

SpecPed™ SC-PP18

--Smooth and young skin for longer



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- † **INCI name:** Aqua, Glycerin, Pentapeptide-18, Caprylyl Glycol, Ethylhexylglycerin
- † **C A S NO:** 7732-18-5 , 56-81-5, 364963-01-5, 1117-86-8,70445-33-9

† Applications:

- † SpecPed™ SC-PP18 reduces the depth of wrinkles on the face caused by the contraction of muscles of facial expression, especially in the forehead and around the eyes.
- † SpecPed™ SC-PP18 targets in vitro the wrinkle-formation mechanism of expression wrinkles in a new way, offering an alternative to peptides like ARGIRELINE.
- † SpecPed™ SC-PP18 can be incorporated in cosmetic formulations such as emulsions, gels, sera, etc., where removal of the deep lines or wrinkles in the forehead or around the eyes area is desired.



Activity

- † SpecPed™ SC-PP18 mechanism mimics in vitro the natural mechanism of enkephalins: it couples to the enkephalin receptor, on the outside of the nerve cells.
- † When SpecPed™ SC-PP18 couples to the receptor, a conformational change initiates a cascade inside the neuron that results in a decrease of its excitability: the nerve cell's activity is “turned down” and the release of acetylcholine is modulated. Muscle contraction will be relaxed and therefore, expression wrinkles will be diminished.



Safety:

The toxicological profile of SpecPed™ SC-PP18 for cosmetic purposes was assessed only “in vitro” or on a panel of human volunteers (in Spain). A full toxicological report and a summary of all the safety tests performed are available on request. All tests were performed using solutions of SpecPed™ SC-PP18 at the desired concentrations.

In vitro tests

Citotoxicity test on human dermal fibroblasts

No signs of citotoxicity were observed.

Citotoxicity test on human epidermal keratinocytes

The results showed no signs of citotoxicity at the concentrations assayed.

Genotoxicity test (Ames test)

The results showed no genotoxicity under the conditions assayed.

Ocular Irritation (HET-CAM test)

The product is potentially not irritating for the eyes.





↑ **In vivo tests**

↑ **Acute oral toxicity test**

↑ Analysis design allowed to conclude that LD₅₀ > 2500 mg/Kg body weight in rats and therefore SpecPed™ SC-PP18 shows no acute oral toxicity at the dosage tested. This test is compulsory for any new chemical entity according to the Dangerous Substances Directive 67/548/EC.

↑ **Skin irritation (Patch Test)**

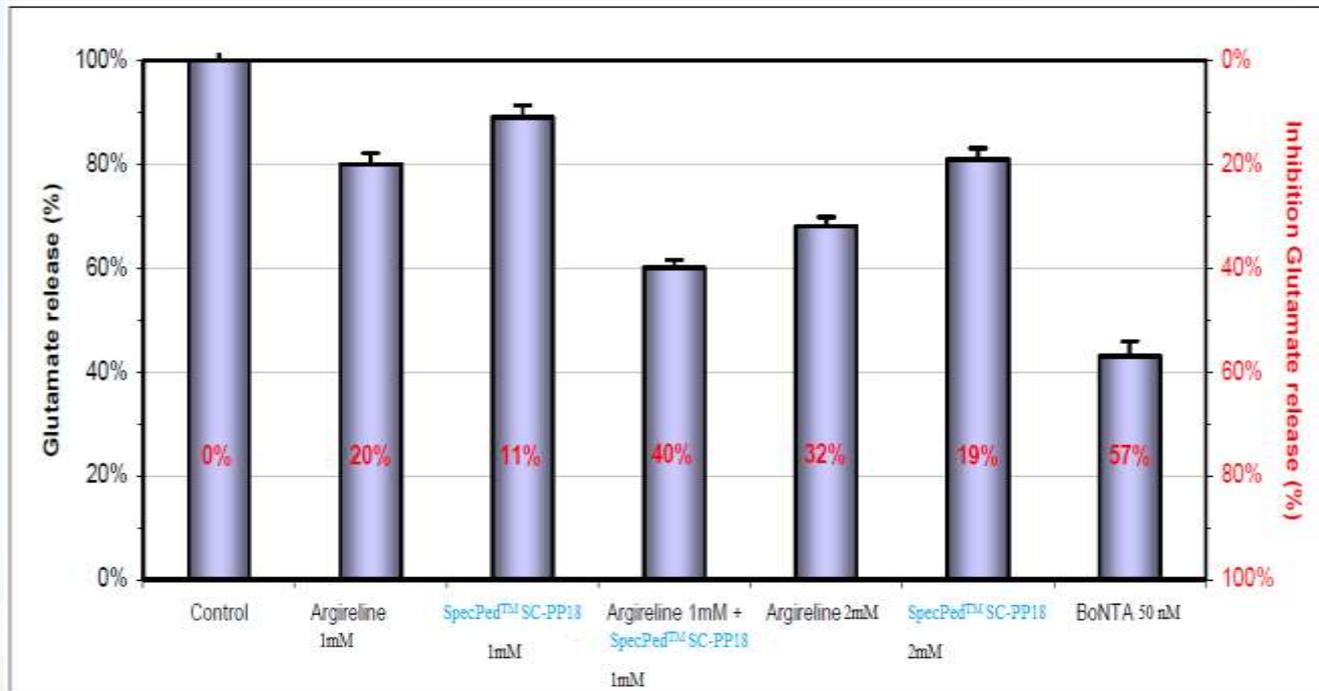
↑ The test was performed on 10 human volunteers, aged 18 to 70, both sexes, phototype Fitzpatrick I to V. SpecPed™ SC-PP18 Solution (20 µl) was applied on the back, under an occlusive patch for 48 hours +/- 5 hours. Skin examination was performed visually under standard “daylight” source, 15 minutes (or more if some redness appeared after patch removal), then 24 hours +/- 2 hours after patch removal.

↑ The results of the individual daily irritation score (Idis) and the mean daily irritation score (Mdis) were 0, and the conclusion was that SpecPed™ SC-PP18 Solution has a very good skin compatibility.

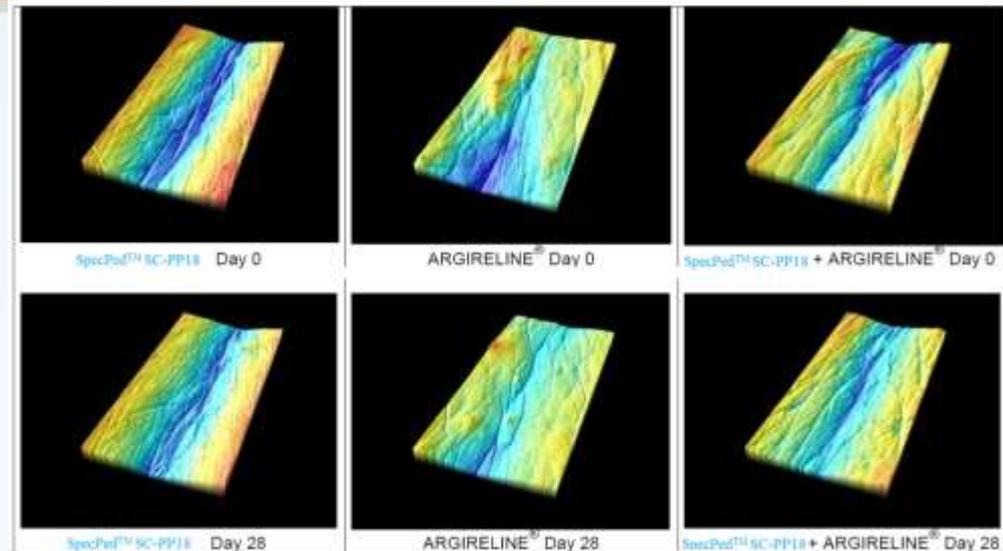
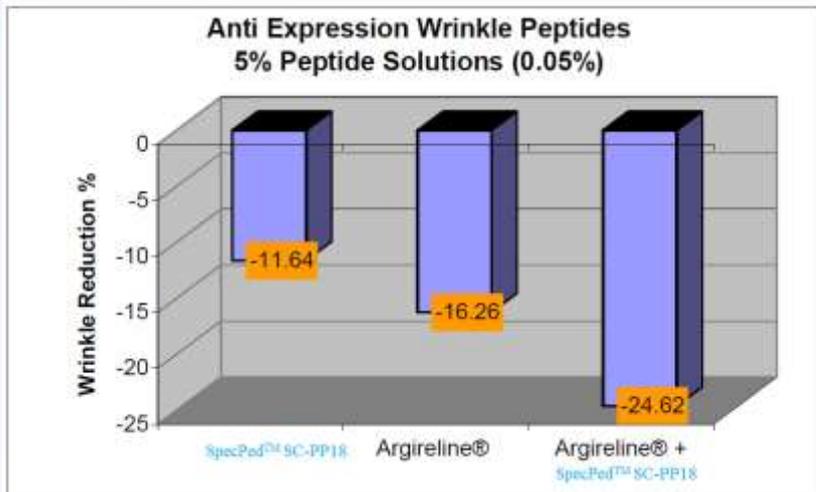
Efficacy data



The release of glutamate from the neurons is measured in order to compare the *in vitro* activities of the anti expression-wrinkle peptides ARGIRELINE and SpecPed™ SC-PP18.



The combination of SpecPed™ SC-PP18 with ARGIRELINE showed a higher inhibitory potential of glutamate release than the inhibitory potential resulted from the addition of each single product, which means that both peptides show a synergistic effect *in vitro*, their mechanisms are independent and their effects can be added.



Efficacy of SpecPed™ SC-PP18 as an anti-wrinkle agent was evaluated by taking silicon imprints of the wrinkles around the eyes of healthy volunteers. These wrinkles are expression wrinkles. A cream containing 5% SpecPed™ SC-PP18 Solution (0.05%) was applied twice daily around the eyes of 14 volunteers, aged 39 to 64, for 28 days. A decrease of 11.64% was accomplished, with maximum values up to -23.55% .

A cream containing 5% ARGIRELINE Solution (0.05%) was applied twice daily around the eyes of 14 volunteers, aged 39 to 63, for 28 days. A decrease of 16.26% was accomplished, with maximum values up to -31.80% .

A third test was performed using a combination of both actives in order to evaluate a possible synergy or additive effect. A cream containing 5% ARGIRELINE Solution (0.05%) + 5% SpecPed™ SC-PP18 Solution (0.05%) was applied twice daily around the eyes of 15 volunteers, aged 39 to 63, for 28 days. A decrease of 24.62% was accomplished, with maximum values up to -46.53% . Both peptides show additive effects due to their complementary mechanisms.



Specification:

↑	Peptide content (Pentapeptide-18)	: 500ppm & 1000ppm
↑	Appearance	Colorless to pale beige Clear viscous liquid
↑	Relative density	0.977 ~ 1.077
↑	Refractive index	1.314 ~ 1.414
↑	pH	3.0~6.0
↑	Peptide content	Not less than 500ppm
↑	Aerobic plate	Max 100 cfu/g
↑	Yeast & mould	Max 100 cfu/g
↑	<i>Escherichia coli</i>	Negative
↑	<i>Salmonella</i>	Negative



Usage and Dosage

- ↑ It can be incorporated at the final stage of the manufacturing product, provided the temperature is below 40°C.
- ↑ Recommended use level:
- ↑ 3-10% for SpecPed™ SC-PP18 Solution (500ppm).



↑ **Storage:**

Storage at 2-8°C, it is kept at 4°C best.

↑ **Shelf life:**

In the above storage condition, the shelf life is 24 months.



Thank you for your interesting and attention!

***If you need sample and technical data, please contact us
without hesitation***



No.10 Wanshou Road, Nanjing P.R. of China

Tel: +86 25 84523390, 84523391

Fax: +86 25 84520790, 84520791

Zipcode: 211800

Email: sc@specchemind.com