

Actives

PRODUCT DOSSIER

VitaKap® RetinoKap-50P.C

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VERSION 1.01

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PRODUCT DATA SHEET (PDS)**VitaKap®****RETINOKAP-50P.C***High-purity retinol in a lightweight hydrocarbon carrier***1. Description**

RetinoKap-50P.C is a premium cosmetic-grade retinol concentrate formulated with 46.1% highly purified Retinol in a lightweight hydrocarbon carrier system composed of Undecane and Tridecane, stabilized with Tocopherol to enhance oxidative stability.

Designed for high-performance skincare formulations, RetinoKap-50P.C delivers the proven biological benefits of Vitamin A while offering improved formulation convenience, excellent spread-ability, and enhanced ingredient stability. The optimized carrier system protects retinol during processing and storage, enabling formulators to develop effective anti-aging, skin-renewal, brightening, and resurfacing products with greater confidence.

RetinoKap-50P.C promotes epidermal renewal, stimulates collagen synthesis, improves skin texture and elasticity, and visibly reduces wrinkles, uneven pigmentation, and signs of photoaging.

2. How It Works**2.1 Stimulates Epidermal Cell Renewal**

- Retinol is enzymatically converted into retinoic acid within the skin, where it accelerates epidermal cell turnover. This promotes the shedding of damaged skin cells and the formation of new, healthy cells, resulting in smoother, brighter, and more even-toned skin.

2.2 Boosts Collagen Production

- Retinoic acid activates retinoic acid receptors (RARs) in dermal fibroblasts, stimulating the synthesis of collagen types I and III while reducing matrix metalloproteinase (MMP) activity. This helps improve skin firmness, elasticity, and reduces the appearance of fine lines and wrinkles.

2.3 Regulates Pigmentation and Skin Texture

- Retinol normalizes keratinocyte differentiation and enhances the dispersion of melanin, helping to reduce hyperpigmentation, improve skin texture, refine pores, and promote a more uniform complexion.

PRODUCT DATA SHEET (PDS)

3. Recommended Use Levels

INGREDIENT	CONCENTRATION
RETINOKAP-50P.C	0.05–1.00%

This delivers approximately 0.023–0.461% active retinol in the finished formulation.

4. Pharmaceutical Characterization

PARAMETER	SPECIFICATION
ACTIVE COMPOSITION	Retinol
SOLUBILITY	hardly soluble in water but miscible with oils and fats
STABILITY	pH 5.0 – 6.5
APPERENCE	yellow to slight orange liquid

5. Role in Cosmetic Formulations

Key Benefits

- 46.1% High-Purity Retinol for potent skin-renewal and anti-aging efficacy.
- Enhanced Oxidative Stability through Tocopherol, helping preserve retinol activity over time.
- Lightweight Hydrocarbon Carrier (Undecane & Tridecane) provides a dry, non-greasy skin feel with excellent spread ability.
- Improved Formulation Stability by protecting retinol against oxidation during processing and storage.
- Uniform Active Distribution for more consistent retinol delivery throughout the finished product.
- Easy Formulation Incorporation into oil-based and emulsion systems with minimal impact on texture.
- Supports High-Performance Skincare for wrinkle reduction, collagen stimulation, skin renewal, brightening, and texture refinement.
- Optimized Sensory Profile, allowing formulators to create elegant, lightweight cosmetic products.

PRODUCT DATA SHEET (PDS)

6. Formulation Considerations

6.1 Handling

- Protect from Light
Handle and store retinol under low-light conditions and use opaque or amber containers to prevent degradation.
- Avoid High Temperatures
Add retinol during the cool-down phase of formulation, preferably below 30°C.
- Minimize Air Exposure
Keep containers tightly closed and limit oxygen exposure during processing to maintain stability.
- Use Appropriate Protective Equipment
Wear gloves, protective eyewear, and a lab coat during handling.
- Store Under Recommended Conditions
Store in a cool, dry place, preferably at 2–8°C, away from moisture and direct sunlight.

6.2 Compatibility

- Works synergistically with:
 - Niacinamide
 - Hyaluronic Acid
 - Peptides
 - Ceramides

6.3 Avoid or Use with Caution

- AHAs/BHAs (Glycolic Acid, Lactic Acid, Salicylic Acid): Can increase irritation when used in the same routine or formulation unless carefully balanced.
- Benzoyl Peroxide: May accelerate retinol degradation and increase irritation.
- Pure L-Ascorbic Acid (low pH): Often better used separately due to pH and stability considerations.

PRODUCT DATA SHEET (PDS)

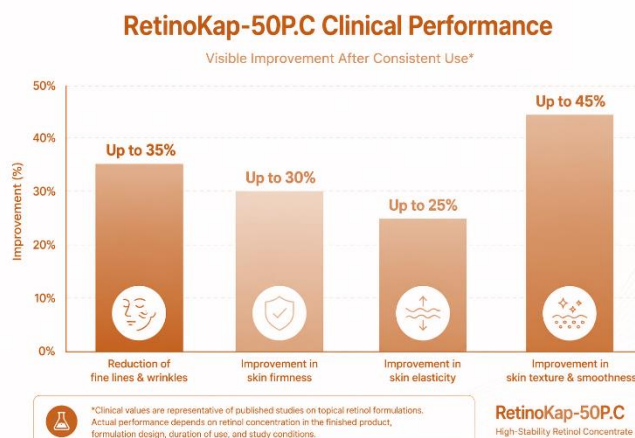
7. Application Formats

Product Type	Recommended Level
Facial Creams	0.05–0.30%
Serums	0.20–1.00%
Night Treatments	0.10–0.50%
Eye Creams	0.05–0.20%
Body Care	0.10–0.50%

Active retinol delivered: approximately 0.02–0.46%, depending on the inclusion level.

8. Clinical Output

Clinical Parameter	Typical Improvement*
Reduction of fine lines & wrinkles	Up to 35%
Improvement in skin firmness	Up to 30%
Improvement in skin elasticity	Up to 25%
Improvement in skin texture & smoothness	Up to 45%



Up to 2× greater oxidative stability of retinol, helping preserve potency during formulation and storage for enhanced product performance.*

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