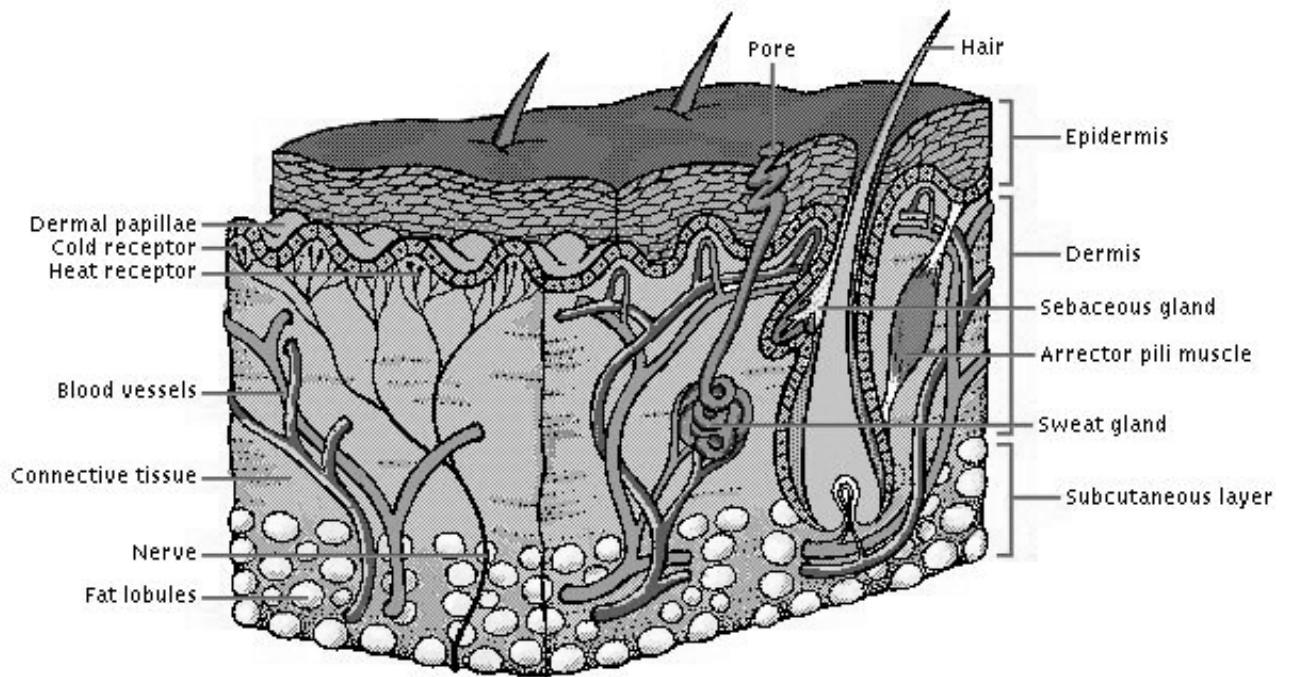


**FUNCTIONS OF KERODEX PROTECTIVE BARRIER CREAMS
AGAINST INDUSTRIAL / OCCUPATIONAL DERMATITIS**



The above diagram shows the complex structure of human skin. Human skin is a complex, multilayered living organ, composed of millions of cells. It is the largest living organ of the human body. The total weight of a adult skin weighs from 2.7 to 3.5 kilograms and may cover some 2,800 square inches of the body. To understand the function of a good Barrier Cream we should now divide the above diagram into three parts. Namely :

- 1. Stratum Corneum**
- 2. Epidermis**
- 3. Dermis.**

Under the dermis the subcutaneous tissues lie the network of blood vessels and further underneath lies the muscular tissue.

The Stratum Coreum : consist of lamellar cells (or horny cells) in various stages of kertinization. Between these cells are interslice which in healthy skin are filled with a mixture of sebum and sweat. This mixture lubricate the horny cells and keeps it coherent and flexible. However it is this layer which is the most vernuable to attack from substance capable of re – acting with keratin. e.g. acid, alkalies and keratolytic enzymes also substances which will dissolve or emulsify sebum such as solvents and detergents. A good Barrier Cream acts as an artificial sebum in its effects on the horny cells. It is under this

layer of stratum corneum we find the openings of the lipid (fatty) glands. This layer affords fair protection against chemicals with notable exemption of alkalis. This layer is the safe guard against water and aqueous but is highly vulnerable to certain pesticides.

Solvents and gases : The Industrial worker handles various chemicals, solvents acids and complex compound daily which may result in the blockage / damage to the Lipid glands in the long run. Also it is possible that the skin cannot produce a suitable lipid layer day after day for a prolonged period of time which leaves the way open for a variety of infections / harmful substances to penetrate into the epidermis layer.

EPIDERMIS : is of primary concern for the setting in of occupation / industrial dermatitis as this surface is marked by wrinkles, ridges furrows. There are many forms of substances used daily in varied industries which get embedded (caught) into wrinkles, ridges; furrows and cause irritation, some substances react with certain body excretions / sweat and can cause adverse reactions on the surface of the skin which could lead to either inflammation, eczema or any other form of dermatitis. There are also many openings some of which are enable the follicles to emerge, some enrich the skin with glandular discharges of oily secretions others permit the discharge of harmful toxins such as sweat, still others allow the skin to breathe (air ducts). It is however through these very opening that various industrial products such as oil, chemicals, solvents, gases, acids, alkalis and such aqueous solutions as well as minute solid particles either block the passage or find their way directly into our blood circulatory system. Our body is capable of 'throwing out' these harmful agents but when this process is repeated day after day for a prolonged period there are bound to be certain high levels in the blood which would call 'CONTAMINANTS' which would result in allergy, inflammation occupational forms of dermatitis such as acne, folliculitis, ulcer, blisters and other chemicals and metal poisoning. Externally we can contact fissured (cracked skin) or if any of the above mentioned CONTAMINANTS are infected which is very likely because most of the industrial materials are stored / used in open spaces we would be infected by eczema.

DERMIS : is the third layer of the skin known as the true skin, as it is here that the new formation of "Skin Cells" are formed when injured it is in this open area that new tissue in the form of a scar are formed to enclose the two ends and save the body from any external infection. The dermis has a important role to perform in the structure of the skin, as it is here that nerve ending are found. It is here that body temperature is regulated with help of sweat glands also it is from this layer that a individual can differentiate between heat, cold pain and sense perception is formed. Again this layer forms the ending of most of glands opening e.g. glandular ducts, sweat ducts, air ducts and hair follicles roots which receive their nourishments from the subcutaneous tissues which are rich with pure blood flow.

As we have now studied briefly the structure of the skin it is easy to know that most of the 'CONTAMINANTS' as situated in epidermis enter into skin dissolving cover of the lipid (fatty layer) of the stratum corneum, then through the sweat and other glandular and hair follicles pass epidermis and enter the dermis, they are circulated through the blood stream in our body. All the way downwards they could cause lot of damage to the skin as a whole. However with the correct application of a good Safe Barrier Cream this process of

'CONTAMINANTS' entering the body can be stopped considerably, when the correct barrier cream is applied with the correct procedure, it forms a three way invisible shield (a) it acts as an artificial sebum in its effects on the horny layer and coats, lubricated and consolidates the horny cells so formed the first layer of defence. (b) The barrier cream plug the glandular hair, sweat and air ducts of the epidermis by forming a non- irritant temporary plug, thereby not allowing any 'CONTAMINANTS' if they pass the first of the protective layer of defense to enter the subcutaneous tissues.

(c) The barrier cream also get embedded (caught) into wrinkles, ridges, ferrous which are then protected from external 'CONTAMINANTS' to reach with body extractions / sweat and cause adverse reaction on the epidermis surface avoiding inflammation, eczema or any other form of Occupational dermatitis.

It should be noted that barrier cream act primarily as prophylactic agent against dermatitis and the fact that they assist in cleansing the skin in a secondary benefit only. It is emphasized that the blockage of sweat duct, sebaceous glands, air ducts and hair follicles is temporary and that the combination of external friction and internal hydrostatic pressure (which could be as high as mm. of mercury) is sufficient to restore the normal activity of the glands in a maximum of four hours after the application of the barrier cream.

ALL KERODEX PROTECTIVE BARRIER CREAM was originally manufactured in technical collaboration with KERODEX LTD., ENGLAND. All the chemicals powders, cream base and assorted ingredients used for manufacture of Kerodex Cream first go through stringent quality tests and once these are passed, only then the final stage of complex production is undertaken. This is the reason why we have been registered with the Food & Drug Administration. Kerodex Barrier Cream have also been known and suggested by many officers at Central Labour Institutes, as a protectative defence mechanism against occupational dermatose / Industrial dermatitis.

KERODEX PROTECTIVE BARRIER CREAM are divided into two sections i.e. (a) Water Repellent Barrier Cream and (b) Water Soluble Barrier Creams. The water repellent Barrier Cream are : Formulations 70, 71, 72, Light Deflectant Cream. Their products offer tough resistance against all aqueous solution as well as external forces and friction. The latter i.e. water soluble Barrier Cream are of the formulations: 50, 52, and Erode Barrier Powder which are designed to be used for dry nature work. These could be washed off if the worker comes in contact of water or any strong solvents. Some workers are having heavy sweating hence reapplication is required for such occurances.

Lastly Kerodex Hand Conditioning Cream which is also a water resistant base is used to restore / disinfect the skin to restore its natural healthy luster. Kerodex Hand Conditioning Cream has been know to help and restore the skin when it turns hard and dry or fissured (cracked) it is also known to cure mild cases of oil acne; oil folliculitis, fissured eczema, athlete's foot and acts like a skin tonic in general.

METHOD OF APPLICATION OF PROTECTIVE BARRIER CREAMS

After choosing the correct Kerodex Protective Cream it should be massaged from wrist downwards in a clockwise motion towards the fingers. Massage separately in clockwise motion area between fingers is where maximum amount of 'CONTAMINANTS' are deposited, thus this area requires attention. Lastly stretch left palm and massage finger nail bed of right hand, repeat with the left hand finger nail bed of right hand. This is so because under the nail bed there is a very thin membrane from which any aqueous 'CONTAMINANTS' are absorbed directly to the blood circulation. About 3 to 4 grams (roughly half teaspoon) would be required for every application for nature of work involving up to wrist, in case of wet barrier cream one application can protect the worker for 3 ½ to 4 hours. In case of worker's nature of work involves up to the elbow, the same method of application is to be followed with 7 to 8 grams roughly one teaspoonful.

In case of KERODEX PROTECTIVE BARRIER POWDER usage is in the form of a thin layer to be spread after application of KERODEX – 52 PROTECTIVE BARRIER CREAM