

Proceeding(Part I)of The 8th Int'l Joint Conference

“Green Growth Strategy of SMEs
(Small and Medium sized Enterprises)
In the New Silk Road Countries”



Korean Association of Logos Management
Kumoh National Institute of Technology



June 3-7, 2010
KIT, Gumi,
Korea

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World tendencies of use of non-polluting materials in consumer services

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Repair and sewing of shoes and clothes, dry-cleaning and laundry services, services of saunas, barbershops and photographer's studios are usually considered as domestic services.

As a component of social production, domestic services often use environmentally harmful materials and technologies in their activity. Activity of domestic service enterprises usually creates wastes, which are frequently dumped into environment without any purification.

Domestic services contain a lot of problem fields, inflicting harm to ecology. At the same time, there are a lot of examples of finding the means to resolve these problems.

We consider that dry-cleaning and laundry services inflict the most serious damage to the environment. Cleaning agents and powdered detergents applied contain synthetic surface-active materials (SAM), which are extremely active chemical compounds and hazardous for human's health. SAMs have certain chemical similarities with some components of human and animals' cell membrane. When struck into the human's organism. SAMs collect on cell membranes in film. Excessive SAMs concentration can result in disruption of vital biochemical processes, progressing within membranes, and disrupt cell's integrity. Simulated experiments on animals show significant changes in oxidation-reduction reactions intensity, activity of number essential enzymes, and malfunction of protein, carbohydrate and lipid exchange. Anionic surface-active materials (A-SAM) are especially aggressive and hazardous, since they can cause major immunity malfunction, allergy extension, cerebral affection and affection of internal organs. A-SAM presence can be indirectly judged by lathering intension during the wash - the higher the foam, the higher the A-SAM concentration.

Cleaning agents also contain phosphates, which are added to multiply SAM activity and properties. They help SAM to penetrate the cloth deeper and wash the dirt away.

Phosphate additives also increase A-SAM toxic properties. Additives simplify A-SAM's penetration through intact skin, facilitate

intensified skin degreasing, haste cell membranes destruction and lower skin defensive powers. SAMs penetrate skin capillaries, absorbed by the blood and diffuse within the organism; all these results in physicochemical changes of blood and immunity malfunction. A-SAMs also have an ability to collect inside the organs.

Not only phosphate additives intensify A-SAMs skin penetration, but they also increase concentration of these substances within cloth fibers being washed. They make A-SAMs cohesion with the cloth so stiff, than even tenfold hot water rinsing cannot wash them away completely. Having firmly merged with the clothes, A-SAM molecules are easily transferred to the skin upon contact with it and then they are quickly absorbed inside, beginning their destructive route through the organism.

Phosphates also pose big hazard for environment. After washing they along with the waste waters, are carried away to the reservoirs, where they act as fertilizer, resulting in rapid algae expansion. Decayed algae secrete huge quantity of methane, ammonia and hydrogen sulfide, which annihilate every life signs in the water. Reservoirs overgrown with algae and water clogging result in unbalancing of reservoirs ecosystems, worsening of oxygen metabolism in hydrosphere and create difficulties in potable water supply of the population. That is one of the reasons why cleaning agents and powdered detergents, containing phosphates, have been legally banned.

Cleaning agents and powdered detergents also contain harmful for human health phtalates, optical bleach and chlorine.

Phtalates are used in order to preserve scents. The majority of modern cleaning and washing products is aromatized so as to replace an unpleasant smell of "the basis". Phtalates must be avoided by pregnant women, nursing mothers and women, planning to become pregnant. There are some facts that show that phtalates in mother's organism can cause child's malformation of genitals.

Optical bleach has a reflective effect, due to which washed clothes seem cleaner than they really are. Optical bleach cannot be washed away