



## Semi-solid preparations with gako unguator devices

Using the gako unguator devices as a compounding solution benefits high product quality

- manufacturing range from 20ml up to 2000ml
- reproducible product quality
- time saving in the manufacturing process
- maximum shelf life due to minimum air impact
- no contamination during mix and transfer > mixing jar = dispensing jar
- accredited quality according to globally recognised standards and relevant practices!
- easy ointment extraction due to movable bottom and single hand principle
- simple and hygienic application directly on the skin

## Hyperpigmentation

Hyperpigmentation is an abnormal accumulation of melanin that leads to dark spots on the skin and may worsen with ageing.

This skin disorder may be caused by sun damage, inflammation and other skin injuries, including those related to acne vulgaris. People with darker Asian, Mediterranean or African skin tones are more prone to hyperpigmentation.

Topical treatment with both active pharmaceutical ingredients (APIs) and dermaceutical ingredients (DCIs) is the most effective approach. Dosages are defined individually.

Treatment of hyperpigmentation is usually repetitive. The patient must therefore experience maximum comfort to ensure compliance and achieve optimal results.

## Customized treatment of hyperpigmentation

Hyperpigmentation is commonly treated by 'on the spot' depigmentation therapy. Preventive and supportive skin care is also used on the skin where the pigmentation usually occurs.

1. APIs can be selected, based on individual dosing, to meet the patient's specific treatment needs.
2. DCIs can be added to improve and/or support the skin condition and prevent hyperpigmentation.
3. Basic skin care is guaranteed with the proper choice of dermatological vehicles. The vehicles are designed to be suitable for different skin types.
4. The following preparations can be manufactured with all of the gako unguator devices using the general principle of the Unguator Technology. More information is available on [unguator.com](http://unguator.com)

## Recommended APIs and DCIs in the treatment of hyperpigmentation<sup>1</sup>

API	Function	Indication specific dosage (range)	Common dose frequency
Azelaic acid	Keratolytic	20%	Twice-daily
Desonide	Corticosteroid. Anti-inflammatory agent, efficacy confirmed in patients with axillary hyperpigmentation	0.05%	Once-daily
Fluocinolone acetonide	Corticosteroid. Reduces inflammation as a side effect of both hydroquinone and tretinoin	0.01%	Once-daily
Glycolic acid	Keratolytic	8%	Twice-daily
Hydroquinone	Despigmentant	2 to 4%	Once-daily
Kojic acid	Skin whitening agent. Tyrosinase inhibitor	1 to 4%	Twice-daily
Mometasone furoate	Corticosteroid. Reduces inflammation as a side effect of both hydroquinone and tretinoin	0.1%	Once-daily
Tretinoin (vit. A acid)	Keratolytic	0.05%	Once-daily

  

DCI	Function	Indication specific dosage (range)	Common dose frequency
Alpha bisabolol	Despigmentant. Ability to inhibit melanogenesis	0.5%	Once-daily
Ascorbic acid (vit. C)	Despigmentant. Affects melanogenesis by reduction of dopaquinone and DHICA oxidation	5 to 15%	Once-daily
Lactic acid	Keratolytic	8%	Twice-daily
Nicotinamide (vit. B3)	Despigmentant. Suppression of melanosome transfer leads to reduction of cutaneous pigmentation	4%	Once-daily
Tocopherol (vit. E)	Despigmentant. Antioxidant that can regulate melanogenesis	5%	Once-daily
Zinc sulfate	Despigmentant. Acts as vital component of both enzymes and cofactors. Anti-inflammatory and anti-oxidant	10%	Once-daily

## Recommended vehicles for compounding and basic skin care in the treatment of hyperpigmentation

Vehicle	Vehicle description	Skin type profile	Skin types
Versatile™	Vanishing O/W cream base		Oily skin  Very dehydrated skin
Nourivan™ Antiox	Antioxidant O/W cream base		Balanced skin  Affected skin
Fitalite™	Natural gel cream base		Dehydrated skin  Specific skin area
Nourilite™	Vanishing O/W emulsion base		
Seraqua™	Ultra-light O/W serum base		

<sup>1</sup> Literature references available upon request.

## Compounding formulations for hyperpigmentation

Rx/ Azelaic acid 20% in Fitalite™ S. Apply twice-daily	Rx/ Ascorbic acid (vit. C) 10% in Nourivan™ Antiox S. Apply once-daily	Rx/ Hydroquinone 2% in Nourivan™ Antiox S. Apply once-daily
Rx/ Hydroquinone 4% Fluocinolone acetonide 0.01% in Nourivan™ Antiox S. Apply once-daily	Rx/ Glycolic acid 8% Nicotinamide (vit. B3) 4% Alpha bisabolol 0.5% in Seraqua™ S. Apply once or twice-daily	Rx/ Ascorbic acid (vit. C) 5% Nicotinamide (vit. B3) 4% in Nourilite™ S. Apply once-daily

Compounding formulations are based on Fagron Advanced Derma, a solution of our partner Fagron.

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