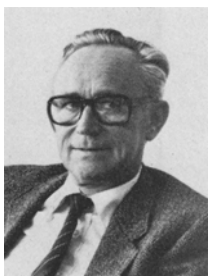
Industry News

CURRENT TRENDS In Soaps and Detergents in the European Market Place



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Summary

The European soap and detergent market totals about 7.2 million tons annually. While the total tonnage is higher than that of the United States, the diversity of languages, currencies and habits creates additional factors for manufacturers to consider. Consumption, which had been rising at 4% annually, slipped recently to 1% annualized rate, perhaps reflecting changing economic circumstances. The market can be expected to grow to about 8.6 million tons within the next five to eight years.

Social and Economic Background

Like the North American market, the European market is dynamic, thriving, colorful and innovating, but it is at the same time very different.

Western Europe's 350 million people inhabit an area of 1.4 million square miles. This is almost 1½ times the population of the United States on not much more than one-third the area. Hence we sit a little closer together in Western Europe with 250 persons per square mile versus about 70 in the United States. And yet the distance across Western Europe from Lisbon to Helsinki is about the same as the distance across the US from New York to San Francisco (Fig. 1).

FIG. 1

This European marketplace may be divided in view of economic interactions between the 10 members and the 8 nonmembers of the European Communities. More than 270 million of the Western Europeans – more than 80% – live within the European Community and EC membership is expected to increase.

From a sociological, climatological as much as from consumer habits point of view, categorization into "Northern," "Central" and "Mediterranean" areas has some validity.

Most significant is the distinction by 13 different languages or even more so by 18 different currencies with ever-floating exchange rates and different systems of taxation. One will therefore appreciate that this European marketplace has a few extra dimensions when comparing it with the United States market.

The coherence of Western Europe as a single marketplace for soaps and detergents is demonstrated, among other things, by the existence of a competent and responsive international association for the soap and detergent industry, the Association International de la Savonnerie et Detergence (AIS) which represents the whole of Western Europe. The combined membership of the national soap and detergent associations that form the AIS is approximately 750 soap and detergent companies. Many companies may be only small or medium size and This is reflected in the degree of sophistication of the marketplace and in regional differences. These statistics, and others used, are from AIS reports.

The average market penetration of washing machines is about 78%, with

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close to 90% in Germany and Holland and under 40% in Greece and Portugal. The dishwaster penetration has climbed gradually to an average of 12% in Western Europe, ranging from less than 5% in Ireland, the UK, Greece and Portugal, to 20% or more serve only regional markets or specialized market sectors.

Several major companies, however, operate dynamically on an international and European basis. This stimulates open market communications, uniformity of products and rapid transfer of innovation and technological progress across any boundary which the different nationalities, languages, currencies or economic trade zones may represent. There is also some communication between the markets of the United States and Western Europe. Some international companies operate on both sides of the Atlantic. In the laundry detergent area, however, innovation transfer across the Atlantic is not as rapid as within Europe because of major habit differences.

In 1981, the average GNP per person was $6,300 for the whole of Western Europe and $6,750 in EC countries. This is approximately 25% less than the United States' GNP per head of the same year. The European average is, however, a composite figure with variations from less than $4,500 (Portugal, Greece, Spain, Ireland) and up to $12,800 in Switzerland (Fig. 2). in Germany, Denmark, Switzerland and Sweden.

The tumble drier penetration probably reflects personal income as well as climate. In the center of Western Europe the penetration is in the range of 10-15%, whereas in the Mediterranean countries it is negligible. The recent economic climate has caused the sales of dishwashers and driers to drop 20-40% below previous years.

Although the average consumer does not exist, here is an approximation of how Mr. and Mrs. Average look after their laundry (Fig. 3). Mrs. Average is a member of a 2.8 person household (same as US) who will wash a washload of 3.5 kg 3.2 times a week. This washload is a 50/50 mix of cotton articles and cotton blends and synthetics. She will separate white articles (25%) from the colored ones (75%) and give them a good hot boil wash treatment. The colored articles will be washed at 60 C or below. Her washing equipment is a $450 fully automatic frontloader drum machine with the drum rotating on a horizontal axle (Fig. 4). This machine takes in 20 liters of cold tap water for the wash cycle and is equipped with a heater to raise the water temperature to the boil.

The machine has a number of programs for prewash, main wash, higher or lower temperatures. In every program the wash cycle is followed by several rinse cycles and a final spin drying. A complete prewash/main wash operation including the final spin drying takes up to two hours. She will use about 150 g of detergent (7.5 g/L).

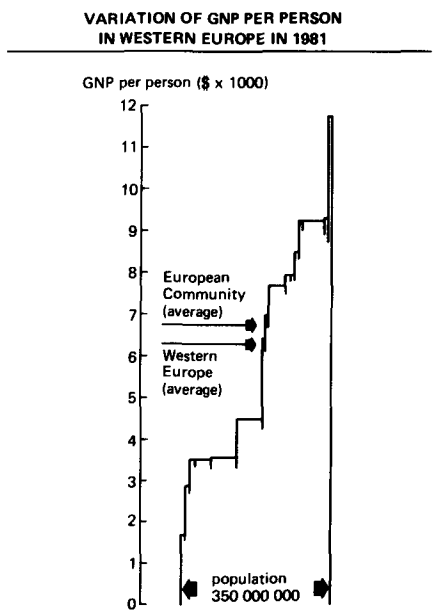

FIG. 2.

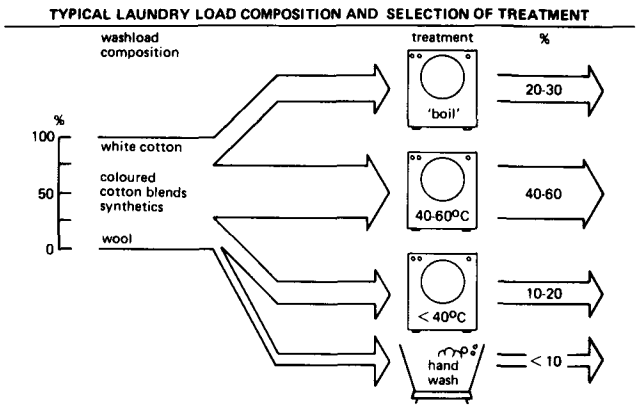

FIG. 3.

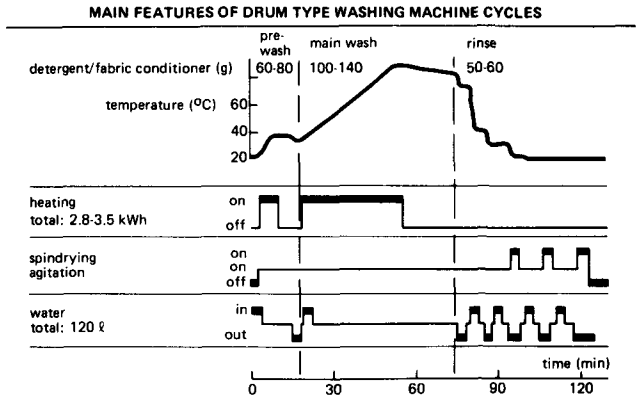

FIG. 4.

She has a choice of three main categories of laundry detergents. About two-thirds of the time she will use an all-purpose detergent containing some 35% builder, 15% low foaming surfactant and 25% of perborate bleach which bleaches at temperatures above 60 C. For the other wash jobs there are products containing more builder, but no bleach, and specialities for delicate fabrics.

Quite regularly she will add fabric softener in the rinse. The average cost of a wash (Fig. 5) is about 75 cents. The total annual laundry cost about $120 per family. In the boil wash cycle, the cost of electricity is practically the same as the cost of the detergent. Needless to say, the washing result of a boil wash is indeed splendid.

Incidentally, the cost of energy of an average U.S. wash is much higher than in Europe. Invariably, even Mrs. Average will use a variety of wash processes which she designs herself to meet her objectives of cleanliness and hygiene. It is presumably true that Western Europeans have 350 million different opinions about this. One important variable to which all consumers react is water hardness. On the average, the water is moderately hard (120-240 ppm) but the regional variations are significant. In Scandinavia the water is soft (below 60 ppm); large areas of the UK and Ireland also have soft water, whereas in large areas of Germany, Belgium, France and Spain the water is very hard (above 300 ppm). This has a significant bearing on detergent consumption.

Market Situation

The total market of soaps and detergents in Western Europe in 1981 was 7.2 million tons, representing total sales of about $6.5 billion at retail. This comprises laundry detergents and additives, dishwashing agents, household cleaners and soaps. It does not include bleaches or products for institutional or industrial use. U.S. tonnage for 1981 was 5.1 million tons.

The average total consumption of soaps and detergents per person was 20.5 kg in 1981, which is similar to the per-person consumption of the same kind of products in the US (Fig. 6). The European range is from below 15 kg/person in Finland, Greece and Ireland to above 25 kg/person in Germany, Belgium and Denmark. During the period 1975-80 there has been a steady growth of the consumption of about 4% per year. In 1981 this slipped to a modest 1%.

Major differences between countries are apparent (Fig. 7). Germany after a happy growth period up to 1979 seems to have stabilized on a healthy high level. Norway seems to have recovered after a decline during 1975-79. Finland is an example of slow growth. Spain, after a respectable annual growth of 5% since 1975 exploded into an extraordinary growth rate of about 20% in 1980 and 81.

Laundry detergents take the biggest share of the soap and detergent market. Including fabric softeners, this represents about 50% of the market. The laundry detergent powder sector has had a constant modest growth rate of some 2.5% per year since 1975. Again there are variations. Germany, after a major growth up to 1979, seems now to have settled for 12 kg/person/year, while Holland for the past 10 years has settled at about 10 kg/person. Spain shows a sudden 50% increase over 1979/81. Norway made a big dive between 75 and 79 from 8 to

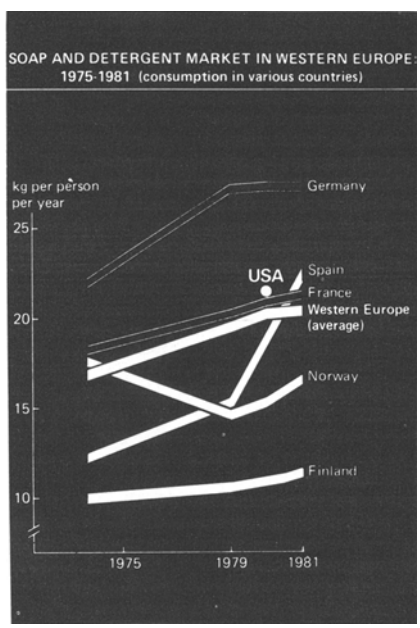

FIG. 6.

AVERAGE COST OF HOME LAUNDERING
(example: Holland)

	$ per washload	$ per family year
detergent	0.21	32.50
energy	0.16	24.80
water	0.13	20.60
depreciation/maintenance	0.25	40.00
total	0.75	117.90

FIG. 5.

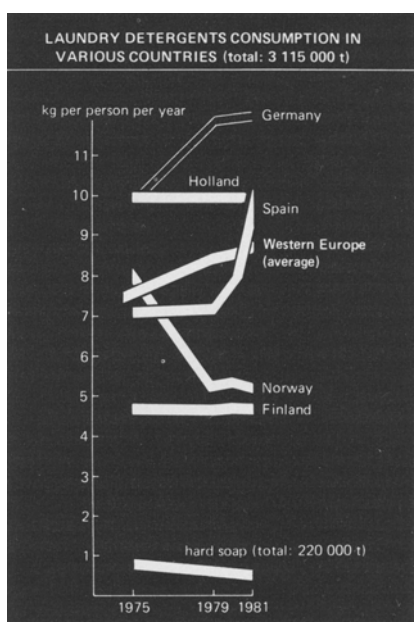

FIG. 7.

5 kg/person/year. This was the result of militant action of consumerists and environmentalists against detergents containing phosphate. A recovery in Norway is not expected for many years. Finland shows steady low consumption in a soft water area.

There is an average consumption of about 0.5 kg of hard soap per person per year for laundry purposes. This is the old fashioned solid piece of laundry soap. In the Mediterranean area, usage ranges from 1 kg (Italy) up to 3.8 kg (Portugal) per person and year. Newcomers on the market are liquid laundry detergents which made their entry in 1981 in central Europe.

The fabric softener product sector is an interesting growth area. Quite understandably, both washing machine ownership and hard water favor the usage of fabric softeners. Germany, with an annual consumption of 6.4 kg fabric softener per person, is a clear leader in this field. Average usage in Western Europe is approximately 2.5 kg per capita.

Hand dishwashing products have shown a growth of an average of 10-12% per year recently in Western Europe, again a composite figure – ranging from a constant consumption of 2.9 kg per person per year in Holland and a big jump in Spain from 1 kg to over 4 kg per person per year during the last 5 years.

Machine dishwash products, after a constant climb of 15% per year up to 1979, have lost their growth impetus and are steady at about 0.5 kg per person per year (Western European average). This correlates with the sharp decline in sales of dishwashers due to the economic situation.

The general household cleaner consumption in Western Europe is 800,000 tons, meaning an average of 2.5 kg per person per year. There has been continuing growth at a rate of about 8% per year, with a trend of even more rapid growth more recently. Scouring powders, however, have been fairly constant at about 300,000 tons with indications of a decline recently. Liquid scourers, however, are rapidly gaining in popularity.

Toilet soap consumption in Western Europe has been stagnant for many years. Total consumption is now at 280,000 tons, corresponding to an average annual figure of 0.8 kg per person. Although the per-capita consumption in some countries is twice that of others, there must be deep rooted cultural boundries which prohibit the transfer of the higher consumption rates to those areas where less is used.

Current Trends and Indicators for Future Developments

There is an apparent correlation between the per-capita consumption of laundry detergents, including fabric softeners, and the per capita GNP of a country (Fig. 8). Typical soft water areas like Sweden, Norway and Finland have a trend of lower consumption and Norway, with only 5 kg laundry detergent per person per year, has even a further excuse of falling short of the soft water trend after being hit fiercely by the environmentalists.

The upper deviation from the general trend by Germany is mainly due to an exceptionally high consumption of fabric softeners. The deviation of Spain remains a mystery like the sudden extraordinary growth rates of the total market in Spain.

Clearly, the general economic situation, or more specifically the level of private income, is a most important stimulus on the soap and detergent market in Western Europe. The present stagnation of economic growth in Western Europe is slowing growth of the soap and detergent market but is not – and hopefully will not be – causing the dramatic decline that we observe in the washing equipment market. Convenience products for manual applications even stand a good chance to grow against the general economic trend.

The cost of electricity is up by 500% since 1974. While in earlier days the cost of energy for washing went by unnoticed, this is no longer the case. Certainly helped by the fact that white cotton articles, which Western Europeans religiously believed needed a boil wash, have almost disappeared from the market, a dramatic change to lower wash temperatures is taking place. While in many countries 50% of all loads were given a boil wash treatment in 1974, today less than 20% are washed at the boil. A major part of this change is caused by conscious energy saving. Hence, there are good times ahead for low-temperature-effective bleaches, enzymes, surfactant/builder mixes and whatever else can be innovated in this area.

Contrary to what one would expect for economic reasons, wash frequency has increased by 30-50% in the more sophisticated markets, apparently stimulated by the greatly improved convenience of the wash job and the rising standards of hygiene. Laundry detergent consumption is not going up at

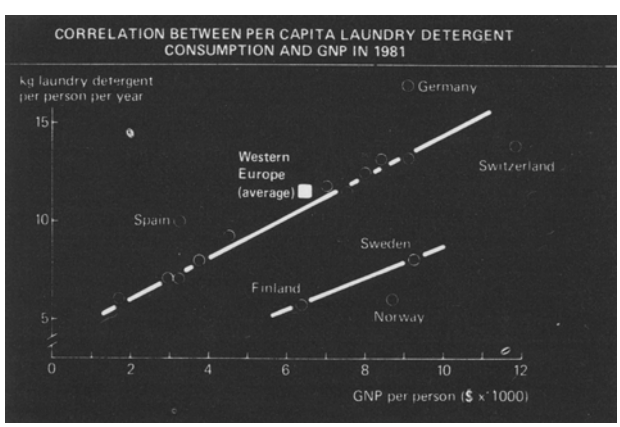

FIG. 8.

the same pace because detergent use per wash is somewhat depressed. This is quite understandable because more frequently washed loads are less dirty – quite an amazing example of consumer rationality.

Private labels and generics are making some inroads in parts of the European market. In Germany, they have captured some 20% of the laundry detergent market. While consumers like to take advantage of lower prices, they remain primarily interested in value for money. This is a challenge for manufacturers of branded products.

Regulatory matters also affect trends. Most important are serious restrictions in the use of phosphate in Germany, Holland, Switzerland, Italy, Austria and Norway with imminent threats of total bans in Holland and Switzerland. In Norway, a laundry detergent phosphate tax is being proposed which would increase the price of top quality brands by some 25%.

Losing the freedom of use of phosphate in laundry detergents, under European washing conditions, is even more serious than in the United States. We are trying hard to convince the authorities and public opinion that a ban of detergent phosphate – or an unreasonable taxation which has the same effect – would be a serious disservice to consumers, and that it is more cost effective to remove phosphate from sewage than to remove phosphate from detergents. Sweden made a clear decision 10 years ago to remove phosphate from sewage throughout the country to counteract eutrophication. This strategy proved successful and the use of phosphate in detergent is no longer regarded as a problem. In other countries in Europe, politics have overruled that rationale, making detergent phosphate the prime culprit.

The environmental acceptability of NTA as an alternative builder is still a sensitive issue in countries where limitations on the use of phosphate are discussed. In Holland, 0.2 mg NTA/L in surface water may become an acceptable no-effect level with regard to heavy metal mobilization. A good knowledge of hydrological conditions, collection and treatment of sewage, population density and detergent consumption data in an area permits to extrapolate this 0.2 mg NTA/L in surface water with maximum average acceptable use of NTA in detergents. In a given area in Holland, this works out to a range of 2-5% NTA in all laundry detergents, with the lower figure being the worst possible case situation. For different situations, different ranges of acceptable levels of NTA in laundry detergents may be found and further studies will be required.

Other major regulatory legislation regarding new chemicals requires the notification to the authorities of any new chemical substance to be introduced on the market. The notification must be accompanied by a very comprehensive dossier on the physical, chemical, toxicological and environmental properties of the substance and its intended use. Although this legislation primarily affects the suppliers of raw materials for the soap and detergent industry, substantial delays are expected in innovation and product improvement for our industry.

Major research work is continuing in support of the environmental acceptability of a variety of commonly used detergent ingredients as an insurance policy for the future of our products. This work is discussed and disseminated in AIS.

There are of course many other regulatory developments regarding labeling, standardization of packaging, unit pricing, sophistication of testing methodology, animal versus in vitro testing, etc. Every one can be cumbersome but is in most cases, however, without immediate consequences for market trends.

Conclusion

This huge marketplace for soaps and detergents in Western Europe will grow closer together and differences in GNPs will gradually diminish. In the wake of this development there are very interesting prospects for the soap and detergent market. A 20% increase of the total market for our products in Western Europe which represents another 1.4 million tons of product worth another $1.3 billion in current money is by no means an illusion during the next five to seven years.

EOR growth forecast

The Enhanced Oil Recovery (EOR) chemicals market is predicted to grow at least 12% each year through 1992, according to an 800-page study conducted by Colin A. Houson & Associates Inc. of Mamoroneck, New York.

The study, "Enhanced Oil Recovery II: Chemicals and the Chemical Supply Market – North American Forecast to 1992," reports that enhanced oil recovery processes have improved during the past two years, particularly with the use of more effective surfactants in steam injection and micellar-polymer flooding techniques. According to the report, steam flooding continues to be the most productive EOR technique, producing 300,000 barrels per day in 1981 and projected to produce 475,000-700,000 barrels per day by 1992. Surfactants for steam flooding, the company found, represent one of the most promising markets for the 1980s. However, the study pointed out that California air pollution regulations continue to limit growth in the steam flooding industry, although application of cogeneration and downhole steam generation could eventually ease this problem.

The major obstacle for EOR chemical growth, the study said, is the worldwide surplus of crude oil, pushing the price down and limiting the revenue available for EOR development.

Millmaster independent again

Gulf Oil Corporation has sold the assets of its wholly owned subsidiary, Millmaster Onyx Corporation, to Millmaster Onyx Group Inc., a newly formed company headquartered in New York. Robert J. Milano, the founder of Millmaster Onyx Corporation, is chairman and chief executive officer. John W. Hall, chairman of Interedec U.S.A., is vice chairman.

Millmaster, purchased by Gulf as part of Kewanee Industries Inc. in 1977, produces specialty chemical products, surfactants, building materials, inks and toners.

Velsicol retools

Velsicol Chemical Corporation has modified its 33-million pound benzotrichloride plant in Chattanooga, Tennessee, to include production of benzyl chloride. Benzyl chloride is used as a chemical intermediate in the manufacture of quaternary ammonium compounds, flavor and fragrance chemicals, pharmaceuticals and plasticizers.

PQ forms Zeolite Group

PQ Corporation has established a Zeolite Group as an independent operating business unit within the company following the September 1982 start-up of the company's synthetic zeolite plant in Kansas City, Kansas. The silicate manufacturer first began research in the zeolites area in 1975 and has had a zeolite venture team since late 1980.

Albright & Wilson modernization

Albright & Wilson Ltd. of London expects to have two new sulfonation reactors in operation at its Whitehaven, Cumbria, facility by the end of 1983. Additional improvements, including process control equipment, are expected to be completed during 1984.

Meetings

Surfactant topics set

Organizers for the World Surfactant Congress, to be held May 6-10, 1984, in Munich, have decided to limit the number of papers during the conference to approximately 100.

Each day's session will begin with plenary lectures, to be followed by concurrent sessions on various topics. Each speaker will have 20 minutes to present a talk, followed by 10 minutes for questions.

The basic topics are listed as:

—Surfactants and Their Economic Significance, including economic development, and forecasts.

—Surfactants and Their Raw Materials, including terminology, structure and properties, synthesis and manufacturing.

—Surfactants and Their Chemistry and Physics, including fundamental principles; interfacial phenomena; properties and structure of surface-active solutions; and analytical methods.

Surfactants and Their Applications, including test methods; surfactant in detergents and cleaning agents, surfactants in the cosmetic, pharmaceuticals, foodstuff and sugar industries; surfactants in the textile, fiber, leather, fur, cellulose and paper industries; surfactants in the chemical industry; and surfactants in the metal processing, mining, oil and building industries.

Surfactants and the Environment, including waste water treatment, recycling, and waste air; distribution and fate of surfactants in the environment; disposal and biodegradation; ecotoxicology; and legislation regarding surfactants.

Sponsor for the meeting is CESIO (Comite Europeen d'Agents de Surface et Intermediaires Organiques), Avenue Louise 250, Bte. 102, B-1050 Brussels, Belgium. Persons wishing to submit a paper should write to the coordinating office at Interplan, Sophienstrasse 1, 8000 Munchen 2, West Germany. Registration forms are expected to be distributed in late 1983.