



MacDerma™ AZA

Anti-Inflammatory
Anti-Oxidant
Skin Lightening

McKinley
resources, inc.

MacDerma™ AZA

MacDerma™ AZA (Azelaic Acid) is a saturated dicarboxylic acid that exists as a white powder. Azelaic Acid is commonly derived from natural ingredients such as wheat, rye, and barley. It can also come from the *Malassezia furfur* (also known as *Pityrosporum ovale*), which is a yeast that lives on normal skin. It is the bacterial degradation of nonanoic acid that yields azelaic acid. MacDerma™ AZA has been known to reduce the appearance of skin discoloration and redness, acne, and other skin blemishes.

EFFICACY TESTING

Effect of Azelaic Foam on Inflammatory Lesion Count¹

Efficacy End Point	Azelaic Acid Foam 15% (N=483)	Vehicle Only (N=478)	Azelaic Acid Foam 15% (N=198)	Vehicle Only (N=203)
Mean Change in # of Inflammatory Lesions from Baseline	-13.2	-10.3	-13.3	-9.5
IGA Success Rate %	32.1	23.4	43.4	32.5
IGA indicates Investigator's Global Assessment				

Subjects with inflammatory papules and pustules (n=1362, ages 19-92) from 2 randomized, double-blind studies applied 15% Azelaic Acid foam or vehicle-only twice daily for 12 weeks

RESULT

Azelaic Acid Foam 15% demonstrated superior performance compared to vehicle only

Effect of 20% Azelaic Acid Cream on Skin Lightening²

In-vivo testing of effect on melasma and other facial hyperpigmentation

- Fifty-two darker-skinned patients clinically diagnosed with at least moderate melasma or other facial hyperpigmentation were treated with a 20% Azelaic Acid cream or vehicle-only for 24 weeks.
- Pigmentary intensity was measured by a chromometer and by physician assessment.

RESULT

Overall, Azelaic Acid treatment resulted in a significant decrease in pigmentary intensity compared to vehicle-only (p=0.021)

REFERENCES:

1. Loretta Fala. "Finacia Foam (Azelaic Acid) the Newest Topical Treatment FDA Approved for the Treatment of Inflammatory Lesions of Rosacea." American Health & Drug Benefits, Vol. 9, March 2016
2. Nicholas J. Lowe, et al. "Azelaic Acid 20% Cream In the Treatment of Facial Hyperpigmentation in Darker-Skinned Patients." Clinical Therapeutics, Vol. 20, No. 5 (1995): 945-959

TYPICAL PROPERTIES

TEST	SPECIFICATION
Appearance	White to slightly yellow crystalline powder
Assay	≥ 98.5%
pH	4.0-5.0

BENEFITS & FEATURES

- Anti-Bacterial
- Anti-Inflammatory
- Anti-Oxidant
- Skin Lightening

FORMULATION GUIDELINES

SOLUBILITY:

Soluble in alcohol and organic solvents; slightly soluble in hot water

STABILITY:

pH 4.5 - 5.5

RECOMMENDED USE LEVEL:

up to 10%



APPLICATIONS

- | | |
|------------------|-------------------|
| Lotions | Creams |
| Moisturizers | Anti-Aging Serums |
| Facial Cleansers | Conditioners |
| Shampoos | Toners |
| Astringents | Foundations |