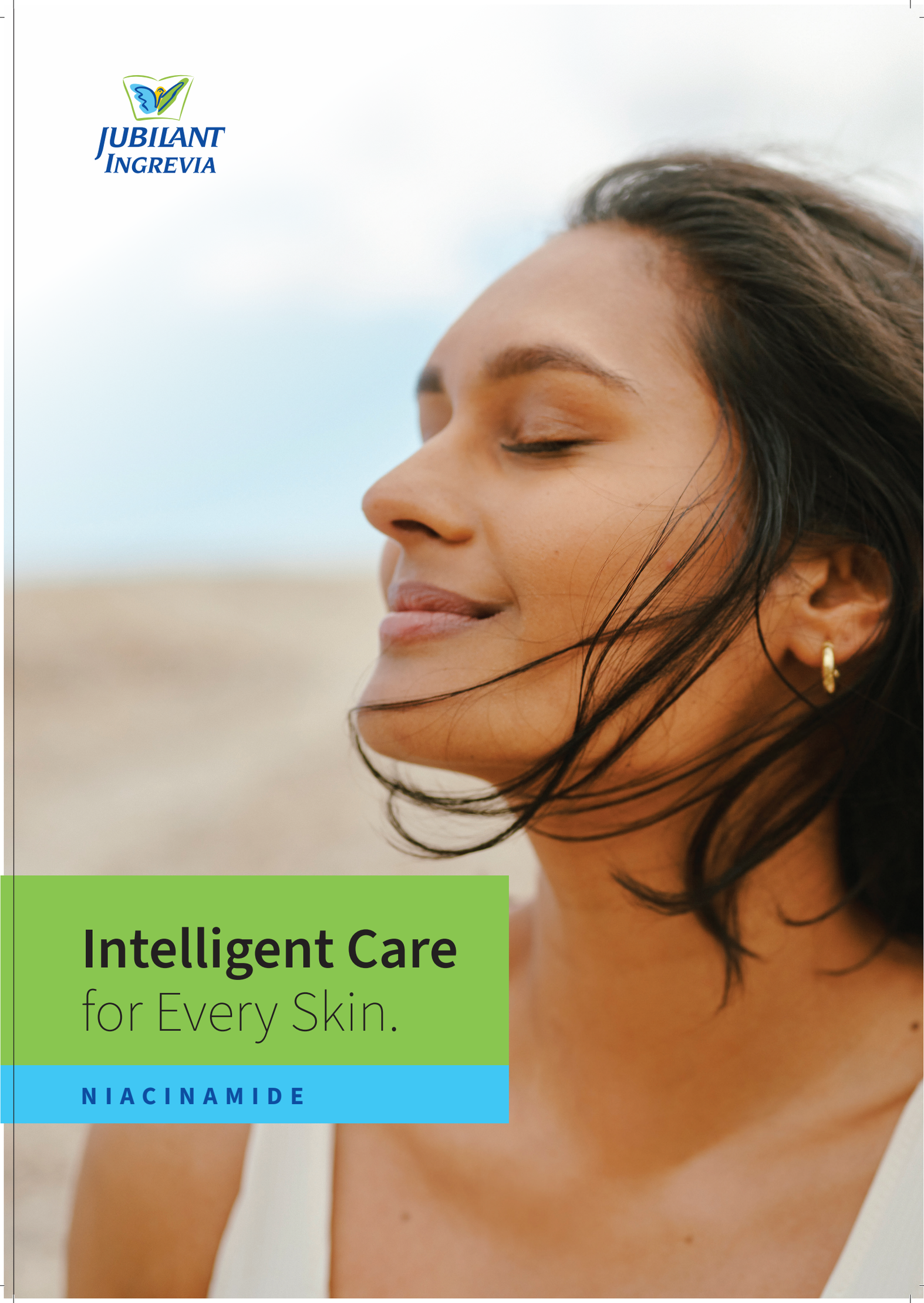
JUBILANT INGREVIA



Intelligent Care
for Every Skin.

NIACINAMIDE

About **Jubilant Ingrevia** Limited

Jubilant Ingrevia Limited is a leading solution provider of Specialty Chemicals & CDMO globally, serving Personal care , Nutrition, Pharmaceutical. Agrochemical, Consumer, Semiconductor and Industrial customers. We offer customised solutions that are innovative, cost-effective and conform to global quality standards and have a broad portfolio of 130+ products

A HERITAGE OF MANUFACTURING EXCELLENCE

- 45+ years of chemistry legacy; One of the Largest Niacinamide producers globally
- 6 world-class manufacturing facilities and 50+ plants across India
- Backward integrated from bio-feedstock: Bio-Ethanol → Acetaldehyde → Pyridine / Beta Picoline → 3-Cyano Pyridine → Niacinamide
- 2,300+ employees | 150 R&D scientists across three R&D centres
- Dedicated cosmetic-grade Niacinamide engineered specifically for the personal care industry



OUR COSMETIC-GRADE NIACINAMIDE

Niacinamide PC (Ultra-Pure)

< 100 ppm

Our cosmetic grade meets stringent microbiology specifications (TVC < 100 CFU/g, free from undesirable pathogens) and complies with USP / EP / BP / JP / FCC / GB / IP.

Sustainability & Care for Environment

Sustainability and being Socially Responsible is integral to our business. We are committed to ensuring the highest standards of Health, Safety, Security, and Environmental Performance for both our products and operations.

ENVIRONMENTAL

Continuous reduction in Scope 1 & 2 GHG emission

Continuous reduction in specific water consumption

Waste Recyclability 95% across Manufacturing

Aggressive plans to Implement renewable energy supply across different manufacturing plants.

SOCIAL

~1 Mn lives impacted via CSR

~1 Lac health consultations, provided to communities

Focused efforts for inclusive & diverse workforce

GOVERNANCE

Fully Compliant

Annual Sustainability Report

ESG Rating Agencies:

DJSI

Ecovadis

CDP

S&P Global



KEY RECOGNITION

S&P Global

SILVER | Top 15% ecovadis Sustainability Rating MAY 2025

Responsible Care® Our Commitment to Sustainability

Climate Water CDP A List 2025

GRI Content Index Advanced Service 2024

Proven Performance

HOW NIACINAMIDE WORKS

Niacinamide is the chemical name for Vitamin B3 — a water-soluble vitamin essential to healthy skin function. After its strong topical absorption was confirmed in the 1970s, it became one of the most extensively studied actives in dermatology, with proven benefits across multiple skincare needs.

At the cellular level, our Niacinamide works through two complementary, science-backed mechanisms — both translating into the on-pack functionalities below:

01 Strengthens the skin's natural shield by stimulating ceramide synthesis

02 Boosts cellular energy to help skin repair damage from UV rays and urban pollutants



SKIN CARE APPLICATIONS

- Anti-Aging Serums
- Brightening / Even-Tone (incl. melasma & hyperpigmentation)
- Anti-Acne & Sebum Control
- Sensitive-Skin & Barrier Repair
- Sun Care & Pollution / Blue-Light Defense

HAIR CARE APPLICATIONS

- Keratin Synthesis
- Boosts Blood Circulation

NIACINAMIDE EVIDENCE LIBRARY

Moisturisation	Anti-Aging	Skin Lightening	Anti-Acne	Sebum Control
Outperforms white petrolatum on TEWL and stratum corneum hydration (Soma et al., Int J Dermatol 2005	5% topical reduces yellowing, wrinkles and red blotchiness (Bissett et al., Int J Cosmet Sci 2004)	4% as effective as Hydroquinone with fewer side effects (Moncada, Dermatol Res Pract 2011)	5% gel matches 2% clindamycin (Shahmoradi et al., J Res Med Sci 2013)	2% reduces sebum 30% and pore size 10% in 4 weeks (Draelos et al., 2006)

Our **Differentiators**

What sets an ingredient apart is the story of its creation, its purity, and the reliability of the hands that created it.

01 BACKWARD INTEGRATED MANUFACTURING PROCESS TO BASIC FEEDSTOCK

Our complete journey from bio-feedstock to Niacinamide is a major advantage we hold over other manufacturers, ensuring unmatched consistency.

Backward integration ensures complete traceability from Feedstock to Niacinamide



02 CLINICALLY VALIDATED FOR 10% CONCENTRATION (AT 3RD PARTY LAB)

Clinically demonstrated to be well-tolerated at concentrations up to 10% —giving formulators headroom for high-performance products without compromising skin comfort.



10%
CONCENTRATION

03 REGULATORY FREEDOM — FORMULATE ONCE, SELL GLOBALLY

Our Niacinamide is approved and registered for cosmetic use across every major regulatory framework, allowing a single formulation to travel without reformulation:

USA	Europe	China	Faith-based	Quality systems	Label-friendly
US FFR-listed	REACH-compliant	NMPA-registered	Halal (MUI), Kosher (OU)	WHO-GMP, FSSC-22000, ISO 9001:2015	Vegan, Non-GMO, Naturality Index 66.7% (ISO 16128-2)

Clinically Validated
Non-Irritant

AT 10% CONCENTRATION

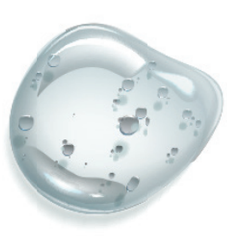
In-Vivo Human Study confirms excellent skin compatibility of a 10% Niacinamide Serum.

MCII (MEAN CUMULATIVE IRRITATION INDEX) SCORE COMPARISON

(Water)	(10% Niacinamide Serum)	(SLS 1%)
0.05	**0.07**	**0.28**







MCII of the 10% Niacinamide Serum was **comparable to water (0.05)** and **significantly lower** than **SLS 1% (0.28)**, confirming a non-irritating profile.

Lower MCII value indicates better skin compatibility.

CLINICALLY VALIDATED

NON-IRRITANT

AT 10% CONCENTRATION

MEAN CUMULATIVE IRRITATION INDEX (MCII) Score

0.07

CLASSIFICATION
NON-IRRITATING

Based on In-Vivo study conducted at 3rd party laboratory.

58 Healthy Subjects

48-Hour Occlusive Patch Test

Dermatologist Supervised

A **Trusted Partner** to the Personal Care Industry

Ultra-Pure Grade

< 100 ppm residual Nicotinic Acid

Microbiological Purity

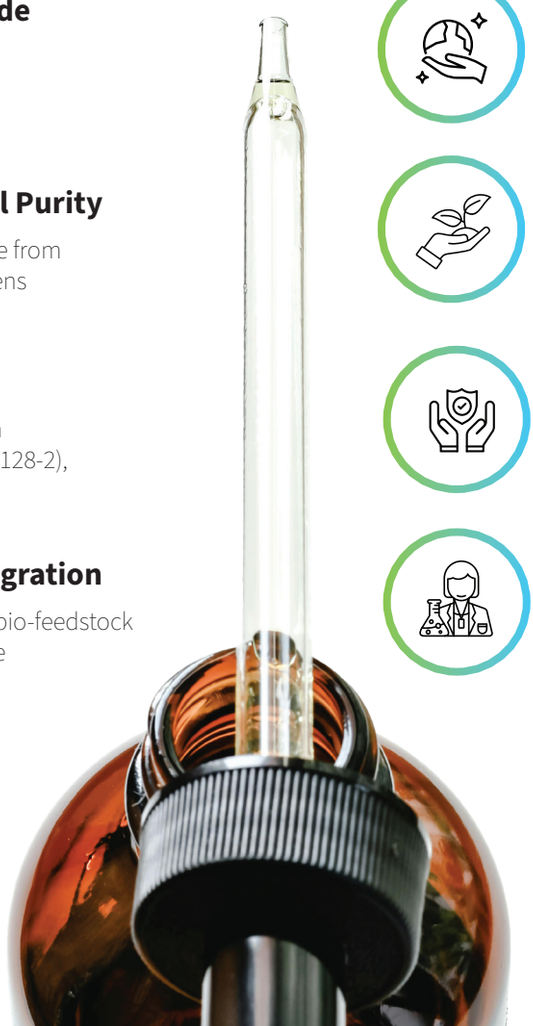
TVC < 100 CFU/g; free from undesirable pathogens

Natural Origin

66.7% Bio content in Niacinamide (ISO 16128-2), Carbon-14 verified

Backward Integration

fully in-house from bio-feedstock to finished molecule



Global Scale

Top 2 worldwide; 1,500+ customers across 63 countries

Sustainability

Annual assessment from Ecovadis & CDP | Responsible Care® 14001:2013

Partner of Choice

Trusted by most major global cosmetic brands

Validated

Clinical Validated for higher concentration applications

World-Class Certifications

Our facilities comply with the most stringent global standards for safety and quality:

FSSC 22000 | fssai | ISO 14001:2015 | Food Chemicals Codex | FCC

CERTIFIED KOSHER CERTIFIED | حلال HALAL | OCCUPATIONAL HEALTH & SAFETY OHSAS 18001 | WHO-GMP | FAMI QS | V-LABEL INTERNATIONAL V-LABEL.COM VEGAN

Why Anti-Pollution **Matters**

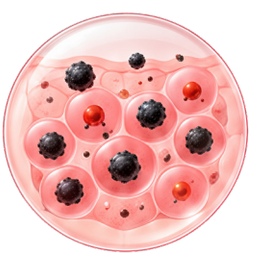
Pollution Triggers Oxidative Stress in Skin

THE POLLUTION STRESS CASCADE



URBAN POLLUTION PARTICLES

Fine particulate matter penetrates skin surface.



ROS GENERATION

Pollution induces excess Reactive Oxygen Species (ROS).



OXIDATIVE STRESS

Excess ROS leads to cellular damage, inflammation and premature aging.

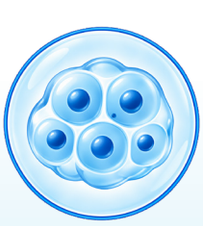


NIACINAMIDE PROTECTION

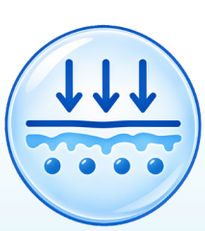
Helps neutralize ROS and protects skin from pollution-induced stress.

Effective anti-pollution actives should reduce pollution-induced ROS and help maintain skin health and resilience.

THE IMPACT OF POLLUTION ON SKIN



Breaks down skin cells



Disrupts skin barrier



Causes dullness & roughness



Accelerates visible aging



THE ANTI-POLLUTION PROMISE

Niacinamide is a science-backed active that helps defend skin against pollution-induced oxidative stress and supports skin resilience in an urban environment.



Shields against urban pollution



Neutralizes oxidative stress



Promotes healthier, resilient skin

Anti-pollution actives like niacinamide help

PROTECT SKIN TODAY. PRESERVE SKIN TOMORROW.

Ex-Vivo Human Skin **Explant Study**

Robust Model to Evaluate Anti-Pollution Efficacy

STUDY AT A GLANCE (ANTI-POLLUTION)

Model	Ex-Vivo Human Skin Explants
Pollutant	400–450 µg/m^3 dust + cigarette smoke
Assay	Intracellular ROS Measurement (DCFH - DA Assay)
Application	Topical pre-treatment prior to pollution exposure
Concentrations Tested	0.125%, 0.25%, 0.5%, 1.0%, 2.0%, 4.0%
Comparator	Commercial Niacinamide (Standard Grade)

EX-VIVO HUMAN SKIN MODEL FOR ANTI-POLLUTION EFFICACY

Human skin explants retain the complex architecture and cellular interactions of native skin.

URBAN DUST CHALLENGE

Fine particulate matter penetrates skin surface & triggers oxidative stress.

OXIDATIVE STRESS & ROS GENERATION

Excess ROS leads to cellular damage, inflammation and premature aging.

NIACINAMIDE PROTECTION

Helps neutralize ROS & protects skin cells from pollution-induced stress.

This ex-vivo model closely mimics real-world urban exposure and helps quantify anti-pollution protection at the cellular level.

STUDY WORKFLOW



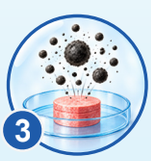
HUMAN SKIN EXPLANTS

Viable human skin explants prepared and stabilized.



NIACINAMIDE TREATMENT

Explants treated with niacinamide (0.125%–4.0%) prior to pollution challenge.



Pollution Exposure

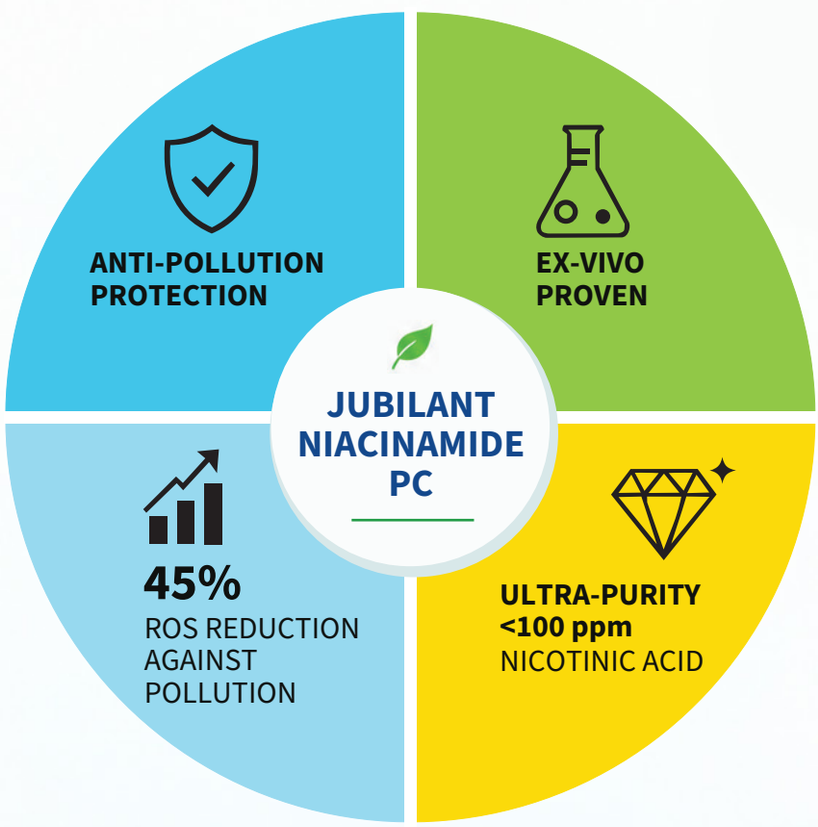
400–450 µg/m^3 dust + cigarette smoke



ROS ANALYSIS (DCFH - DA)

Intracellular ROS measured using DCFH - DA Assay

Why Choose
Jubilant Niacinamide PC?



45% ROS REDUCTION*
AGAINST POLLUTION

Validated in GLP-Compliant Ex-Vivo Human Skin Model

<100 ppm Residual Nicotinic Acid Specification for Ultra-Purity

*at 4.0% concentration

SCIENCE-BACKED ANTI-POLLUTION PROTECTION FOR NEXT-GENERATION SKINCARE

NON-COMEDOGENIC STUDY – JUBILANT'S NIACINAMIDE PC

A 28-day full-face study in acne-prone skin

The non-randomized, single-group pilot evaluated a finished 10% niacinamide serum before and after daily use.

STUDY PARTICIPANTS



28

WOMEN WITH MILD ACNE

- Ages 19–31
- Median age 23
- 75% oily skin, 25% dry skin

USE REGIMEN

T-3
WASHOUT
Usual skincare without serum

DAY 0
BASELINE
Face washed and measured

DAY 14
FOLLOW-UP
Objective measurements

DAY 28
FINAL
Measurements & questionnaire

STUDY DESIGN

Once-daily morning application over the full face for four weeks. Participants continued usual skincare but could not add another serum or a similar product. No comparator arm.

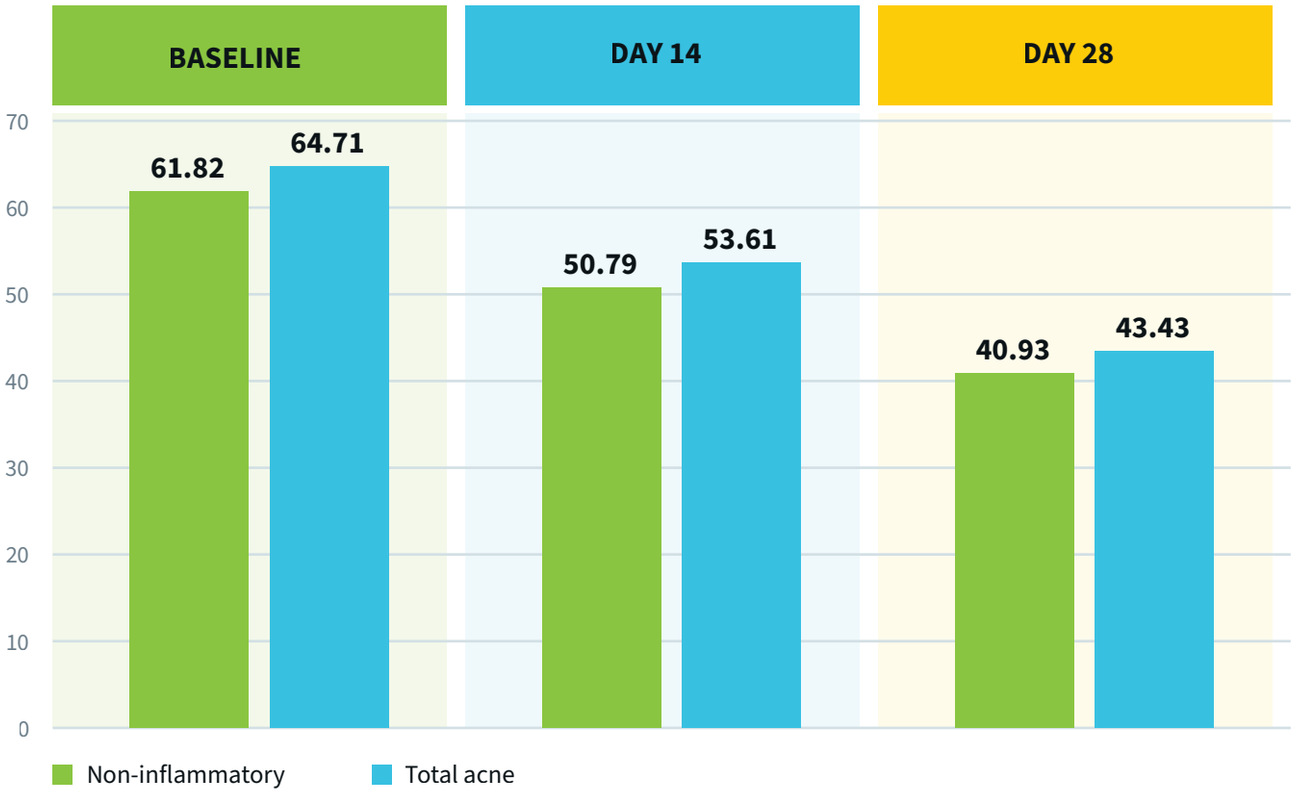
OBJECTIVE RESULTS

Mean lesion counts decreased at both follow-ups

The report found significant reductions versus baseline at Day 14 and Day 28 for non-inflammatory and total acne counts.

MEAN ACNE LESION COUNT

N=28, NO COMPARATOR



Change at Day 28

−33.80%

MEAN NON-INFLAMMATORY COUNT AT DAY 28

−32.89%

MEAN TOTAL ACNE COUNT AT DAY 28

EVIDENCE-ALIGNED INTERPRETATION

The tested 10% niacinamide serum showed no comedogenic potential under the conditions of this 28-day, single-group pilot study.*

*Results are versus baseline and apply to the finished serum, Sample B. The report did not designate a primary endpoint and did not provide exact p values, variability or the statistical test.

SUPPORTING EVIDENCE

Instrumental and participant measures point in the same direction

Porphyrin and erythema indices decreased by Day 28, while participant responses added a perception layer.

OBJECTIVE ENDPOINTS

MEAN PORPHYRIN COUNT	MEAN ERYTHEMA INDEX
−21.51%	**−3.15%**
Day 28 | p<0.05	Day 28 | p<0.05

PARTICIPANT-REPORTED EXPERIENCE

Positive response means the top three categories on a six-point agreement scale. The report also found 79% positive for no redness and 96% positive for no stinging and no itching.



Global Network
& Contact

JUBILANT INGREVIA

MANUFACTURING FACILITY:

Plot No.5, Vilayat GIDC, Taluka Vagra, Bharuch - 392012, Gujarat, India.
Tel: +91 2641 28 1500.

OFFICE LOCATIONS:

China:
Jubilant Life Sciences (Shanghai) Limited.
Room 602-603, Shanghai Longemont Summit Center, 1088, Yan'an West Road, Shanghai - 200052, China.
Phone: +86 21 63907388.

Belgium:
Jubilant Life Sciences NV.
Axxes Business Park, Guldensporenpark 22, Block C, Merelbeke - 9820, Belgium. Tel: +32 9 233 1404.

USA:
Jubilant Life Sciences USA Inc.
790 Township Line Road Suite 175 Yardley, Pennsylvania 19067, USA. Tel: +1 908 658 9988.

CORPORATE OFFICE:

Jubilant Ingrevia Limited.

1A, Sector 16A, Noida - 201301, U.P., INDIA. Tel: +91 120 4361000.

For business specific inquiries: vitamins@jubl.com
To know more log on to: www.jubilantingrevia.com