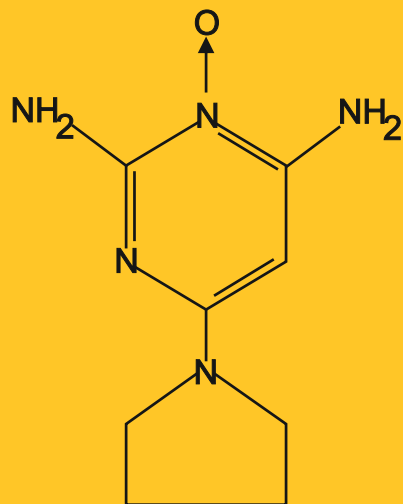


TRIAMINODIL®

4 - pyrrolidine- 2,6 diaminopyrimidine 1 - oxide



Molecular formula	C ₈ H ₁₃ N ₅ O
M. W.	195,21
CAS number	55921-65-8
INCI name	pyrrolidinyl diaminopyrimidine oxide

Chemical & Physical data

Aspect	pale white crystalline powder with slightly characteristic odour
Identification (HPLC - IR)	positive
M. P.	283/290°C (dec)
Purity (HPLC)	min. 99,00%
Solubility (EtOH:H ₂ O 70:30)	2%
K. F.	max 0,50%
pH (2% EtOH:H ₂ O)	7,60 ~ 9,60
Heavy metals	max. 20 ppm
Arsenic	max. 2 ppm

Tossicological data

Acute toxicity

LD ₅₀ Oral Rat	820 mg/kg
LD ₅₀ Oral Mouse	780 mg/kg
LD ₅₀ cutaneous Rat	>2000 mg/kg

Chronic exposure

Primary Irritation Skin rabbit	not irriant
Primary Irritation Skin rabbit	not irriant
Primary Irritation Skin Guinea Pig	not irriant

Mutagenicity

Animal cells "in vitro"	negative
"Salmonella Typhimurium" TA 98-100-1535-1537-1538	negative

Cytotoxicity

"Salmonella Typhimurium" 100-10000 mcg/dishes	negative
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Use in cosmetic

Cosmetic characteristics

Triaminodil® normalizes the pilosebaceous follicle functions, stopping excessive hair loss and improving the "health" of the hair and its overall appearance.

Excellent anti-desquamation activity (dandruff, mild psoriasis) and scalp dead cells cleaning action.

Standard percentage of use

Treatment (lotion, gel):	1,00 - 4,00%
Cleansing (shampoo):	0,10 - 0,20%

Solubility

EtOH/H ₂ O (70/30):	2,00%
Aqueous solution at pH 3:	>2,00%

Clinical data

"Clinical trial of a topical product for domestic market based on Triaminodil® 1,5% for treatment of androgenetic defluvium and seborrheic dermatitis."

R. Capizzi, G. Guerriero, F. L. Landi
Catholic University of Rome - 1992

Results after 4 months of treatment

patients	stationary	improvement	>>improvent
Male: 28	14	0	14
Female: 11	0	3	11

"Clinical trial of a topical product for domestic market based on Triaminodil® 0,8% and vitamin A for treatment of male and female androgenetic alopecia."

M. C. Melli, S. Giorgini, V. Farella, F. Policarpi, P. Zippi, P. Cappugi

University of Florence - 1990

Results after 3 months of treatment

patients	stationary	improvement	>>improvent
Male: 14	5	8	1
Female: 16	0	16	0

"Clinical trial for evaluation of the effectiveness of a product for domestic market based on Triaminodil® 0,8%"

E. Rampini, C. Ocella, D. Bleidl

Giannina Gaslini Institut of Genoa - 1989

Results after 6 months of treatment

patients	stationary	improvement	>>improvent
Male: 30	21	0	9
Female: 0	0	0	0

"Clinical trial of a topical product for domestic market based on Triaminodil® 1,5%. Results of use."

A. Rossi

University of Rome - Center for Research in Physiology and Pathology of Hair - 2010

Results after 6 months of treatment

patients	stationary	improvement	>>improvent
Male: 20	3	9	8
Female: 0	0	0	0

Please note:

These data were extracted from clinical trials carried out on previous versions of our cosmeceuticals with different formulas compared to current products, but the Triaminodil® is always present also if with different concentrations.

We wanted to add these clinical data to this publication with the intention to

Examples of formulations

Lotion

To contrast and prevent the not physiological excessive hair loss due to the alopecia both androgenetic and areata. Excellent anti-dandruff and anti-desquamation activity.

Ethanol	70,00%
Water	30,00%
Triaminodil®	1,50%
Lauric acid	0,80%
Esculin	0,80%
Transcutol CG	0,50%

Gel

To contrast and prevent the excessive hair loss of the face and body due the areata alopecia or external causes as pharmaceutical or physic treatments.

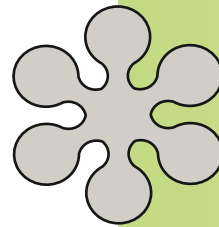
Water	93,00% (abt)
Triaminodil®	2,00%
Azelaic acid	2,00%
l-Carnitine	0,50%
Hydroxypropyl guar	2,50%
lactic acid	up to pH 3,00
preservative	q. s.

Shampoo

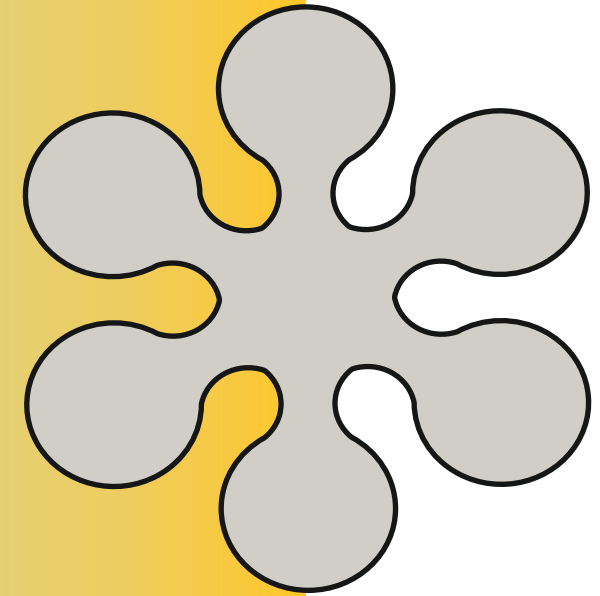
Creamy trichological cleasing with anti-dandruff and anti-desquamation activities. Extra soft cleansing base, composed mainly of betaine and acylglutamate. Excellent cleaning action of the scalp dead cells.

Water	50,00%
Cocamidopropyl betaine	20,00%(as such)
Sodium laureth sulfate	17,50%(as such)
Sodium lauroyl glutamate	6,50%(as such)
Triaminodil®	0,20%
Sodium PCA 50%	0,50%
PEG-15 Coco Polyamine	1,50%
Zinc pyrithione	1,50%
Silica	1,50%
preservative, parfum	q. s.

We can supply, upon request, both ready to sell and bulk products. Besides we can customize packaging and formulations.



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Triaminodil

An innovative molecule created in our laboratories as a "parallel" of minoxidil for the contrast of telogen effluvium and alopecia, both male and female, without any particular systemic side effects and that improves the overall appearance of the hair.

Triaminodil®, a cosmeceutical raw material, is present without use restrictions in the European Inventory of Cosmetic Ingredients (Cosing).