

Protection Class	SPF
low	6-10
medium	15-25
high	30-50
<b>very high</b>	<b>50+</b>

- very high protection with SPF 50+
- protection against UVC radiation
- **very water-resistant**
- for special requirements
- with vitamin E
- perfume- and fragrance-free
- **optimized UV filters**



# PHYSIO UV 50 PLUS

Very water-resistant light and sun protection cream for outdoor work under extreme conditions (heat or wetness), for welding or for handling photosensitizers

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## PRODUCT PROPERTIES / APPLICATION AREA:

PHYSIO UV 50 PLUS is a very water-resistant skin protection cream against natural and artificial UV radiation, which provides very high protection (SPF 50+). Actually, an SPF of more than 60 has been determined. The modern UV filter protection system on the basis of a balanced combination of water-soluble, oil-soluble and particulate filters is light-resistant and provides very efficient protection against UVC radiation. Nevertheless, the formulation is pleasant and absorbed quickly. PHYSIO UV 50 PLUS is suitable for work places with special requirements, e.g. when handling photosensitizers, for electric welding or in case of outdoor work under special conditions (heat, wetness). The very good water-resistance of PHYSIO UV 50 PLUS even maintains the light protection when sweating heavily or when working in an aqueous environment. Vitamin E contributes to cellular protection against oxygen radicals which evolve under UV light.

## APPLICATION:

Before work or rather before intensive light exposure, apply PHYSIO UV 50 PLUS evenly on the dry and clean skin. The amount of cream to use depends on the application surface, e.g. a hazelnut-sized amount of cream for the hands. Apply generously as small amounts only offer low protection. In order to maintain the UV protection, apply several times. Especially after washing, the application of PHYSIO UV 50 PLUS must be repeated. However, the renewed application does not extend the period of protection, but rather re-establishes the old protection status which has diminished in the meantime. Principally, PHYSIO UV 50 PLUS should be reapplied every two hours.

Please note: The application of UV protection agents does not exonerate from the application duty of other prescribed precautionary measures. Intensive midday sun should be avoided. Even UV protection agents with a high SPF do not provide complete protection against UV radiation. **AVOID CONTACT WITH TEXTILES TO PREVENT PERMANENT STAINING!**

## PRODUCT DESCRIPTION:

Yellowish and rich O/W emulsion, perfume- and fragrance-free

## PRODUCT EVALUATION SHEET:

A product evaluation sheet can be downloaded from <https://www.physioderm.com/en/downloads/test-sheets> or is available on request.

## DERMATOLOGICAL COMPATIBILITY:

The good dermatological compatibility of PHYSIO UV 50 PLUS has been carefully tested and proven. A printed certificate is available.

## COATING COMPATIBILITY:

PHYSIO UV 50 PLUS contains optimized UV filters with silicone coating. The silicone is present in a bound form in order to avoid problems for coating processes. Coating-compatibility test summaries according to the norms of leading automotive manufacturers are available. However, since these tests are not standardized, we recommend our customers to conduct their own tests on coating compatibility, at any rate.

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## ORDERING DATA:

20 ml tube:

BSW No. 14093002

50 x 20 ml tube = 1 PU<sup>1)</sup>

100 ml tube:

BSW No. 14093001

12 x 100 ml tube = 1 PU<sup>1)</sup>

PZN 10210916

1000 ml Neptune bottle:

BSW No. 14093003

6 x 1000 ml Neptune bottle = 1 PU<sup>1)</sup>

## NEPTUNE STANDARD. WHITE

(made of plastic):

BSW No. 13827001

for 1000 ml Neptune bottle

1) PU = packaging unit

## EFFICIENCY TEST:

The efficiency of PHYSIO UV 50 PLUS has been proven with regard to:

1. UVA and UVB protection factor in vivo according to international norm EN ISO 24444:2010 [1]
2. UVA and UVB protection factor in vitro according to ISO 24443 [2]
3. UVC protection factor referring to ISO 24443 [2]
4. Water resistance according to COLIPA method 2005 of the EU cosmetics manufacturers [3]

### 1. Protection factor and sunburn prevention

The protection factor indicates by which factor the skin's self-protection time is extended when applying the protection cream. The self-protection time is the period of time during which the skin is definitely not damaged when exposed to UV radiation (e.g. redness or even sunburn (dermatitis solaris)). The self-protection time depends on the skin phototype. Especially fair-skinned people have a self-protection time of only 10 minutes, people with sun-sensitive skin about 20 minutes, people with a normal tanning ability approx. 30 minutes. People with medium dark skin (Mediterranean type) have a longer self-protection time. Tanned skin has a slightly longer self-protection time than pale skin. UV50 Plus means that the skin's self-protection time is at least extended by the factor 60. **The average protection factor evaluated for PHYSIO UV 50 PLUS is 67,8 (Chart 1).**

### 2. UVA protection factor against skin aging and light allergies

The UVA protection factor has to be at least 1/3 of the product's protection factor. UVA radiation penetrates deeper into the skin and is the main reason for light-induced skin aging and different forms of so called „sun allergies“. The wavelength of the sun's UV spectrum is 290 – 400 nm, the UVA spectrum is 320 – 400 nm, the UVB spectrum is 290 – 320 nm. Modern sun protection agents cover even a wider UV range and especially the UVA protection factor becomes more and more important. **The UVA protection factor (UVAPF) evaluated for PHYSIO UV 50 PLUS is 20,68. Thus, the UVA-UVB ratio is 0,345 and the product fulfils the requirements for balanced sunscreen products (UVA-UVB ratio >0,33).**

### 3. UVC protection factor e.g. for welding

Natural UVC radiation is blocked by the ozone layer. However, UVC radiation emerges from other sources as well, e.g. from welding. The UVC protection factor is evaluated referring to ISO 24443:2012, which determines the evaluation of the UVA protection factor. **Thus, PHYSIO UV 50 PLUS has a very high UVC protection factor (Chart 2).**

### 4. Very water-resistant

The water resistance according to the European industry standard COLIPA is evaluated by means of a realistic and controlled bathing test (4 times, 20 min. each) [3]. After bathing, the SPF needs to be at least 50 % and, thus, maintain sufficient protection in case of e.g. intensive sweating or bathing (see chart 1). **For PHYSIO UV 50 PLUS an average of 83,3 % has been evaluated.** Nevertheless, PHYSIO UV 50 PLUS should be reapplied especially after bathing or heavy sweating in order to increase the sun-protection safety (chart 1).

## References / Norms:

1. EN ISO 24444:2010 Cosmetics - Sun protection test methods - In vivo determination of the sun protection factor (SPF)
2. DIN EN ISO 24443:2013-05: In vitro Bestimmung des UV-A-Schutzes von Sonnenschutzmitteln (ISO 24443:2012); Deutsche Fassung EN ISO 24443:2012
3. COLIPA Guidelines for Evaluating Sun Product Water Resistance – 2005

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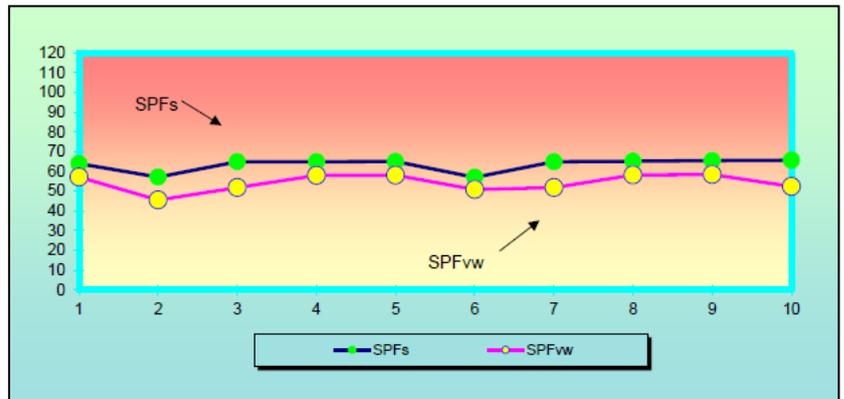


Chart 1: The upper graph (SPFs) shows the measured SPF for each testing. The other graph (SPFvw) shows the SPF after water contact (four times, 20 minutes each). Afterwards, the average SPF is still approx. 83% of the initial value.

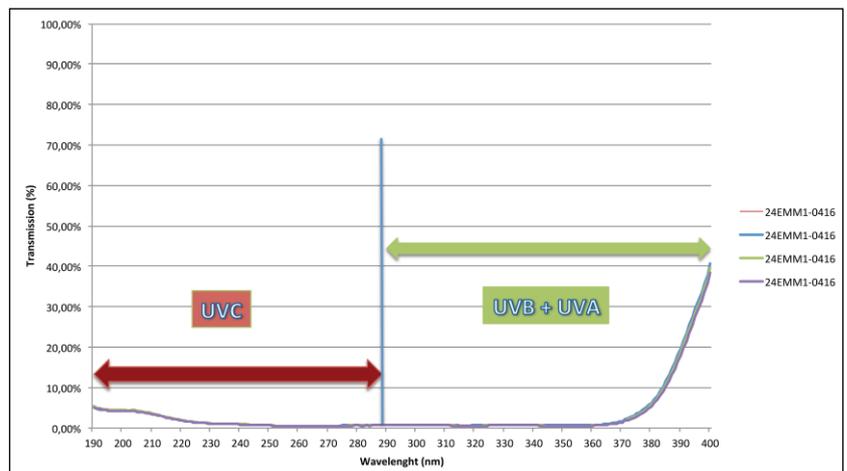


Chart 2: Transmission rates in each wavelength range. In the UVC spectrum 98% of radiation is filtered out.

**PRODUCT QUALITY:**

The product is manufactured according to GMP (GOOD MANUFACTURING PRACTICE) requirements. The bacteria count is microbiologically tested on a regular basis and is under 100 bacteria per gram.

**FIRST AID:**

If PHYSIO UV 50 PLUS accidentally gets into your eyes, rinse immediately with plenty of lukewarm water. If a burning sensation still persists, consult an eye doctor as measure of precaution.

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**STORAGE INSTRUCTIONS:**

PHYSIO UV 50 PLUS will keep for at least 30 months (from date of manufacture) if stored unopened at room temperature in the original packaging. The Period After Opening (PAO) is indicated on each tube.

**STATUTORY REGULATIONS:**

PHYSIO UV 50 PLUS is subject to the EC Cosmetics Directive, but not to the German Chemicals Act or the Hazardous Substances Order. Moreover, skin protection products are received as part of the Personal Protective Equipment (PPE).

**ENVIRONMENT:**

All tubes are made of polyethylene and after being completely emptied, they can be disposed of with other polyethylene waste. Packaging is labeled accordingly.

**COMPOSITION ACCORDING TO INCI\*:**

AQUA, C12-15 ALKYL BENZOATE, DIETHYLAMINO HYDROXYBENZOYL HEXYL BENZOATE, ETHYLHEXYL SALICYLATE, OCTOCRYLENE, GLYCERIN, ETHYLHEXYL TRIAZONE, TITANIUM DIOXIDE (NANO), POTASSIUM CETYL PHOSPHATE, DIETHYLHEXYL BUTAMIDO TRIAZONE, GLYCERYL STEARATE, STEARYL ALCOHOL, PANTHENOL, PHENYLBENZIMIDAZOLE SULFONIC ACID, ALUMINA, SIMETHICONE, TRIACONTANYL PVP, SILICA, AMINOMETHYL PROPANOL, PHENOXY-ETHANOL, ACRYLATES/C10-30 ALKYL ACRYLATE CROSSPOLYMER, TOCOPHERYL ACETATE, CAPRYLYL GLYCOL, DECYLENE GLYCOL, PIROCTONE OLAMINE, DIETHYLHEXYL SODIUM SULFOSUCCINATE, DISODIUM PHOSPHATE, TITANIUM DIOXIDE, PROPYLENE GLYCOL, SILVER CHLORIDE.

\* (International Nomenclature Cosmetic Ingredients)

Our information and recommendations correspond to our current state of experience. They are not binding and do neither imply any warranty nor do they establish a contractual relationship. We reserve the right of modifications in line with technological progress and further development of our products. We request our customers to conduct their own tests on our products for fitness for purpose.