

Vercatech

PENTYFORCE

Natural multifunctional powerful system for multiple applications.



Natural multifunctional powerful system for any type of cosmetic formulae protection.

Description and applications:

Vercatech Pentyforce is an effective skin humectant and skin conditioning mixture with emollient properties for all type of applications.

The synergetic mixture is optimized to cover broad range of pH from 4 to 7 and broad type of formulae.

After an important research investigation the mixture contains low dosage of surfactant type molecules, pointing to:

- Minimize the risk of irritations specially for face/eye products.
- Minimize the impact on stability specially when it is replacing to another preservative system.
- Optimize the cost.

The ingredient has proven its value against yeasts, molds and bacteria as an alternative to conventional preservatives for skin care, hair care, makeup and toiletries. It also serves as a booster for conventional or alternative preservatives.

This ingredient was granted EcoCert and COSMOS compliance in the EU and 100% natural origin according ISO16128.

An optimum alternative to petro-sourced preservatives systems.

It is an easy to handle liquid. It can be added directly to the water phase, but can also be mixed with vegetal oils, and it can be added to emulsions at the post-emulsification stage.

For transparent products, if the base contains surfactant it works properly. If the base does not contain surfactants it is suggested to add a solubilizer, our suggestion is our Vercarem P4C (ratio solubilizer/preservative is to be 0,5:1).

INCI: Pentylene glycol, Levulinic acid, Glyceryl Caprylate

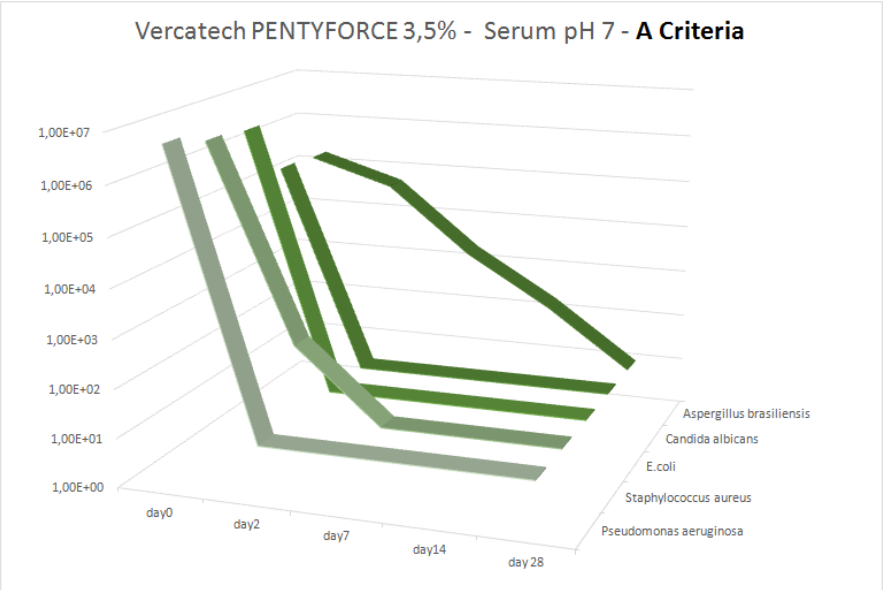
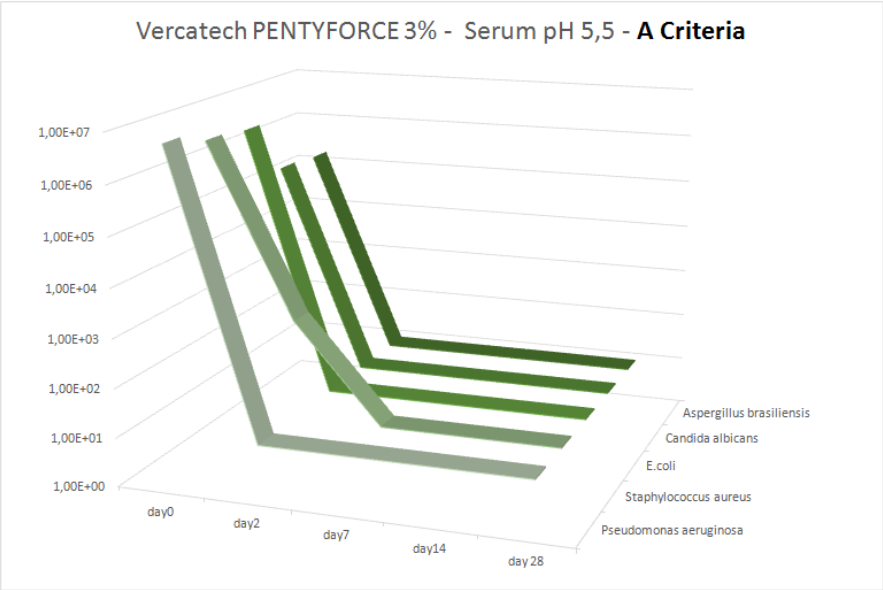
Appearance: Colourless liquid

	Recommended use level	pH-range
Emulsions and Serums:	2,5% -4%	4-7
Surfactant/aqueous systems:	3-5%	4-7

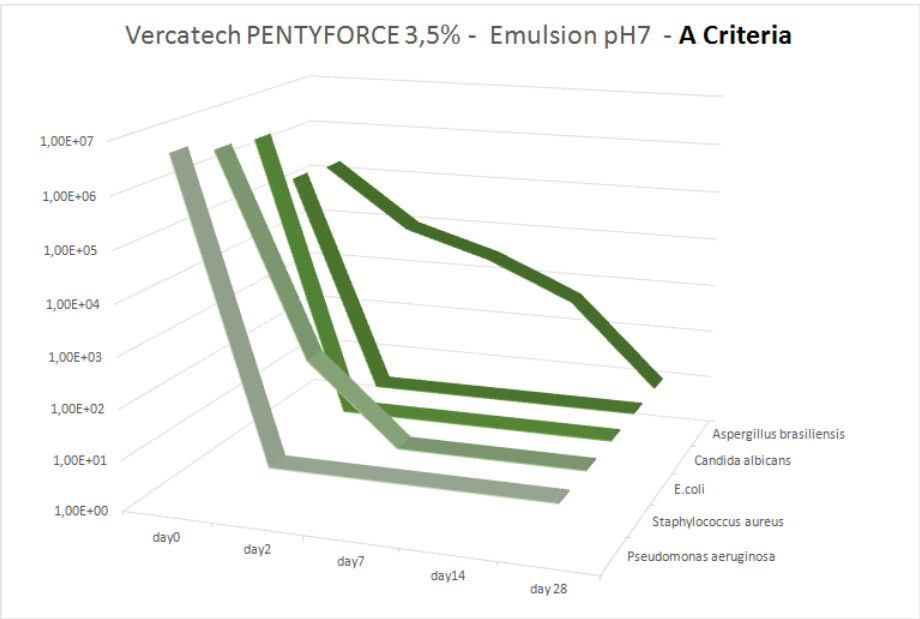
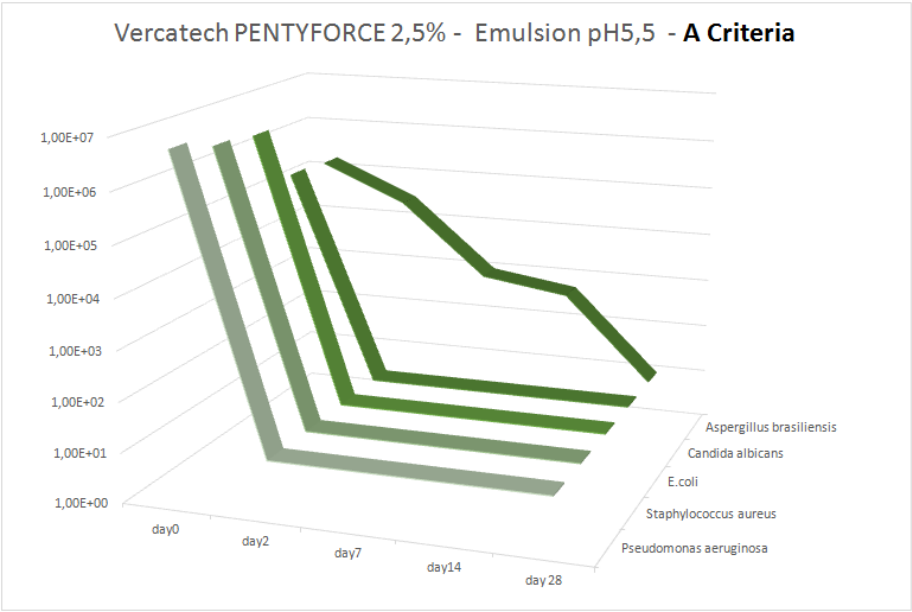
Efficacy spectrum	G+	G-	Y	F
Very good	√√	√√	√√	√

Very good √√ , good √ , Insuficient -

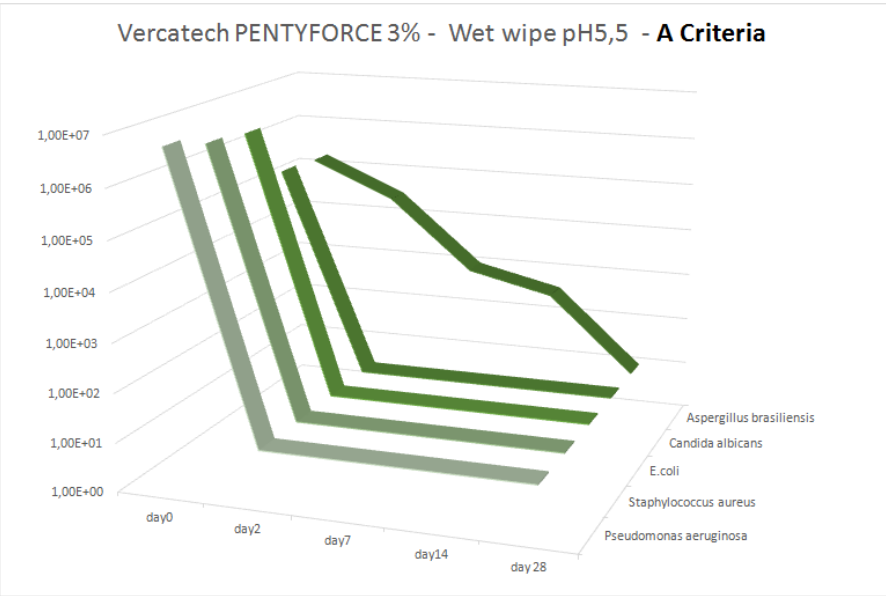
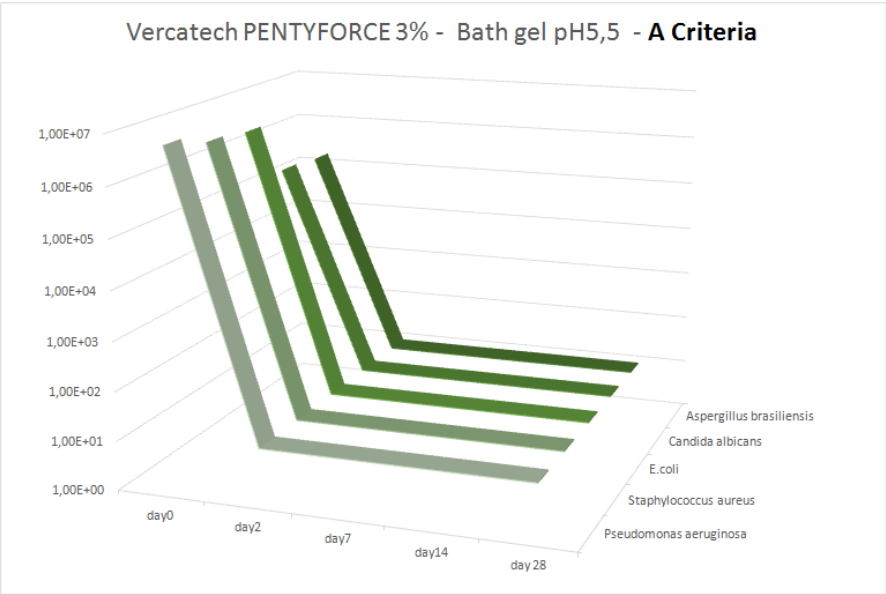
RESULTS ON SERUMS



RESULTS ON EMULSIONS



RESULTS ON SURFACTANT/AQUEOUS SYSTEMS



Additional tests:

HRIPT: Human Repeated Insult Patch test on reactive skin through external expert licensed laboratory

OCL-200-EIT: ocular irritation assay to study the behaviour of Vercatech Pentylforce on eyes

HRIPT

STUDY SYNOPSIS

OBJECTIVE	This study intends to confirm the skin compatibility after one single application (1 st induction patch) and after repeated applications and absence of delayed cutaneous sensitizing potential of the product GEL + 3% VERCATECH PENTYFORCE, REF. GA-30, BATCH 20191125 , after repeated application to the skin under exaggerated experimental conditions in human subjects.
STUDY DATES	Beginning: 2/12/2019 End: 10/01/2020
NAME REFERENCE BATCH NUMBER	GEL + 3% VERCATECH PENTYFORCE GA-30 20191125
SUBJECT NUMBER	The skin compatibility of the test product was assessed in fifty (50) subjects.
SPECIFIC INCLUSION CRITERIA	Age: 18 to 70 years, Gender: male and female, Phototype (Fitzpatrick): I to IV, Type of skin: Reactive
CONCLUSION	Under the experimental conditions adopted the repeated applications of the product GEL + 3% VERCATECH PENTYFORCE, REF. GA-30, BATCH 20191125 , under occlusive patch, on a panel of 50 subjects, induced no irritative reactions and the product has very good skin compatibility. Moreover, the repeated applications induced no allergic reactions.

Induction phase	
Type of reactivity on the induction site	Number and percentage of reactive subjects
0	0 / 0%

Challenge phase	
Type of reactivity on the induction site and virgin site	Number and percentage of reactive subjects
0	0 / 0%

Control time after patch removal	Number of reactive subjects	Types of reaction	Mean daily irritation score Mdis	% of reactive subjects
D3	0	None	0	0
D5	0	None	0	0
D8	0	None	0	0
D10	0	None	0	0
D12	0	None	0	0
D15	0	None	0	0
D17	0	None	0	0
D19	0	None	0	0
D22	0	None	0	0

X. CONCLUSION

Under the experimental conditions adopted, the repeated applications of the product **GEL + 3% VERCATECH PENTYFORCE, REF. GA-30, BATCH 20191125**, under occlusive patch, on a panel of 50 subjects, induced no irritative reactions and the product has very good skin compatibility.

Moreover, the repeated applications induced no allergic reactions.



OCL-200-EIT:

The test system used in this study was a Reconstructed human Cornea-like epithelium (RhCE) named **EpiOcular™ model**. The assay was performed in accordance to the OECD Test guideline No. 492: Reconstructed human Cornea-like Epithelium (RhCE) test method for identifying chemicals not requiring classification and labelling for eye irritation or serious eye damage.

The results obtained clearly showed that the product GA-A36 was non-irritant. The formulae of GA-36 is enclosed as follows:

	Ingredient	INCI	Supplier	%
A	Deionized Water	Water		94,50
	Vercatech Pentylforce	Pentyleneglycol/Levulinic acid/Glyceryl Caprylate	Jover	4,00
B	Clearosa	Hydroxypropyl metylcellulose	Jover	1,50

Formulae Examples

L-A63 Mineral fluid spf 50+

	Ingredient	INCI	Supplier	%
A	Deionized Water	Water	Jover Scientech	42,70
	Vercare Phyta	Sodium Phytate	Jover Scientech	0,10
	Vercatech Pentylforce	Pentylene Glycol, Levulinic Acid, Glyceryl Caprylate	Jover Scientech	3,00
	Ecogel™	Lysolecithin, Sclerotium Gum, Xanthan Gum, Pullulan	IFF Lucas Meyer	1,00
B	Lysofix™ Liquid	Glycerin (and) Glycine Soja (Soybean) Seed Extract	IFF Lucas Meyer	5,00
C	Vercare TriHepta	Triheptanoin	Jover Scientech	27,00
	Enhance US	Titanium Dioxide, Zinc Oxide, Silica	ADP cosmetics	18,00
D	Elix-IR™	Water, Glycerin, Polygonum Aviculare Extract	IFF Lucas Meyer	1,00
	IBR-UrBioTect® 1901	Vegetable Glycerin, Benzyl Alcohol, Benzoic Acid	IFF Lucas Meyer	1,00
	Tazman Pepper™ AF	Glycerin, Water, Tasmannia Lanceolata Fruit/ Leaf Extract	IFF Lucas Meyer	1,00
E	Parfum Litsea Cubeba & Lavandin	Parfum (Fragrance)	Vanessence	0,20

1. Mix phase A, add Ecogel under medium stirring, until total dispersion
2. Add phase B under medium stirring, heat at 75°C
3. Premix phase C under medium stirring until total dispersion of Enhance US and heat at 75°C, add phase C into AB to make the emulsion
4. Add D one by one under medium stirring
5. Add phase E under medium stirring
6. Adjust pH if proceed (final pH around 6,5-7)

Challenge test:
Criteria A according pharmacopea

Shelf life: 2 years as long as it is kept in closed original containers at recommended temperatures.

Storage: Keep packaging unopened and undamaged. Store at room temperature in a clean and aerated place.

Packaging: 25kg, 1.000 L. (IBC optional)

Use: Cosmetic ingredient.

SERVICES:

R&D Application Lab for consulting and customer support in:

- Texture Ideas
- Preservation proposals
- Support in general

Challenge tests through an external certified laboratory.

