

# ***Built detergent***

## ***in the common SOAP***



***Vlad and Alexander speaking***

Soap began to produce in ancient Sumeria and Babylon (about 2800 before A.D.)

Detergents was widely used in ancient Rome



Soap is brewed from animal and vegetable fats and  
and their substitutes





# ***Surfactants***

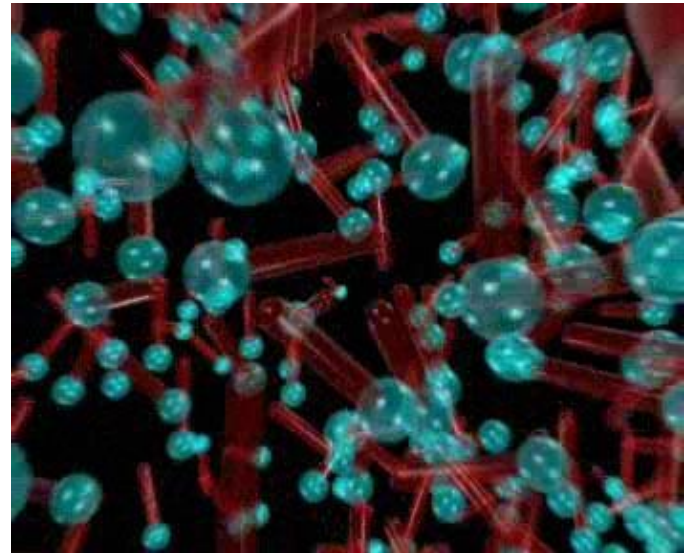
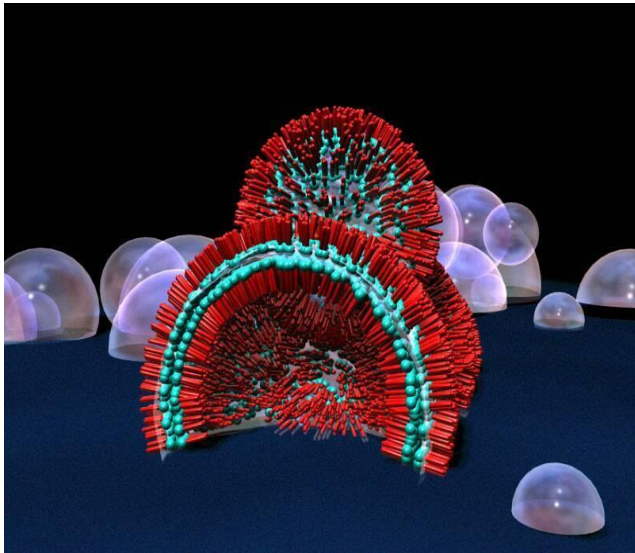
This is organic chemical compounds, containing molecules simultaneously two opposing groups:

polar (hydrophilic) and non-polar (hydrophobic)



# ***Action mechanisms of surfactants***

Hydrophobic "tail" is bound to bits of dirt. Hydrophilic "head" clings to the water, reducing the surface tension, that helping water to make surface wet and laundered detach dirt bits



# ***The washing process contains 3 key steps***

- Breakaway dirt bits out of cleaning surface
- Transform insoluble dirt bits in solute
- Retention of floating bits in the washing solution, that means - preventing resorption



# ***Features of surfactants***

- Have 10 times more cleaning power than soap
- Indifferent to the hard water and seawater

