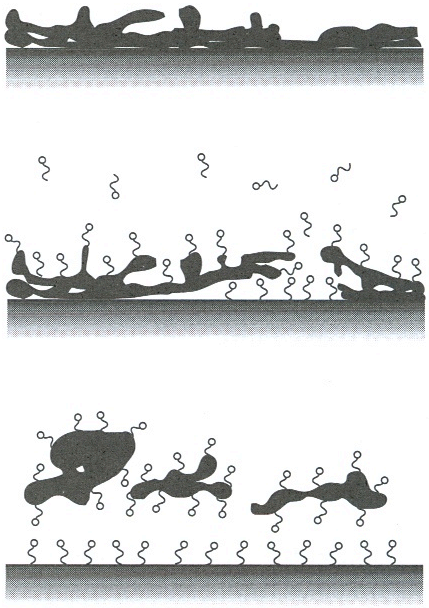
Detergency [psl13]

Detergents are surfactant molecules (amphiphiles) with special attributes:

- They wet fabric effectively (lower surface tension than water)
- Their hydrophobic tails are sufficiently long for high surface activity, yet sufficiently short for high mobility.

Detergency process:

- Detergent penetrates space between greasy particles and fabric.
- Contacts between grease and fabric are replaced by contacts to hydrophobic tails of surfactant molecules in solution.
- Adhesion of grease particles to fabric is reduced.
- Grease particles loosed into suspension by mechanical action of water.



[image from Hamley 2007]

The removal of dirt in the form of solid particles or liquid droplets from some surface in the presence of dissolved detergents has been observed to take place by different mechanism:

- *roll-up*: detachment into suspension of entire particles or droplets,
- *emulsification*: continual release into suspension of fragments,
- *solubilization*: continual release into solution of individual molecules.