

Cleaning chemistry

Key words

Detergent: there are two main types of detergent: **soap detergents** (usually just called soaps) made from animal fats or vegetable oils, and **soapless detergents** (usually just called detergents) which are made using substances produced from crude oil. Detergents clean things by removing dirt, grease or oil from surfaces.

Emulsion: a mixture of two immiscible liquids.

Emulsifier: a substance which helps to keep two immiscible liquids mixed.

Hydrophilic: 'water-loving' - one part of soap and detergent molecules does dissolve in water. This part is a group of atoms which together have a negative or positive charge. This part is hydrophilic.

Hydrophobic: 'water-hating' - one part of soap and detergent molecules is a long chain of carbon and hydrogen atoms. This does not dissolve in water, but dissolves in grease. This part of the molecule is hydrophobic.

Mixture: more than one substance stirred together, but which could be separated again using filtering, for example.

Soap: is a detergent, because it can remove grease or oil. Soap is made in a chemical reaction between an acid and an alkali.

Solution: a liquid with a solid in it which has dissolved so the particles of solid cannot be seen.

Surface tension: all molecules in liquids exert forces on each other. These forces are unbalanced at the surface of liquids so there is a net upward force. This is called 'surface tension'. In water, the bonds are relatively strong compared to those between molecules of other liquids. This is why water can support small objects floating on the surface like some insects, a drawing pin or a paper clip.

Surfactant: a substance which is 'surface active'. Soaps and detergents are surfactants. They break down the surface tension between molecules of water by interrupting the bonding in between.

Suspension: fine particles of solid spread out in a liquid.

