

# Rath's short but thorough guide to skin protection

## Legal basis

Skin protection is dealt with in a large number of regulations of professional associations, ordinances, directives etc. In the countries of the European Community, skin protection preparations must comply with User Directive 89/656/EEC Personal Protective Equipment. The employer is obligated to make PSE available to those workers requiring proper protection.

## The skin

The skin is not simply the boundary surface between the organism and the environment, but also represents the largest human organ (about 1.5-2 m<sup>2</sup> and about one tenth of the total body weight). The skin serves numerous important protective functions, regulates the body temperature and water equilibrium, is the seat of the sensory cells for the perception of pressure, temperature and pain, and is also involved in the synthesis of vitamin D. Special cells of the immunological system extend into the outer layer of the skin, the epidermis. Nearly all skin diseases are found in the epidermis. The epidermis = outer layer of the skin is about 0.1 mm thick. The upper layer of the epidermis, the horny layer, is only about one tenth as thick, i.e. only 0.01 mm. The undamaged horny layer contains a mixture of water, water binding substances and fats (hydrolipid layer, formerly referred to as "acid-protective mantle"). These substances are secreted from the sweat glands and the sebaceous glands.

## The horny layer and skin damage

The horny layer, with its mixture of horny cells ("bricks") and horny layer fatty substances ("mortar"), has a structure similar to that of a brick wall and is the fundamental protective barrier against the penetration of foreign substances. All substances which dissolve the components of the hydrolipid layer and the horny layer lower the effectiveness of the natural barrier effect of the skin. These substances include surfactants (detergents, cleansing agents) and or-

ganic solvents (diluting agents, degreasing mixtures), which dissolve fatty substances, and also water.

The damaged horny layer becomes more easily dehydrated and as a result cracked and chapped. Harmful substances can penetrate more easily, and the skin becomes diseased.

**NOTE: Even a low daily exposure (which does not show any visible damage over a longer period) eventually "overtaxes" the power of resistance of the skin, causing skin disease.**

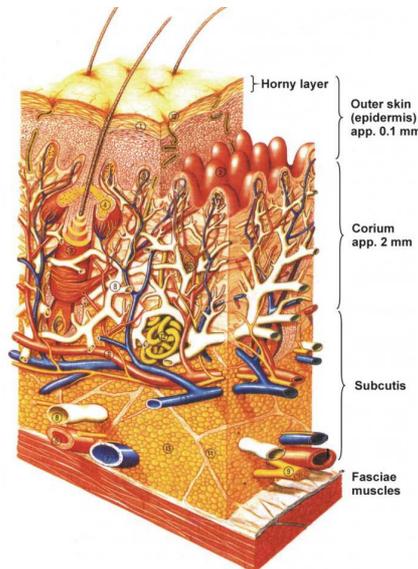
## Why skin protection?

Systematic skin protection, i.e.

- specific skin protection prior to working and following work pauses
- gentle and stress-oriented skin cleansing and
- regenerative care following work

is the answer for the prevention of damage to the skin.

The skin deserves protection, so that it remains healthy and can perform its many functions.



## Principles of skin protection

Skin protection preparations

- strengthen the power of resistance of the skin
- prevent or reduce contact between the effectively harmful substance and the skin
- do not disturb the work process, either directly or indirectly.

**NOTE: Skin protection preparations, also known as pre-work creams, are applied to the hands prior to beginning work. They serve for the protection of the healthy or previously damaged skin and help to prevent skin diseases.**

## Principles of skin cleansing

Skin cleansing preparations serve for the thorough removal of soiling and working materials while at the same time offering the greatest possible gentleness to the skin. The greatest possible gentleness to the skin is understood to mean:

- skin cleansing measures with graduated capability, permitting adaptation to the type and intensity of soiling
- good skin compatibility of the contents
- fat-restoring properties

**NOTE: Improper skin cleansing is one of the most important causes of skin diseases. Always choose the skin cleanser with the mildest cleansing effect still sufficient for the purpose! Never use "diluters"!**

## Principles of skin care

The goal of regenerative skin care with so-called after-work creams is the maintenance or regeneration of the natural barrier function of the horny layer through the:

- restoration of fat and moisture
- maintenance of the elasticity of the skin
- prevention of dehydration
- prevention of skin aging.

**NOTE: The regenerative care of the hands following washing is an important component of systematic skin protection.**

## Skin protection plan

The skin protection plan helps to implement the skin protection measures according to risk assessment (as required by the Occupational Health Authorities) in the factory and provides an overview of which products must be used where and when for which jobs.

The responsible persons in the factory, the professional association, occupational physicians or the specialists from our company will be pleased to advise you.

**Your consultant for skin protection:**