SIDHI MARWADI PRIVATE LIMITED

Dedicated to Nature and Culture

IN-HOUSE QUALITY CONTROL & ANALYTICAL TEST REPORT

CERTIFICATE OF INTERNAL LABORATORY ANALYSIS (COA) • FSSAI & BIS COMPLIANCE

Executive Quality Statement: At Sidhi Marwadi Private Limited, purity, transparency, and traditional authenticity are the cornerstones of our edible oil heritage. Every batch of our Yellow Mustard (Pili Sarson) Oil is traditionally cold-pressed (Kolhu / Kachi Ghani) from Machine-cleaned, sun-matured Marwadi yellow mustard seeds without chemical solvents, caustic refining, or synthetic Allyl Isothiocyanate (AITC) flavour enhancers, and is rigorously audited by our In-House Quality Assurance & Analytical Division prior to bottling. This report documents the comprehensive physico-chemical, natural AITC pungency, lipid authenticity, solvent-residue, contaminant, and microbiological evaluation conducted in accordance with the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011 (Regulation 2.2.1.6 – Rapeseed or Mustard Oil / Sarson Ka Tel) and BIS (IS 546) / ISO analytical protocols.

1. SAMPLE & BATCH IDENTIFICATION METADATA | Traceability & Regulatory Particulars

Product Name	Sidhi Marwadi Pure & Traditional Kachi Ghani Yellow Mustard (Pili Sarson) Oil	**Report Reference No.**	SMPL/QC/COA/2026/1114
Botanical / Commodity Name	Brassica campestris / Sinapis alba L. (100% Cold-Pressed Yellow Mustard Oil)	**Date of Sampling & Analysis**	15 November 2026
Batch / Lot Number	26/Y1000/K11	**Manufacturing / Packing Date**	November 2026 (Shelf Life: 12 Months)
Testing Facility	In-House Quality Control & Analytical Lab, Sidhi Marwadi Pvt. Ltd., Jodhpur	**FSSAI License Number**	12224999000329
Sample Condition & Packaging	Intact, Sealed Food-Grade Retail Pack (1 Litre Control Sample)	**Overall Batch Verdict**	**COMPLIANT / PASSED (100% PURE)**

2. ORGANOLEPTIC & PHYSICAL AUTHENTICITY PROFILE | Macroscopic & Sensory Evaluation

Appearance & Clarity	Luminous, bright golden-yellow liquid oil obtained via natural cloth/gravity filtration; completely free from suspended sediment, haziness, or separated water.
Aroma & Pungency (Jhaag / Dhasak)	Authentic, aromatic Kachi Ghani mustard pungency (Natural AITC ≥ 0.25%) balanced with the smooth, sweet-nutty warmth characteristic of Marwadi Pili Sarson; zero chemical off-odour.
Viscosity & Mouthfeel	Smooth, full-bodied traditional Kachi Ghani viscosity retaining native MUFA/Omega-3 fatty acids, natural carotenoids, and Vitamin E; zero mineral oil or synthetic anti-foaming agents.

SIDHI MARWADI PRIVATE LIMITED U10795RJ2025PTC102887

3. COMPREHENSIVE ANALYTICAL & SAFETY TEST RESULTS | Audited 15-Point Laboratory Evaluation

S.No.	Test Parameters	Unit	Observed Test Result	Regulatory Requirement / Specification Limit (FSSAI / BIS)	Validated Method / Source Protocol	Status
1	**Refractive Index at 40°C**	—	**1.4654**	1.4646 – 1.4662	FSSAI 02.003:2021 / Refractometric Method	**Complies**
2	**Saponification Value**	mg KOH/g	**172.5 mg KOH/g**	168 – 177 mg KOH/g	FSSAI 02.007:2021 / Titrimetric Method	**Complies**
3	**Iodine Value (Wijs Method)**	g I_2/100 g	**104 g I_2/100 g**	96 – 112 g I_2/100 g	FSSAI 02.010:2021 (Wijs Method)	**Complies**
4	**Acid Value (Free Fatty Acid Indicator)**	mg KOH/g	**≤ 0.5 mg KOH/g**	≤ 6.0 mg KOH/g (Expressed / Unrefined Edible Mustard Oil)	FSSAI 02.009:2021 / Titrimetric Method	**Superior**
5	**Natural Allyl Isothiocyanate (AITC)**	% by weight	**≥ 0.25%**	≥ 0.20% by weight (Mandatory for 'Kachi Ghani / Cold-Pressed' Claim)	IS 548 (Part 1) / FSSAI Validated Standard	**Superior**
6	**Argemone Oil, Polybromide & HCN Screen**	Qualitative / Pass	**Argemone & Polybromide: Negative; HCN: Pass**	Argemone & Polybromide Must be Negative; HCN Must Pass	FSSAI 02.032, 02.018, 02.034 / 02.035	**Complies**
7	**Hexane / Extraction Solvent Residue**	mg/kg	**BLQ (Not Detected)**	Expelled / Cold-Pressed Oil: Free from Hexane Residue (BLQ)	GC Validated Headspace Method	**Superior**
8	**Peroxide Value (Primary Oxidation)**	meq O_2/kg	**≤ 2.0 meq O_2/kg (At Release)**	≤ 15.0 meq O_2/kg (Virgin / Expressed Edible Oil Standard)	FSSAI 02.042:2021 (Fresh Sample Assay)	**Superior**

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S.No.	Test Parameters	Unit	Observed Test Result	Regulatory Requirement / Specification Limit (FSSAI / BIS)	Validated Method / Source Protocol	Status
9	**Moisture & Insoluble Impurities**	% by mass	**Moisture ≤ 0.05%; Impurities ≤ 0.05%**	Combined ≤ 0.25% (Clear, free from separated water & sediment)	FSSAI 02.001:2021 / Gravimetric Method	**Superior**
10	**Fatty-Acid Profile & Sterol/TAG Fingerprint**	% Fatty Acid / Profile	**Conforms 100% to Yellow Mustard Oil; Zero Foreign Oil Markers**	Must match declared Yellow Mustard profile (Erucic/Oleic/Linoleic/ALA)	GC-FID / GC-MS Advanced Marker Profiling	**Complies**
11	**Mineral Oil, Castor Oil & Foreign Veg Oils**	Qualitative / Profile	**Negative (Absent in Profile)**	Absent / Identity Consistent with 100% Pure Yellow Mustard Oil	FSSAI 02.029; Castor Test; GC Sterol Profile	**Complies**
12	**Pesticide Residues (Multi-Residue Panel)**	mg/kg	**BLQ (Not Detected)**	Each residue ≤ Applicable FSSAI MRLs (LOQ ≤ 0.01 mg/kg)	LC-MS/MS + GC-MS/MS Multi-Residue Screen	**Complies**
13	**Heavy Metals (Pb, Cd, As, Hg)**	mg/kg	**Pb, Cd, As, Hg: BLQ**	Within FSSAI Contaminant Limits (Pb ≤0.1, Cd ≤0.05, As ≤0.1, Hg ≤0.25)	ICP-MS / ICP-OES Validated Method	**Complies**
14	**Aflatoxin B1 & Total Aflatoxins**	µg/kg	**BLQ (Not Detected)**	Total Aflatoxins ≤ 15 µg/kg; Aflatoxin B1 ≤ 10 µg/kg (FSSAI)	HPLC-FLD / LC-MS/MS	**Complies**
15	**Microbiological Profile (TPC, Yeast/Mould, E. coli, Salmonella)**	CFU/g or Presence	**Low TPC & Yeast/Mould counts; E. coli & Salmonella: Absent**	Pathogens Absent (E. coli Absent in 1 g; Salmonella Absent in 25 g)	IS / ISO / FSSAI Microbiology Manual	**Complies**

Technical Abbreviations: AITC = Allyl Isothiocyanate (Natural Pungency Compound); HCN = Hydrocyanic Acid; RI = Refractive Index; meq O_2/kg = Milliequivalents of Active Oxygen per kg; TAG = Triacylglycerol; GC-FID = Gas Chromatography with Flame Ionization Detection; BLQ = Below Limit of Quantification (Not Detected); LOQ = Limit of Quantification; MRL = Maximum Residue Limit; FSSAI = Food Safety and Standards Authority of India.

SIDHI MARWADI PRIVATE LIMITED CIN-U10795RJ2025PTC102887

REGISTERED OFFICE :
C/O SIDHI MARWADI, KHASRA NO. 1242/655 KUDI DHORU, KUDI, PIPAR ROAD, JODHPUR, RAJASTHAN, INDIA, 342606
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SCAN QR

4. SCIENTIFIC AUDIT & QUALITY INTERPRETATION | What These Analytical Numbers Mean for Consumers

- **High Natural Allyl Isothiocyanate / AITC Pungency (≥ 0.25% vs. ≥ 0.20% Kachi Ghani Benchmark):** Genuine Kachi Ghani Yellow Mustard (Pili Sarson) Oil owes its natural aromatic warmth, antibacterial properties, and signature pungency to endogenous Allyl Isothiocyanate (AITC), preserved only when yellow mustard seeds are slow-pressed at low temperatures. Commercial high-temperature expelling destroys natural AITC, leading brands to spike oil with synthetic AITC. Sidhi Marwadi Yellow Mustard Oil retains ≥ 0.25% natural AITC—exceeding the 0.20% FSSAI Kachi Ghani threshold.
- **Triple Adulterant & Toxin Clearance (Argemone Negative, Polybromide Negative & HCN Pass):** Yellow mustard seeds require strict sorting and testing to prevent contamination from toxic Argemone mexicana (Satyanashi) seeds, adulteration with cheap linseed/marine drying oils (Polybromide test), or residual cyanogenic glycosides (Hydrocyanic Acid / HCN test). Our combined FSSAI 02.032, 02.018, and 02.034/035 screening confirms Negative Argemone, Negative Polybromide, and a 100% Pass on HCN.
- **100% Botanical Authenticity & Zero Cheap Oil Blending (Palm Olein, Rice Bran, Soybean):** Yellow Mustard (Pili Sarson) Oil is a premium culinary oil often targeted for adulteration with cheaper refined palmolein, soybean, or cottonseed oil, plus synthetic yellow dyes. Exact centering of Refractive Index (1.4654), Saponification Value (172.5 mg KOH/g), and Iodine Value (104 g I_2/100 g), backed by GC-FID/GC-MS fatty-acid and sterol fingerprinting, confirms 100% pure Yellow Mustard Oil with zero foreign oils or synthetic colours.
- **Ultra-Low Acid Value (≤ 0.5 mg KOH/g), Low Peroxide Value (≤ 2.0 meq O_2/kg) & Zero Hexane (BLQ):** Maintaining Acid Value at ≤ 0.5 mg KOH/g (vs. ≤ 6.0 limit), Peroxide Value at ≤ 2.0 meq O_2/kg, and Moisture at ≤ 0.05% proves cold-pressing from fresh, sound seeds without chemical Hexane solvent extraction, with Pesticides, Heavy Metals, and Aflatoxins all Below Limit of Quantification (BLQ).

5. QUALITY ASSURANCE DECLARATION & AUTHORIZED SIGNATORY | In-House Laboratory Verification & Transparency Notice

Regulatory & Transparency Declaration: We hereby certify that the sample described above was sampled and analyzed by the In-House Quality Control & Analytical Laboratory of Sidhi Marwadi Private Limited (Jodhpur, Rajasthan) coupled with validated instrumental test protocols. Based on the 15-point audit above, the product conforms to all mandatory quality and food safety parameters stipulated under FSSAI Regulation 2.2.1.6 (Rapeseed or Mustard Oil / Pili Sarson Ka Tel) and IS 546. This report is published on www.sidhimarwadi.com for consumer education and batch transparency.

ANALYZED & PREPARED BY	REVIEWED & VERIFIED BY	APPROVED & AUTHORIZED BY
Quality Control Analyst In-House Analytical Lab Sidhi Marwadi Private Limited Date: 15/11/2026	Head – Quality Assurance (QA) Food Safety & Compliance Division Sidhi Marwadi Private Limited FSSAI Lic. No.: 12224999000329	For SIDHI MARWADI PRIVATE LIMITED DIRECTOR Authorized Signatory / Director Sidhi Marwadi Private Limited Jodhpur, Rajasthan - 342606 [Official Company Stamp / Seal]