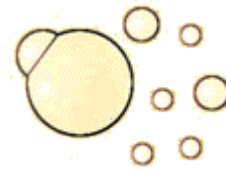


## DETERGENT REGULATIONS



### Introduction

During the 1950's, the use of non-biodegradable or 'hard' detergents (surface-active components in washing and cleaning agents) increased greatly, resulting in large-scale foam formation on surface water. Apart from the visual aspect, this increase of surface-active substances in the environment reduced the oxygen absorption and photosynthesis in water. These detergents also disrupted wastewater treatment processes. Biodegradable or 'soft' detergents were developed to solve this. This led to the European Directives that restricted the use of 'hard' detergents. After many voluntary guidelines, the European Union has finally drawn up Regulations that came into force on 8 October 2005. Therefore, there is no longer a guideline, but regulations that people are obliged to follow. The Regulations are not restricted to the biodegradability of detergents, but also contain a number of objectives and describe a number of areas of application. This Technical Bulletin attempts to give some insight into the Regulations.

### Objectives and areas of application

The rules that have been laid down in the regulations are intended on the one hand to create free trade in detergents (washing and cleaning agents in the broadest sense) and surface-active substances, and on the other hand to guarantee a higher level of protection for humanity and the environment. Detergents must meet the following rules if they are to be allowed onto the European market:

1. The biodegradability of the surface-active substance.  
According to Detergent Directives drawn up earlier, surface-active substances had to meet the requirement that the degree of primary biodegradability (transformation of the surface-active substance by a micro-organism whereby the surface-active properties are removed) was high enough. Now surface-active substances in detergents must be totally biodegradable, which means these substances must be completely broken down into carbon dioxide, water and salts by micro-organisms. The methods used to determine the biodegradability and other determinations are standardised and described in the Regulations.
2. Restriction or total ban on the use of surface-active substances in detergents based on their biodegradability.  
If, after the tests, the surface-active substances appear not to be sufficiently biodegradable, they can no longer be used unless a dispensation has been requested from the European Commission. Dispensations are mainly given for those surface-active substances that are only used in industrial or institutional applications, have restricted distribution and when the environmental and health risks are minimal compared to the social and economic advantages.
3. Additional labelling of detergents to include allergenic perfume substances.  
This requirement relates to listing the ingredients of detergents in accordance with certain guidelines in order to inform the user. This rule has elements in common with the Cosmetic Directive that became effective earlier in 2005.
4. Manufacturers must make full details of the formula available for authorised bodies and persons.

## Definitions

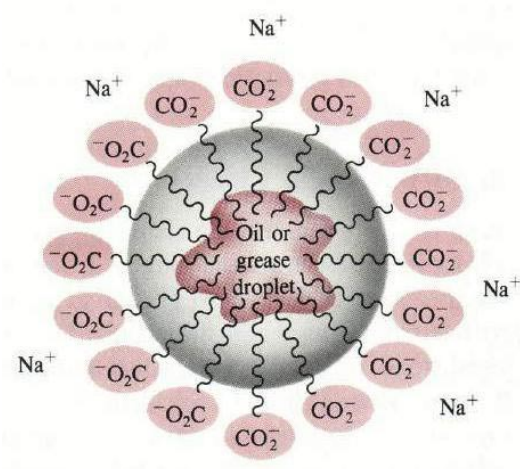
To ensure that people are clear by what is meant by a certain term, these are defined in the Regulations. Not all the terms will be defined here, only some of the most important ones:

**Detergents:** all substances and preparations that contain soaps and/or other surface-active substances and are intended for washing and cleaning purposes. Detergents can have many forms (liquid, powder, paste etc.) and are used for household, institutional or industrial purposes. The following products are also considered to be detergents:

- auxiliary preparations for washing, intended for soaking, prewashing, rinsing or bleaching.
- fabric softeners, auxiliary substances for cleaning activities.

**Preparations:** mixtures or solutions that consist of 2 or more substances.

**Surface-active substances:** organic substances and/or preparations with surface-active properties used in detergents and that consist of one or more hydrophilic and one or more hydrophobic groups that are of such a nature and proportion that they cause a reduction in the surface tension of water, the formation of a surface layer at the water/air interface and form a micro emulsion, micelles and adsorption at the water/solids interface.



Adjacent figure: example of a micelle (the effect of a surface-active substance is dependant on this)

All cleaning agents produced by Vecom have met these Regulations for quite some time. As we have stated in earlier Technical Bulletins, Vecom has followed and reacted to developments and the enforcement of European regulations well in advance so that major modifications and product changes have not proved necessary.

For many years new products have been developed with an eye to the future and therefore the introduction of the Regulations has not meant any changes to the Vecom product range.

## Various uses of detergents

For detailed information a special leaflet is available from the Dutch Association of Soap Manufacturers (NVZ). You can ask your Vecom contact person for a copy.



Author: T. van Os (Head Laboratory)  
Reactions and/or questions: e-mail: [tb@vecom.nl](mailto:tb@vecom.nl)