standards for Hingwadi Churna. These parameters may serve as benchmarks for future pharmaceutical quality control.

## Acknowledgement

The authors acknowledge Shri Krishna AYUSH University for laboratory facilities and technical assistance.

## Conflict of Interest

The authors declare no conflict of interest.

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