

Ballad of Washing

Washing and cleaning of clothes had already practiced in the Antiquity. The largest washing nations were the Egyptians, Greeks and Romans. As detergent they used Sodium - natrium carbonate-soap and soap like agents.

In the estate of my father in law, I found a Reclam booklet with the Gudrun saga. The princess was in captivity in Denmark. In this Middle High German epic poem, there is even a whole chapter on "How Gudrun. had to wash"

Gudrun should have been a Princess from the moorland.

Two sceneries from the Saga

The Queen of Dane mark said to Gudrun and her fellow sufferer:

Who gave you by the hand wash, so delinquent, the linen and clothes? My white clothes, those bleaches there to you bleached too slow.

Holidays are approaching us, you've probably heard this. Palm Sunday is near, then guests will come. Can you manage not then my hero wear snow white dresses?

Now the question of why it's not her on the gravel and washed my clothes that the pure water flowing down

So, even then it was crazy for the white of the linen although the slogan - the whitest white that ever existed - was yet to come

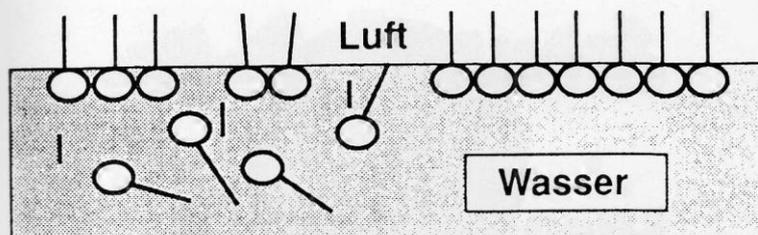
At first, we shall declare some chemical and physical basics of washing. The washing procedure consist of to part

- Dissolving of dirt, grease and fat and resinous impurities on the linen
- Flotation, removes the dissolved total protection

For dissolving of impurities we need supportive resources f.in. soap, sodium, phosphate on the one side and mechanical facilitates on the other side together.

Mechanical facilitates could be reaming, punching and kicking. In former time the washing wife's used stone, sand and gravel, later they used wash boards and today modern washing machines do it.

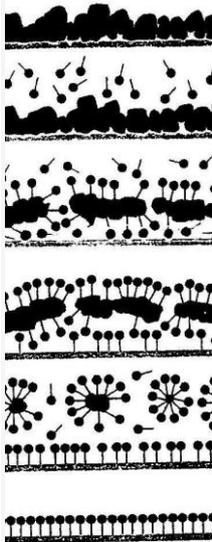
Since the 13/14 century soap has used for washing, but washing with soap has also a disadvantage, the washing procedure is strong depending on the hardness of water. And further animal and vegetable fats in the form of a fatty acid were needed for producing of soap. Why was soap need for washing? Soap molecules are polarized and have a hydrophilic and a hydrophobic pole, and are also called detergents



These properties also have other synthetic organic compounds. This large group of compounds was called tenside. These are surface-active compounds and the most important ingredients in the detergent. Because of this characteristic structure of the surfactants accumulate at the boundary of water ,f. ex., at the interface of air to water or dirt to water and the interfacial tension put down. Water is used in the washing process on the one hand

other hand, as a solvent for the detergent but also as a solvent and vehicle for the dirt. But water has the unpleasant property to have a relatively high surface tension. This also called interfacial tension hinders the access of water to the dirt and the fabric; it means that there is nonsufficient good wetting. This deficiency of water can overcome the surfactants.

There it is clear that the surfactants stretch their hydrophobic poles in the air while the hydrophilic portion is oriented towards the water (oriented adsorption). This leads to a wetting of the fibers and dirt with water and finally to a lifting of the pollution of the fiber. Another important property of surfactants is the formation of micelles, which enable to wash. Micelles have the task of washing liquor to give a fortune of Impurity They also serve as a reservoir for the subsequent delivery of single ions to the balance in the washing liquor

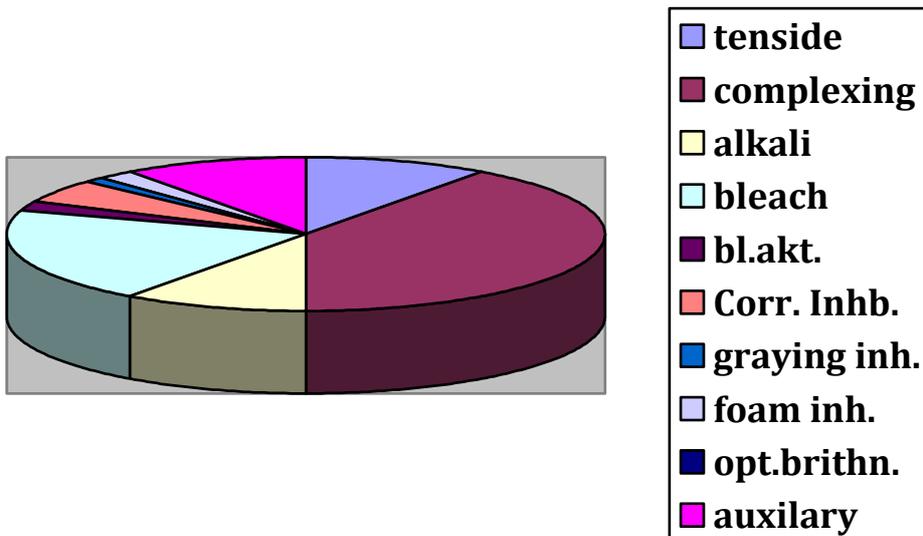


Phases of solving of dirt's by solvent and detergents

Today detergents consist of

General	Example of reality	part [%]
- tensits (anionic, nonionic, cationic)	soap, Alkylbecnolsulfat	10
- complexing against the hardness of water mainly	Fatty alcohol polyglycoester	
	pentanatriumtriphosphat	40
	Sasil	
- alkali (carbonates, silicates, caustic, potash Especial to the regulation of pH-value)	soda, siliokat	10
- bleach	natriumperborat	20
- bleach stabilizers	NTA Magnesiumsilikat	2
- bleach activators, (TAED)		
- Corrosion inhibitors (silicate in figure of water glass)		5
- Enzymes (against and for cracking of proteins)		
- graying inhibitors (to prevent dirt is dissolved again deposited on the fibers)	Carboxymethylcellulose	1
- foam inhibitors	silikonoil, praffine	2
- optical brighteners only suitable for withe linen and not for colored pieces	silver derivatives	0,1
-- perfume/ perfume oils		0,1
- Auxiliary and positioning means for the improvement of logical process ability as MEGAperls		9,8

parts of ingredients in a detergent



History of 20th century

1907 the first modern detergent was introduced in Germany and was called and known as **Persil** (Henkel). The name is composed of natrium**PER**borat and **SIL**ikat. Natriumperborat bleach stains and silicat transport removed dirt. Persil was not the first fully synthetic detergent. More than 20 % of all tensides were soap. For producing of soap, fatty acids were need. Order to have enough fat, Henkel. Has even has its own whaling ships.

1932 H. G. Bertsch (1897 – 1981 living in Chemnitz invented the first fully synthetically Mild detergent named FEWA.

1960 the easily degradable tensides were introduced, order to reduce the severe foaming in rivers and at the weirs.

1968 began the use of enzymes in detergents. These ensured the rapid degradation of protein, fat and starch.

1986 relieved of the new phosphate-free detergent eutrophicated waters.

1992 the introducing of color –detergent for colored laundry started. (Remember to the washing woman with Ariel) These don't contain bleach and reduce the color transfer between the individual items of laundry.

1994 new superconcentrated detergents were introduced on the market, then only the haft was. Need of the usual metering. Therefore the waters were protected for excessive amounts of filler salts

Role of Chemnitz

1881 was founded the Böhme Fett-Chemie for producing of chemicals, drugs and vegetables, paints, varnishes, adhesives, lubricants, chemical-technical products and pharmaceutical preparations. The head-fabric was situated in Chemnitz/ Kappel and a further fabric was erected in Moosdorf /Burgstädt in 1930. Two years later Prof. Bentsch developed the first fully synthetically mild detergent named FEWA.

1934 it came to the union with the Düsseldorf Henkel-Company and the company's name was Böhme-Fett-Chemie Ltd. Chemnitz.

After the II world war the company came under trusteeship and 1948 it was changed to VEB Fettchemie Fewa –Werke Chemnitz and later in VEB FEWA-Werke Karl-Marx-Stadt.. 1991 the fabric was shut down.

All the years Henkel claimed to be the first and only, the first fully synthetic detergent invented as Persil. But in reality it was FEWA and the later whole range with several sorts of FEWA, Milwa , Fay, Ray ,Fit a. s. o..

I think , so most of us know the advertising in the GDR-Television “ thousand TELE hints”:

you can wash, Johanna? Certainly I can!,
Well then let's see Johanna!
With FEWA makes fun!
And if the water is hard, and if the water soft,
it does not matter at FEWA
At FEWA do not mind, at FEWA is the same

Only further

FEWA, which are everywhere - FEWA washes and maintains the same,
because FEWA washed neutral

and

Everything washes with Johanna FEWA fine to fine, that's why every housewife for FEWA raves alone

The little few of people have known , that these slogans was written for the pop song from the UFA advertising cartoon "The grass widower"

But this remember to inglorious using during the brown period in Germany. So FEWA FEWA shares his fate with a number of other inventions from this period.

Exemple of structure of a MEGA-pearl

