

BUSINESS PLAN

CEN/TC 276

SURFACE ACTIVE AGENTS

EXECUTIVE SUMMARY

Business Environment

- The world market for surface active agents (excluding soap) –so called surfactants- is about more than 6 million tons, about 2.9 million tons of which in Europe.
- Number of application sectors (household washing and cleaning products, industrial & institutional cleaning, cosmetics, pharmaceuticals, chemicals/polymerization, textiles, pesticides/fertilizers, oil field and other industrial uses)
- Parties involved:
 - Producers of surface active agents
 - Users for whom surface active agent is a raw material or an auxiliary product for further applications;
 - Public authorities;
 - Consumers;
 - Non-governmental organisations

Benefits

- harmonisation and optimisation of analytical methods for the characterization of surfactants or impurities
- harmonisation and clarification of test methods allowing for unambiguous technical specifications
- definition of bio-surfactants

Priorities

To make European standards available related to:

- enhancing the reproducibility of testing methods by means of intercomparison testing (round robin), estimating uncertainties associated to the test results and considering “environment”-related aspects,
- ensuring the proper transfer of the EN specifications and test methods at ISO/TC 91 level, in order to conciliate legitimate preservation of normative assets, European manufacturing interests and the economic necessity for companies to open themselves to the world.

1 BUSINESS ENVIRONMENT OF THE CEN/TC

1.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal, societal and/or international dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this CEN/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

▪ **Identification of the product**

Surface active agents are worldwide used products intended for many applications.

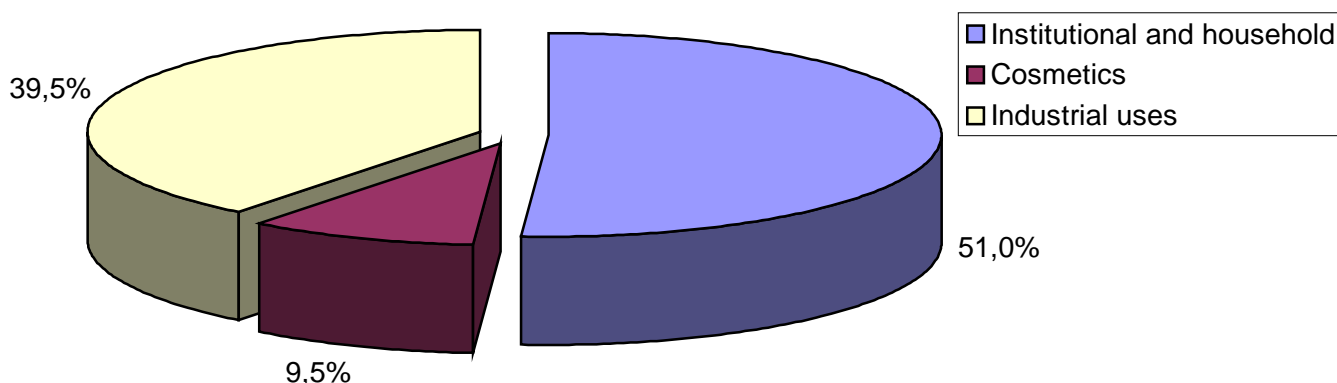
Their characteristics of surface active agents give them properties for particular applications as for example: detergents, dispersing agents, emulsifiers, wetting agents, foaming or antifoaming agents, solubilizers, stabilizers, penetration auxiliaries etc.

Surface active agents are used in many industrial activities where they play the part :

- ✓ either as a basic raw materials for the formulation : fabric detergents, shampoos or house cleaning products.
- ✓ or as industrial auxiliary products facilitating work in the manufacture of textiles, flotation agents for ores, metal working, formulation aids for water insoluble ingredients.

They are used in such industries as food processing, metallurgy, oil field, pharmaceuticals and public works.

These surface active agents applications can be separated into two groups. The first corresponds to washing and cleaning activities in households or institutions (hospitals, schools ,etc..) and the second to industrial applications.



1989 figures

▪ **Interested parties**

Interested parties are all industries both producers and users of surface active agent ; for whom surface active agent is a raw material or an auxiliary product for further applications; public authorities, institutes, laboratories ,consumers representatives, non-governmental organisations as for example OECD (Organisation for Economic Co-operation & Development), trade unions as

CESIO (Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques), AISE (Association Internationale de la Savonnerie, de la Détergence et des Produits d'Entretien).

Many surfactant producers have in their portfolio low volume "speciality" surfactants and large volume "commodity" surfactants. The latter provide a base load of business to support large capital investments for plant equipment and facilities, while the former provide a diverse product line and can open access to specialised applications where higher percentage margins can generally be obtained.

This combination also provides significant opportunities for new business, and some protection from the adverse effects of cyclic economic developments that characterize most commodities in the chemical industry.

- ***Impact of the legislation***

- REACH

Like any chemicals, surfactants produced in and imported into the EU need to be registered with the European Chemical Agency (ECHA). Therefore, new data (physchem, toxicological, ecotoxicological) on surfactants have been created by the registrants since 2007 to feed the registration dossiers and perform the Risk Assessment. Surfactants have been analysed in more depth to comply with the identification section of the dossier.

- Detergents regulation

On 8 April 2004, the Detergent Regulation (EC) No 648/2004 was published in the Official Journal and has entered into force 15 months later, i.e. on 8 October 2005.

The main part deals with the requirements on aerobic biodegradability of surfactants, but there are additional requirements relating to ingredient labelling of detergents and the need for manufacturers to have full ingredient datasheets available for use by medical personnel. Under the Detergent Regulation, surfactants used in detergents should be ultimately biodegradable under aerobic conditions according to OECD 301 test series.

- Ecolabelling Regulation

The EU Ecolabelling Regulation stipulating that Ecolabel criteria are to be established for products groups representing a significant overall volume of sales and trade, the surface active agents are concerned for the following product categories:

- 1) All purpose cleaners
- 2) Dishwashing detergents
- 3) Hand dishwashing detergents
- 4) Industrial & institutional automatic dishwasher detergents
- 5) Industrial & institutional laundry detergents
- 6) Laundry detergents
- 7) Rinse-off cosmetic products
- 8) Soap & shampoos
- 9) Laundry detergent
- 10) Automatic dishwashing Machine detergent
- 11) Sanitary cleaners
- 12) Hard surface cleaners
- 13) Textiles

1.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the CEN/TC 276:

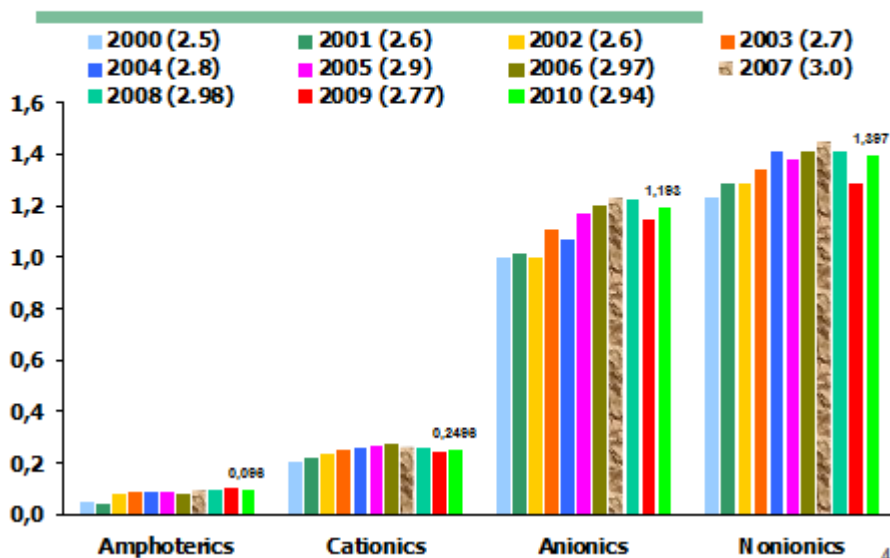
The surfactant industry and the markets it serves are extremely complex and highly fragmented:

- ✓ a large number of surfactant producers. In total the number is estimated to be 100¹ with about 10 000 employees;
- ✓ the numerous product types (estimated to be 3 400²);
- ✓ a wide range of end-use markets, each with many customers formulating about 100 000² products in total;
- ✓ use in a number of technical applications for production of other products/articles;
- ✓ sales of surfactants and intermediates between producers of different sizes and production capabilities.

The surfactant producers not only sell to end users, but also sell intermediates as well as surfactants to each other. This business structure reflects many operational characteristics like the availability of raw materials, production capabilities, and optimisation of transportation costs.

The world market for surface active agents (excluding soap) is about more than 6 million tons, about 2.9 million tons of which in Europe which can be divided in four types of surfactants : amphoteric, cationic, anionic, non-ionic

European Production in mio tons



courtesy of CESIO 2010 statistics, Brussels, www.cesio.org

Household washing and cleaning products represented about more than 800 000 tons in Europe and institutional washing products more than 70 000 tons i.e. a total of more than 870 000 tons, or 51 % of the total tonnage of surface active agents consumed in Europe.

¹ CESIO newsletter, Issue 8, June 2004

Body care products, cosmetics and pharmaceuticals consume more than 164 000 tons of surface active agents, i.e. 9,5 % of the total. The remaining 39,5 % is used for other industrial applications. These tonnage of surface active agents used in industry vary considerably according to the market as follow giving the percentage of use per industry :

- ✓ chemicals/polymerisation:19 %
- ✓ textiles:16 %
- ✓ metallurgy:9 %
- ✓ pesticides/fertilizers:7 %
- ✓ leather/furs:7 %
- ✓ food processing:6 %
- ✓ construction/public works:5,5 %
- ✓ mining and oil industries:4 %
- ✓ paper:3,5 %
- ✓ paints/pigments/varnishes:3 %
- ✓ miscellaneous:20 %.

2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC 276

Technical development of the sector largely depends upon the requirements in accordance with the regulation and the request of the industrial users of surface active agents who present new needs for new applications therefore introducing new types of products.

Due to the progress in analytical instrumentation for chemical and physical tests, restrictions on analytical reagents and other scientific improvements many existing standards need to be revised or substituted by better ones. Also, the necessity to put on the market any product with lower content of toxic substances and impurities, it is being recognised that there must be more co-operation between customers and producers as well as between producers. Consequently standardisation of test and analysis methods is therefore the key for the European single market where the adequate standards used for the assessment of the products are an essential component for the quality assurance.

More recently, the European Commission gave a Mandate (M/491) to CEN/TC-276 to define what a bio-surfactant is. This mandate corresponds to the expected growth of the EU bio-based economy and research in the field of bio-surfactants.

3 PARTICIPATION IN THE CEN/TC

All the CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or international organizations is also possible under certain conditions. To participate in the activities of this CEN/TC, please contact the national standards organization in your country.

4 OBJECTIVES OF THE CEN/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

4.1 Defined objectives of the CEN/TC

The objectives of the CEN/TC276 are the elaboration of standards on surface active agents and detergents for any application and in every area of the sector (terminology, analysis, physical test methods, classification..) in accordance with the market needs and in order to contribute to eliminate trade barriers, to harmonise the methods used in the sector thus facilitating understanding between the producers and the users, to give to manufacturers the methods useful to meet the legislation requirements related to safety, health and environment protection in particular, to make available physical-chemical records to fill up the safety data sheets of surface active agents.

4.2 Identified strategies to achieve the CEN/TC.s defined objectives.

Through the work programme and the list of published ENs mainly documents dealing analytical and test methods are established and none for classifications and specifications. Also no work concerning detergents has been programmed.

The CEN/TC276 is made up of 3 WGs.

WGs are established as drafting bodies. WG 1 examines in particular problems relating to qualitative and quantitative determinations (constituents, active matters, impurities) in surface active agents. WG 2 deals with questions relating to the physical properties of surface active agents in relation with the technical application possibilities. WG 3 deals with bio-surfactants and has been created in 2014 following Mandate M-491.

New proposals on WG 1 and WG 2 are based on existing reference documents from CESIO working groups, and also due to the advances in analytical instrumentation it has been decided to update some analytical methods in order to decrease the costs of analysis, to answer to the regulations, for safety reasons..... CESIO working groups often act as pre-standardization groups.

ISO/TC 91, chaired by Japan and the secretariat of which is held by Iran, has been re-activated in 2008. CEN/TC 276 is collaborating actively to the activities of ISO/TC 91. The secretariat (Afnor) and convenorship of ISO/TC 91 WG3 on biosurfactants are held by France.

5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC WORK PROGRAMME

The composition of WGs must be partly renewed and completed, indeed the internationalization of companies of this industrial sector has led to a reduction of the number of experts in the CEN WGs.