WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 22, 787-792. Research Article ISSN 2277–7105

PHARMACEUTICAL STANDARDIZATION AND PRELIMINARY PHYSICOCHEMICAL EVALUATION OF SHIGRUADI ASCHYOTAN: AN ANALYTICAL STUDY

Dr. Shiwali Verma*[1], Prof. Dr. Vijayant Bhardwaj[2], Dr. Pankaj Verma[3], Dr. Hardev Thakur[4], Dr. Ruchika[5]

PG Scholar[1], Co-guide and HOD PG Department of Shalakya Tantra[2],
Lecturer PG Department of Shalakya Tantra[3],
Lecturer PG Department of Shalakya Tantra[4],
PG Scholar[5], Rajiv Gandhi Government Post Graduate Ayurvedic College and Hospital Paprola, District Kangra, Himachal Pradesh.

Article Received on 21 Oct. 2026,
Article Revised on 11 Nov. 2026,
Article Published on 16 Nov. 2026,

https://doi.org/10.5281/zenodo.24277905

***Corresponding Author**
Dr. Shiwali Verma
PG Scholar, Rajiv Gandhi Government Post Graduate Ayurvedic College and Hospital Paprola, District Kangra, Himachal Pradesh.

How to cite this Article: Dr. Shiwali Verma*[1], Prof. Dr. Vijayant Bhardwaj[2], Dr. Pankaj Verma[3], Dr. Hardev Thakur[4], Dr. Ruchika[5] (2026). Pharmaceutical Standardization And Preliminary Physicochemical Evaluation Of Shigruadi Aschyotan: An Analytical Study. World Journal of Pharmaceutical Research, 15(22), 787–792
This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Background: Standardization is an essential component of quality assurance for Ayurvedic formulations. Physicochemical parameters and chromatographic fingerprints can provide preliminary information about the identity and consistency of a finished formulation. Shigruadi Aschyotan was subjected to laboratory testing at the Drug Testing Laboratory, RIISM, Jogindernagar, Himachal Pradesh. **Aim:** To document the available preliminary physicochemical characteristics and thin-layer chromatographic (TLC) profile of the submitted Shigruadi Aschyotan sample. **Materials and Methods:** The present manuscript is based on the supplied laboratory report for sample batch TGD-1 (Trial Drug Group-1). The report records organoleptic characteristics, pH, loss on drying, refractive index, specific gravity and TLC observations. No additional experimental procedures or repeat measurements are claimed in this manuscript. Details such as formulation composition, preparation method, analytical protocols, solvent ratio, reference standard and replicate measurements require confirmation from the laboratory/manufacturer before journal submission. **Results:** The sample was reported as a liquid, transparent in colour and having a

pleasant odour. The recorded values were pH 5.87, loss on drying 98.86%, refractive index 1.332 and specific gravity 1.004. TLC was reported using a toluene:ethyl acetate solvent system with an anisaldehyde spray reagent (reagent description to be verified), showing spots at Rf 0.16, 0.27, 0.54, 0.62 and 0.86. The laboratory report remarks that the TLC pattern indicates the presence of Shigru. **Conclusion:** The available report provides an initial analytical profile of the tested Shigruadi Aschyotan sample. These findings may serve as preliminary documentation for further standardization. Confirmation of the unusually high reported loss-on-drying value, complete analytical methodology, formulation details, microbial quality, sterility, stability and batch-to-batch reproducibility is necessary before definitive quality specifications or clinical claims can be made.

KEYWORDS: Shigruadi Aschyotan; standardization; physicochemical evaluation; TLC; Rf value; Ayurvedic formulation.

1. INTRODUCTION

Ayurvedic formulations are prepared from drugs of natural origin and are used in a range of dosage forms. To support their quality, safety and reproducibility, the identity and quality of raw materials and finished products should be assessed using suitable pharmacognostical and analytical procedures. Variations in source material, processing, storage and manufacturing conditions may influence the characteristics of a formulation. Consequently, a documented quality-control profile is important for establishing preliminary specifications.

Śhigru is an Ayurvedic drug identified in the Ayurvedic Pharmacopoeia of India with the botanical name Moringa oleifera Lam. The Pharmacopoeia includes monographs for different plant parts; therefore, the exact plant part used in a particular formulation should be stated and authenticated rather than assumed.[3,4]

Āśchyotana is described in the Ayurvedic literature as a local ocular therapeutic procedure involving instillation of drops. In a formulation intended for ocular use, quality assessment should extend beyond basic identity and physicochemical observations to include appropriate microbiological quality, sterility-related controls, particulate matter, container-closure integrity, stability and safety evaluation. The present work is restricted to the parameters recorded in the supplied laboratory report and does not establish clinical efficacy or ocular safety.

World Health Organization guidance emphasizes that quality-control methods for herbal materials should be selected appropriately for the material and validated for the intended analytical purpose. Chromatographic methods, including TLC and HPTLC, can contribute to identification and fingerprint profiling when the stationary phase, mobile phase, detection reagent, reference material and procedure are adequately described.[1,2]

2. AIM AND OBJECTIVES

Aim: To present the preliminary analytical profile of Shigruadi Aschyotan based on the available Drug Testing Laboratory report.

- To document the organoleptic characteristics recorded for the sample.
- To report the physicochemical values available in the laboratory report.
- To record the TLC solvent system, visualization reagent and Rf values reported by the laboratory.
- To identify additional quality-control information required for complete standardization.

3. MATERIALS AND METHODS

3.1 Study material

The study material was a sample labelled Shigruadi Aschyotan. The supplied report identifies the batch as TGD-1 (Trial Drug Group-1), with a sample quantity of 5 mL. The report records the manufacturer as M/s Sricure Herbs India Pvt. Ltd., Panchkula, Haryana, and the manufacturer licence number as 534-ISM(HR) (Research Drug). The date of manufacture is recorded as 05/2025 and the expiry date as 04/2026. The report records receipt of the sample and related letter on 20/05/2025. The report date appears to be 17/06/2025; this date should be checked against the original report before submission.

3.2 Source of analytical data

Data were transcribed from the supplied Report of Test or Analysis issued by the Drug Testing Laboratory, RIISM, Jogindernagar, Department of AYUSH, Himachal Pradesh. This article is a report-based analytical documentation of the values visible in that report; the authors did not independently repeat the tests for the purpose of this manuscript.

3.3 Parameters recorded

The report records appearance, colour, odour, pH, loss on drying, refractive index, specific gravity and thin-layer chromatography. The TLC entry mentions a toluene: ethyl acetate (Tol:EA) solvent system and an abbreviated spray-reagent entry that appears to read 'Ansd.

Spray'. The exact reagent name, solvent proportion, plate type, sample preparation, development distance, visualization conditions and reference standard must be confirmed from the laboratory.

4. RESULTS

The results below reproduce the values recorded in the supplied laboratory report.

S. No.	Parameter	Reported result
1	Appearance	Liquid
2	Colour	Transparent
3	Odour	Pleasant
4	pH	5.87
5	Loss on drying	98.86%
6	Refractive index (R.I.)	1.332
7	Specific gravity	1.004
8	TLC solvent system	Toluene: Ethyl acetate (ratio not stated)
9	TLC spray reagent	Recorded as 'Ansd. Spray'; exact name to be verified
10	TLC Rf values	0.16, 0.27, 0.54, 0.62, 0.86
11	TLC remark	Report states that the pattern shows the presence of Shigru

5. DISCUSSION

The sample was described in the laboratory report as a transparent liquid with a pleasant odour. These observations provide a basic organoleptic description but are not sufficient, by themselves, to establish identity, purity or suitability for ocular administration. Organoleptic characteristics should be assessed using a defined procedure and documented against approved in-house specifications.

The reported pH was 5.87. pH is an important formulation attribute, particularly for preparations intended for ocular application; however, interpretation requires the intended route, formulation composition, measurement temperature, instrument calibration and justified product-specific acceptance criteria. A single reported value should not be described as proof of ocular compatibility.

The report records a loss-on-drying value of 98.86%. Because this is an unusually high value for a liquid preparation and the test method and calculation basis are not available in the supplied image, the original laboratory report should be checked to confirm the figure, unit, test procedure and whether the parameter was correctly transcribed. This value should not be silently corrected or interpreted without verification.

The reported refractive index of 1.332 and specific gravity of 1.004 are additional preliminary physical characteristics. Their significance depends on the formulation vehicle, temperature at measurement, method and instrument calibration. Future work should specify these conditions and include replicate readings.

TLC was reported to show five spots with Rf values of 0.16, 0.27, 0.54, 0.62 and 0.86 in a toluene:ethyl acetate system. The laboratory report interprets the pattern as showing the presence of Shigru. A TLC fingerprint can support preliminary identity assessment, but Rf values are influenced by chromatographic conditions. For reproducibility, the mobile-phase ratio, stationary phase, sample concentration, reference standard, chamber saturation, development distance, derivatization reagent and visualization conditions should be stated. A validated reference fingerprint or marker compound comparison would strengthen the identification.

Since the preparation is named Aschyotan, if it is intended for ocular use, further tests are particularly important. These may include microbial limits and sterility assessment as appropriate to the product and applicable standards, particulate matter, preservative content where applicable, container-closure integrity, stability under defined storage conditions and ocular tolerability. These tests are not present in the supplied report and therefore cannot be inferred from the current results.

6. LIMITATIONS

- The manuscript is based on one supplied laboratory report and one reported batch only.
- The complete composition, plant part, ingredient proportions and manufacturing procedure were not provided.
- Replicate measurements, standard deviations, instrument details and validated analytical protocols were not available.
- The loss-on-drying value of 98.86% and the TLC spray-reagent abbreviation require verification against the original laboratory record.
- No microbial, sterility, particulate, stability, safety or clinical efficacy data were supplied.

7. CONCLUSION

The available Drug Testing Laboratory report documents preliminary organoleptic, physicochemical and TLC characteristics of the tested Shigruadi Aschyotan sample. The recorded values include pH 5.87, refractive index 1.332, specific gravity 1.004 and five TLC

Rf values (0.16, 0.27, 0.54, 0.62 and 0.86). The laboratory report remarks that the TLC profile indicates the presence of Shigru. These findings may be used as initial analytical documentation; however, they are not sufficient to establish comprehensive standardization, ocular safety or therapeutic efficacy. Verification of the original data and additional validated quality control studies are recommended.

8. ACKNOWLEDGEMENT

The authors acknowledge the Drug Testing Laboratory, RIISM, Jogindernagar, Department of AYUSH, Himachal Pradesh, for the analytical report referenced in this manuscript. [Confirm permission/appropriate wording before submission.

9. REFERENCES

1. World Health Organization. Quality control methods for herbal materials. Geneva: World Health Organization, 2011. ISBN: 978-92-4-150073-9.
2. World Health Organization. WHO guidelines for assessing quality of herbal medicines with reference to contaminants and residues. Geneva: World Health Organization, 2007.
3. Government of India, Ministry of AYUSH. The Ayurvedic Pharmacopoeia of India. Part I, Volume II. New Delhi: Department of AYUSH; 1999. Monograph: Śigru (Moringa oleifera Lam.).
4. Pharmacopoeia Commission for Indian Medicine & Homoeopathy. The Ayurvedic Pharmacopoeia of India: Śigru Patra (Moringa oleifera Lam.). Official pharmacopoeial monograph. Ministry of AYUSH, Government of India.
5. World Health Organization. Quality control methods for medicinal plant materials. Geneva: World Health Organization, 1998.
6. World Health Organization. WHO expert committee on specifications for pharmaceutical preparations: guidelines on quality control of herbal medicines and marker substances. Geneva: World Health Organization; Technical Report Series. Department of shalakya Tantra[2].