



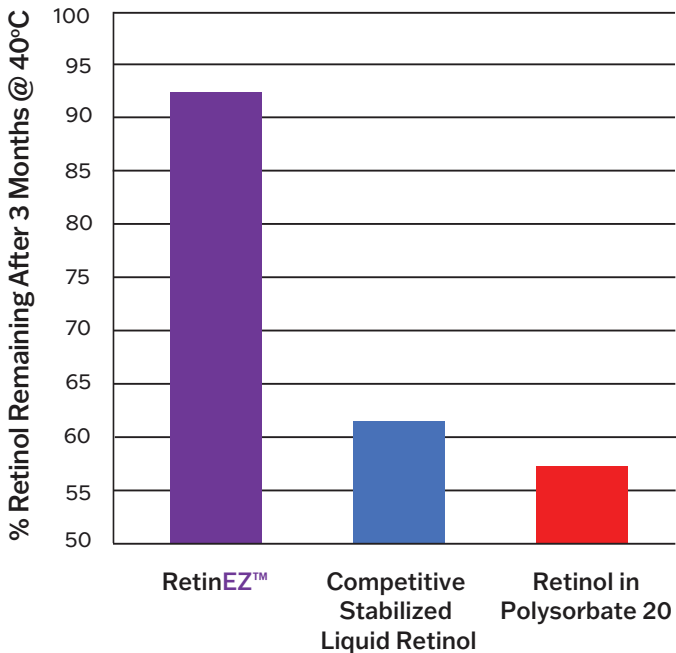
RetinEZ™

Retinol Sustained-Release Delivery System

RetinEZ™ Is a sustained-release retinol delivery system that provides the clinically-proven anti-aging benefits of retinol in a stabilized form that greatly simplifies the formulation and manufacture of skin care products. RetinEZ™ is based on the Microsponge® *Natural* cellulose-based delivery system that is proven to provide anti-aging efficacy with reduced irritation compared to conventional formulations. RetinEZ™ is free of BHA, BHT and microplastics.

Typical Properties

INCI Name:	Cellulose, Retinol, Ascorbic Acid, Polysorbate 20 and Tocopherol
Appearance:	Off-white to light yellow powder
Retinol Concentration:	9 - 11%



Manufacturing Advantages

If the need to use inert processing conditions is stopping you from utilizing the benefits of retinol in your formulations, RetinEZ™ will now allow you to provide the formulations that your customers are asking for. RetinEZ™ provides protection to retinol during formulation and manufacturing of skin care products that makes the production of effective anti-aging products easier. The proprietary natural cellulose microparticle and stabilization package allows formulations to be manufactured in conventional lotion production equipment without the need for inert atmosphere blankets or yellow lighting to protect the retinol from oxidation/degradation.

The enhanced stability provided by RetinEZ™ is shown in the Figure to the left. The data compares anti-aging creams (0.15% retinol) that were manufactured without an inert gas blanket or without the use of yellow lights. The creams were packaged in barrier

packaging and then placed in a stability testing chamber at 40°C for 3 months (standard conditions for justifying a 2-year shelf life). The results show how RetinEZ™ maintains over 90% of the retinol over the duration of the testing while the two alternative retinol sources show significant degradation over the stability testing period.





Formulation Guidelines

RetinEZ™ can easily be formulated into all types of cosmetic products from oil-in-water, water-in-oil and aqueous or anhydrous gel products. For emulsion products, it is best to add RetinEZ™ after the emulsion has formed at temperatures below 50°C. RetinEZ™ is not sensitive to shear so the best approach is to use a homogenizer to make sure the ingredient is uniformly distributed into the product. The same approach will work for gel products. No need to add additional stabilizers and NO NEED for inert gas during the making of your finished product.

Benefits

- Enhanced stability under conventional manufacturing conditions without using an inert atmosphere or yellow lights
- Extended-release results in reduced irritation and long-lasting availability at the site of action
- Natural microparticle delivery technology
- Source of BHT and BHA - free retinol and is not subject to listing under California Proposition 65

Typical Applications

- Anti-aging and skin rejuvenation products
- Daily use moisturizers and lotions
- Facial and body masks
- Hand and body lotions
- Cellulite treatments

Storage Recommendations

Retinol must be kept in original container under refrigerated storage until use. For best results, use the complete package after opening.

