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II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DECISION

of 11 December 1980

relating to a proceeding under Article 85 of the EEC Treaty
(IV/27.442 — Vacuum Interrupters Ltd)

(Only the English text is authentic)

(80/1332/EEC)

THE COMMISSION OF THE EUROPEAN
COMMUNITIES,

Having regard to the Treaty establishing the
European Economic Community, and in particular
Article 85 thereof,

Having regard to Council Regulation No 17 of
6 February 1962 ⁽¹⁾, and in particular Articles 6 and 8
thereof,

Having regard to the notification to the Commission
made on 12 May 1978 by Mr C. S. Ede, Secretary of
Vacuum Interrupters Ltd, London, England, on
behalf of that company and of Associated Electrical
Industries Ltd, London, England, Reyrolle Parsons
Ltd, Newcastle upon Tyne, England, and Brush
Switchgear Ltd, Leicestershire, England, concerning
an agreement made on 27 April 1978 whereby Brush
Switchgear Ltd acquired a portion of the
shareholding in Vacuum Interrupters Ltd,

Having regard to the application, attached to the
notification, for negative clearance of the agreement
in relation to Article 85 (1) of the EEC Treaty, or, in
the alternative, for exemption under Article 85 (3),

Having regard to the publication of the summary of
the notification pursuant to the provisions of Article

19 (3) of the said Regulation No 17 in *Official
Journal of the European Communities* No C 181 of
19 July 1980, page 2,

Having regard to the opinion of the Advisory
Committee on Restrictive Practices and Dominant
Positions delivered on 17 October 1980 in
accordance with Article 10 of the said Regulation
No 17,

Whereas:

I. THE FACTS

A. Commission Decision of 20 January 1977 ⁽¹⁾

1. By an agreement made on 25 March 1970,
Associated Electrical Industries Ltd (hereinafter
referred to as AEI) and Reyrolle Parsons Ltd
(hereinafter referred to as RP) agreed to form a
company to engage in the research, development,
manufacture and sale of vacuum interrupters, to be
known as Vacuum Interrupters Ltd (hereinafter
referred to as VIL). The agreement was made for an
initial period of 10 years, continuing thereafter from
year to year on certain conditions not material to this
Decision.

⁽¹⁾ OJ No L 48, 19. 2. 1977, p. 22.

⁽¹⁾ OJ No 13, 21. 2. 1962, p. 204/62.

2. VIL, which was controlled as to 60% by AEI and as to 40% by RP, had no power to engage in any other business without the written consent of both AEI and RP. AEI and RP undertook that they would not compete with VIL in research, development, manufacture or distribution of vacuum interrupters, and further, that they would, through their subsidiaries, buy such vacuum interrupters as they required from VIL provided the prices were competitive with vacuum interrupters from other sources.

These interrupters are for incorporation into contact breakers and switchgear manufactured by the AEI and RP groups.

3. By its Decision dated 20 January 1977 the Commission declared that the formation of VIL satisfied the tests of Article 85 (3) of the Treaty, notably as regards technical and economic progress in the production of interrupters in general, and exempted the agreement with effect until 25 March 1980.

ORIGIN OF THIS CASE

B. The product

1. The product involved in this Decision is called the 'vacuum interrupter'. The circuit breaker is the principal item of equipment in switchgear apparatus. The functions of switchgear are twofold, namely to switch on and switch off the power flowing from generating stations on the one hand and to act as a safety device in the event of a fault on the transmission system on the other. The circuit breaker must react to a fault very rapidly — in about $1/25$ th of a second — to avoid damage to generating equipment motors and other apparatus connected to the system. The duty performed by the circuit breaker under fault conditions is extremely arduous and requires a most sophisticated piece of equipment. The interruption of heavy currents produces high tension arcs which conventionally have been interrupted in oil, compressed air or inert gases. The circuit breaker usually incorporates three interrupters of the type chosen for the particular switchgear apparatus. The traditional range of conventional interrupters has in broad terms been 1. the oil interrupter, 2. the compressed air interrupter and 3. the inert gas interrupter.

2. The vacuum interrupter has been developed over the last few years as a means of taking advantage of the fact that the high tension arc engendered by cuts in high power currents cannot be maintained in a vacuum, so that the arc will in general be extinguished more rapidly than by the traditional type of interrupter. The vacuum interrupter offers

other benefits, such as a lowering of fire risk and a greater durability of working parts.

3. But the vacuum interrupter is nevertheless a technical novelty: there are several technical problems in manufacturing it, including the need to maintain electrical insulation despite metallic vapour created by the arc, a need to avoid excessive wear and tear on contacts, the problem of 'chopping', and the need to avoid a circumstance where contact surfaces might weld together. Despite heavy expenditure these problems have been only partly solved so far, which has limited the capacity of the vacuum interrupter being developed by VIL, which in turn has limited its ability to compete with the traditional types of interrupter.

4. The product with which this Decision is concerned is the vacuum interrupter and the relevant market is that for interrupters in general. It is appropriate to remark in this context that the vacuum interrupter is counterbalanced by the conventional types of interrupter hereinbefore mentioned because, whilst not as thoroughly efficient or effective, they perform, in essence, the same function. Although the objects set out in the Memorandum of Association of VIL extend throughout the electrical industry, agreements confine its activity to the vacuum interrupter.

C. The undertakings

1. Associated Electrical Industries Ltd (AEI) is a wholly-owned subsidiary of the General Electric Co. Ltd. The group, in business in a wide range of fields directly or indirectly linked to electrical engineering, had in 1977, 133 subsidiary companies in the United Kingdom and throughout the industrialized world. The group had sales of £ 1 902 million in 1976 and £ 2 206 million in 1977, spread over the following markets in the percentages shown: power engineering — 15%, industrial — 23%, telecommunications, electronics and automation — 26%, components, cables and wire — 12%, consumer products — 5%, and other overseas business — 19%.

2. On 20 September 1977 Reyrolle Parsons Ltd (RP) merged with the Clarke Chapman Group; their holding company took the name of Northern Engineering Industries Ltd (NEI).

RP transferred to NEI its business concerning, mainly, the manufacture of turbines, power generators, interrupters, transformers, motors and accessories, and Clarke Chapman transferred to NEI its business concerned mainly with boilers, cranes

and other related engineering products. As a result the group currently controls some 49 subsidiaries in the UK and other countries, including Australia, New Zealand and South Africa. In 1977 NEI sales totalled £ 287 million.

3. Brush Switchgear Ltd (Brush) is a wholly-owned subsidiary of the Hawker Siddeley Group Ltd. In 1977 this group controlled 236 subsidiaries located throughout the industrialized world. It is mainly engaged in the aerospace industry. It has grown in importance in the electrical field since it acquired Brush in 1957, a firm called Crompton Parkinson Ltd in 1967 and another, Brook Motors Ltd, in 1970. Its 1976 group sales amounted to £ 641 million. Brush heads the group's electrical business with 1977 sales of £ 616 113.

4. The 1970 agreement for the formation of VIL contained *inter alia* the following clauses:

- (a) AEI was to hold 60% and RP 40% of the shares; AEI could appoint four directors, one of them to be chairman, and RP could appoint three directors, one to be deputy chairman;
- (b) AEI and RP could not assign the benefit of the agreement unless certain conditions had been fulfilled, principally as to the agreement of the other party;
- (c) AEI and RP undertook not to compete with their joint subsidiary either directly or through their subsidiaries and to purchase all their vacuum interrupter requirements from VIL provided that VIL sold such vacuum interrupters on competitive terms 'as to price, specification, delivery dates and otherwise' or unless a customer insisted upon the supply of such interrupters from another source;
- (d) AEI and RP undertook to make available to VIL rights in patents and other technical information relating to vacuum interrupters already available to them or which would later become available to them. They also undertook to ensure that VIL would keep in confidence and not disclose to any outside party, or use, except in connection with a purpose connected with the business, any confidential information acquired by virtue of their agreement;
- (e) the agreement, as already stated above (I.A.1), was to continue in operation for a period of 10 years from the date of signing and thereafter from year to year until amended or terminated as provided in the agreement (six months' notice to be given).

5. Acting under the agreement which was the subject of the Commission Decision of 20 January 1977, VIL manufactured only vacuum interrupters and not the contact breakers or switchgear into which they were to be incorporated. The design and specifications for the latter apparatus are prepared by a manufacturer, specifically to accept the type of vacuum interrupter to be used. Consequently the vacuum interrupter cannot normally be changed for another type of interrupter in that particular equipment. It is therefore sold only to the intermediate customer, who is the manufacturer of the switchgear apparatus for which it was designed and made. The market for vacuum interrupters is consequently limited to those companies or undertakings which manufacture, fabricate, construct or adapt switchgear apparatus which is built around, adapted for, or incorporates the vacuum type interrupter.

6. In 1974 a prototype V5-interrupter achieved a short circuit rating of 26.2 kA at 11 kV, and the interrupter was put into production in 1975. Work was then put in hand to develop the V8-model and to achieve a voltage rating for both models of 24 kV. Technical problems were encountered which are being overcome. Since 1977 these development efforts have enabled the V5 to be rated at 31.5 kA at 12 kV and 20 kA at 24 kV. The V8 is being developed to 20 kA at 12 kV. The problems in development encountered were of an unexpected nature, and they have both delayed the programme and involved unplanned expenditure.

However, certain technical successes and a steady expansion in sales of vacuum interrupters (from 138 in 1975 to 1 200 in 1977/78) encouraged AEI and RP to continue working through the joint venture and even to increase VIL's capital.

The prices at which vacuum interrupters were sold, and which did not produce a profitable return on the investment, were set at a commercially acceptable level for the purchaser.

The price of the vacuum interrupter can represent between 15 and 40% of the cost of the switchgear unit into which it is incorporated; whereas the cost of the oil interrupter (at present by far the most widely used in Europe) can represent between 10 and 20% of the cost of its unit.

Nevertheless, in spite of the technical progress achieved, it has not yet achieved the technical level hoped for.

Although VIL can produce a technically good vacuum interrupter, further work is required for it to become truly price competitive with other forms of

interrupters and this can be achieved only if three objectives are reached:

- (a) the cost of existing interrupters reduced;
- (b) the voltage rating increased, and
- (c) short circuit current and normal current ratings increased.

The achievement of each of these aims has some effect on the other two, and it has been calculated that the overall time required for the technical development would be of the order of eight years from 1978 involving expenditure estimated at some £ 2 million. It was in these circumstances that it became questionable as to whether VIL would remain in business and that a decision to change the structure of VIL involving a new agreement incorporating a new company (Brush) as a joint shareholder and placing it on an equal footing with one of the original shareholders (RP), was taken, thereby creating in effect a new joint venture.

7. VIL is at present housed in one small, but sophisticatedly-equipped premises, and employs about 50 technicians and other staff. The annual turnover is in the region of £ 750 000. Should the technical improvement of the vacuum interrupter be achieved, plant accommodation, staff, production and turnover could be expected to increase significantly.

D. Brush's shareholding

1. By a new agreement made on 27 April 1978, AEI, RP and VIL decided to increase VIL's capital by issuing 50 000 ordinary shares in addition to the 100 000 existing shares. These 50 000 shares were issued the same day. Of them, 30 000 were subscribed by AEI and 20 000 by Brush, which purchased a further 10 000 from RP. Following this reorganization the shares in VIL are now held as to 60% by AEI, 20% by RP and 20% by Brush.

2. Although the agreement does not state so explicitly, this proportion is intended to be fixed and constant: changes are to be made only where one of the parent companies acquires the ownership of another company or asset in any way related to vacuum interrupters and then, in accordance with the agreement, transfers that business into VIL. But even then VIL can pay the relevant parent company the value of the assets transferred by issuing shares only up to a certain limit, which is to say that the balance of power in VIL must not be altered in such a way as to reduce AEI's percentage below 50% and either

RP's and Brush's percentage below 15%. Any excess must be paid for in cash.

Moreover, should VIL require extra capital, the three parent companies undertake to subscribe for new shares or to lend to VIL in these proportions.

3. The agreement of 25 March 1970 regulating the management of VIL by the original parent companies underwent substantial amendments by the new agreement of 27 April 1978. Several clauses of the 1970 agreement were replaced by new clauses, some clauses were retained and additional terms incorporated.

Amongst the provisions of the new agreement effectively establishing a new joint venture are the following:

- (a) AEI may appoint five directors to the Board, one of them to be chairman, while RP and Brush may appoint two directors each. AEI is entitled to three votes and RP and Brush to one vote each at Board meetings, regardless of the number of members present.

Whilst, pursuant to clause 15 of the new agreement, the day-to-day management of VIL is under AEI's control, it is also provided that AEI will in good time notify RP and Brush of the annual accounts, the monthly statements of account and any other document or information that would be of interest to them. Nevertheless, the ultimate authority of AEI in VIL is limited in that the structure of the joint venture cannot be altered without the agreement of other parent companies.

AEI cannot itself manipulate, because of the effect of the Articles of Incorporation and the terms of the agreement of 1978, the share capital of VIL to the detriment of the other partners. In fact their interests appear to be adequately protected. Each of the partners have the right to withdraw from the joint venture. In that event they are obliged in the first instance to offer their own shareholding to the other partners.

If they should so withdraw they can themselves engage thereafter in the research, development, manufacture and sale of vacuum interrupters. In fact, from 31 March 1986 (fixed by the 1978 agreement), if any partner wishes then to withdraw, there are provisions for continuing technical assistance in the field of vacuum interrupters to be provided for them by VIL:

- (b) There is a clause containing an undertaking by the three parent companies to buy their vacuum interrupter requirements exclusively from VIL (expressly excluding vacuum switches) but which allows purchase elsewhere if VIL are not

competitive or if a customer insists on a vacuum interrupter from another supplier.

- (c) There are clauses which deal in greater detail with the prohibition on competing with the joint subsidiary and on entering into other agreements that might adversely affect VIL's interests, including a requirement that in the event of AEI, RP or Brush or their associated companies acquiring an undertaking, part of whose business is in the field of vacuum interrupters, such part shall be offered to VIL at an open market price.
- (d) Should one of the parent companies wish to sell its holding in VIL, or should more than 50 % of its own capital come under the control of competing persons or companies, the other two parties to the agreement have the right to buy all VIL shares owned by the relevant company;
- (e) The duration of the agreement is not limited in time, but provides that should one of the parties wish to withdraw, this is possible. A company which wishes to withdraw after the 31 March 1986 but wishes to continue developing and producing vacuum interrupters on its own account may seek technical cooperation from VIL for a period of 18 months and obtain supplies from VIL of all its vacuum interrupter requirements for a period of at least two years.
- (f) Other clauses spell out in great detail the arrangements concerning the assignment of patents, the scientific and technical know-how

to be provided by parent companies, limits on VIL's borrowing powers, the circumstances in which the joint subsidiary may be dissolved, breaches of the agreement, disputes, and the circumstances and procedure for arbitration.

4. Brush does not and never has manufactured vacuum interrupters. Most of its experience of interrupters has been acquired in switchgear using all types of interrupters including the vacuum interrupter which the company has purchased from other manufacturers. It also specializes in the manufacture of parts and components incorporated in complex electrical equipment such as current transformers, voltage transformers, switch protection devices and housings. In incorporating a new type of interrupter (the vacuum interrupter) into their own switchgear, Brush met with technical problems which could only be resolved by research and development in the vacuum interrupter itself.

Brush can thus enable VIL to acquire an increased range of technical experience in, or relating to the design, application and use of the vacuum interrupter. VIL can also work out new programmes for the development of interrupters including those capable of standing up to short-circuit currents of higher voltages and amperages than are currently being manufactured. As a result, VIL will be able to extend its potential customer market and make its interrupters more competitive.

5. In the last four years Brush bought the following quantity of vacuum interrupters from VIL ⁽¹⁾:

	1975/1976		1976/1977		1977/1978		1978/1979	
Model types	V5	V8	V5	V8	V5	V8	V5	V8
Rating (MVA) at 12 kV not exceeding								
Quantity purchased								

The reduction in the number of interrupters bought in 1977/78 followed from Brush's decision to try interrupters manufactured by other firms. Their purchases from VIL have however since reverted to the 1976/77 level.

E. State of the market

1. There has been no substantial change in the state of the vacuum interrupters market since the Decision of 20 January 1977. Vacuum interrupters are designed and produced mainly in the United States,

Japan and the United Kingdom. Since 1975, a major German group (Siemens) has begun producing them on a small scale. This group is associated with VIL by a licence agreement on vacuum technology.

2. Although the manufacture of this type of interrupter is already at a quite advanced stage, the notifying firms state that Japan and the United Kingdom remain the only countries where the vacuum interrupter has made any substantial progress in competition with either the traditional

⁽¹⁾ In the published version of the Decision, some figures have hereinafter been omitted, pursuant to the provisions of Article 21 of Regulation No 17 concerning non-disclosure of business secrets.

air-filled or oil-filled interrupters. Nevertheless, the vacuum interrupters manufactured in Japan and the USA may not as yet provide strong competition for the European-made vacuum interrupters because, whilst they can be adapted, their technical specifications are not at present immediately compatible with European specifications. There is, in

any event, the attraction for European technicians of utilizing products from familiar companies with familiar technologies particularly in a new field — in this case European ones known to them.

3. Between 1975 and 1979 VIL sold the quantities set out in the following table:

Breakdown of VIL sales by country

	1975/76				1976/77				1977/78				1978/79							
	V8	V5	V3	V2	V8	V5	V3	V2	V8	V5	V3	V2	V8	V8	V5	V5	V5	V5	V3	V2
kVA ⁽¹⁾	250	350	250	130	250	350	250	130	250	500	250	130	250	375	350	500	600	750	250	130
United Kingdom																				
Federal Republic of Germany																				
Hungary																				
India																				
South Africa																				
Sweden																				
Switzerland																				
Total																				

(¹) Equivalent at voltage not exceeding 12 kV.

Since 1977 VIL have been selling vacuum interrupters in export markets, and it is thought that as the capacity of the vacuum interrupter increases, exports may increase quite considerably.

Brush (see above I.D.4) specializes in the manufacture and sale of switchgear particularly low-voltage switchgear, for which the vacuum interrupter is particularly suitable.

As regards the low-voltage switchgear market, Brush's United Kingdom market share is some . . %, whilst its share of the aggregate switchgear market is much lower, at some . . % or . . % if the companies associated with VIL through the Hawker Siddeley Group are taken into account.

4. The Annex shows approximate market shares relevant to this Decision.

II. APPLICABILITY OF ARTICLE 85 (1) OF THE EEC TREATY

Article 85 (1) of the Treaty prohibits as incompatible with the common market all agreements and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market.

A. The restriction of competition

1. The agreement of 27 April 1978 made between Brush, RP and AEI, whereby Brush acquired 20 % of the shares in VIL, is an agreement between undertakings within the meaning of Article 85 (1) of the EEC Treaty. The object and effect of the agreement is to restrict competition which, for the following reasons, brings it within Article 85 (1).

2. Brush, RP and AEI are companies engaged in the field of electrical engineering. All three would have the technical and financial resources, either alone or in conjunction with other companies of their groups specializing in the same field, to develop and manufacture interrupters in general and vacuum interrupters in particular. Brush, which doesn't produce interrupters, can be considered a potential competitor of VIL because of its experience in manufacturing switchgear and the technical expertise and facilities available to it.

3. Since Brush, RP and AEI, which produce switchgear, have, pursuant to this agreement of 1978, not only a contractual obligation but the business interest to buy all their vacuum interrupters from VIL, it can be appreciated that the most important English buyers of interrupters have left the market to the sole benefit of VIL. Brush, in particular, is a very important buyer of interrupters for low-voltage

switchgear in which vacuum interrupters can be used. All this constitutes a restriction on the potential sales of the relevant product on the United Kingdom market because producers other than VIL must meet, in addition to normal competitive factors, an additional handicap in that these, the main purchasers of the vacuum interrupter in the UK, have an economic interest in VIL. Unless the terms offered by other manufacturers are very highly competitive it is more likely that these three firms will purchase from VIL.

4. This agreement, which regulates the purchase by one company of a significant shareholding in another company already owned by two competitors gives rise to a situation in which competition between those three companies is likely to be restricted within the meaning of Article 85 of the Treaty.

So in this case, Brush, as already appears, has the technical and financial ability and the business interest to produce its own vacuum interrupter for incorporation into its own switchgear, now has by virtue of the agreement under consideration, an economic interest as a result of which it is likely to align its decisions and activity in this sphere with its partners in VIL as it now holds a share of the capital in that company. This interest will prevent Brush acting as an independent enterprise in the field of vacuum interrupters.

Further, Brush, AEI and RP who compete with each other in the switchgear sector of the electrical engineering industry nevertheless restrict competition between themselves by their agreement to purchase an important component for their equipment from VIL.

B. The effect on trade between Member States

1. The effects of the formation of VIL on Community inter-state trade envisaged by the Commission Decision of 20 January 1977 have been confirmed in practice, and are likely to be intensified following Brush's accession to VIL membership. There have been no significant imports of vacuum interrupters into the UK. There have been some imports of vacuum interrupters from third countries into other EEC Member States and some exports from the UK to one other EEC Member State.

2. Now that Brush has joined VIL, the chance for manufacturers of electrical equipment in other Member States to penetrate the United Kingdom market as manufacturers and sellers or even only as sellers of vacuum interrupters in competition with VIL is diminished because demand for these products is confined to a small number of buyers, particularly firms like Brush, who fabricate

switchgear apparatus and are interested in using the new technology. In fact Brush, along with AEI and RP, are amongst the largest switchgear manufacturers in the United Kingdom who are at the same time each interested in the use of the vacuum interrupter in switchgear and who, by undertaking to purchase in effect all the vacuum interrupters they require from VIL, cease to be potential customers for such manufacturers in other countries. Brush's membership of VIL is of particular importance to the possible restraint of competition being specialized in low-voltage switchgear — switchgear that is particularly suited to the use of the vacuum interrupter.

For these considerations this agreement is an agreement between competing companies, restricts competition, affects trade between Member States, and is consequently within the prohibition of Article 85 (1) of the EEC Treaty.

III. APPLICABILITY OF ARTICLE 85 (3) OF THE EEC TREATY

1. Under Article 85 (3), the provisions of Article 85 (1) may be declared inapplicable in the case of any agreement which contributes to improving the production or distribution of goods or to the promotion of technical or economic progress, while allowing consumers a fair share of the resultant benefit, and which does not:

- (a) impose on the undertakings concerned restrictions which are not indispensable for the attainment of these objectives;
- (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

2. Developments in VIL's business and in the state of the vacuum interrupters market, as described in the Commission Decision of 20 January 1977, have confirmed that there are substantial difficulties in the way of technical development of the vacuum interrupter, which is why this type of interrupter still represents a technical novelty on the interrupters market in general although the basic principles have been known for several years.

Since the technical difficulties have turned out to be greater than expected, VIL is behind schedule in the development and marketing of its interrupters and there have been doubts as to whether it could stay in business if the parent companies did not make further substantial efforts on both the technical and the financial fronts (see I.C.6). It is to be noted that VIL has continued to sell vacuum interrupters at prices that are very low in comparison with the company's research and production costs.

3. However, the technical value of the product is confirmed by the number of firms, many of whom are large, who are pressing ahead with research in the use of this type of interrupter, and are purchasing them from VIL.

4. Brush's membership of VIL would seem to have taken place at the right time and to have been opportune. AEI and RP had been coming to the conclusion that the many technical problems of developing the vacuum interrupter were tying up an amount of technical skill and finance disproportionate to the results being achieved from both the financial and technical aspects. VIL might well have ceased to function had not Brush taken a capital interest in it as VIL needed a market such as Brush provides. The technical challenge and technical ability provided by Brush should hasten the development of the vacuum interrupter. The participation of Brush should also ensure there will not be unnecessary further delay in development which might jeopardize the ultimate technical and economic value of VIL research already carried out. Brush further provides VIL with an important primary outlet which helps justify continued research development and manufacture by VIL even though sales do not provide a full return on the capital invested in VIL.

5. Users of circuit breakers incorporating vacuum interrupters benefit from the agreement as they can continue to have access forthwith to durable, efficient low-power interrupters at a cost which can be considered as reasonable compared with the durability and other advantages offered. As a result they can look forward to having new interrupters with improved characteristics and capacity constituting genuine technical progress on the relevant market.

The constant endeavours to achieve an increase in the efficiency, safety and durability of the vacuum interrupter should ensure economic progress and the intensification in competition that can be expected on the market for interrupters in general and should be of benefit to the consumer.

Vacuum interrupters are sold to sophisticated buyers whose technical and economic requirements are demanding and whose expertise and bargaining strength will ensure that a fair share of the benefit is passed to the user.

6. The shareholding of Brush with AEI and RP is, for the reasons given in paragraph 4 hereof, indispensable to the continued and successful operation of the joint venture. The agreements impose no obligations which are not indispensable to

the attainment of these objectives. The undertakings by the three groups to purchase all their vacuum interrupter requirements from VIL is reasonable and well-founded, especially as the new agreement retains the clause stating that, where a customer of one of the parent companies or of one of their subsidiaries specifies that a vacuum interrupter made by another manufacturer must be used in electrical equipment manufactured to a specific order, the customer's wishes must be respected.

The clause providing that none of the parent companies shall develop, design, manufacture or sell vacuum interrupters on its own, is indispensable for the activities of the joint venture, because it ensures to VIL continued encouragement and financial support in the development of the market.

The companies agree to proceed with the joint ownership and management of VIL precisely because none of them feels capable individually of succeeding in the line of business with a reasonable outlay of technical skill and financial investment. Further, the effects of the agreement are limited in time since after 31 March 1986 each firm can then withdraw from the agreement and resume independent business.

7. The agreement does not afford the companies concerned the power to eliminate competition in respect of a substantial part of the market for interrupters in general, since that market is dominated by the traditional types of interrupter and there is no real competition in the vacuum interrupter except at the scientific research stage; even here competition is not eliminated because vacuum interrupters manufactured in Japan and the USA can be adapted to the European market. Siemens, already an important manufacturer of electric products in Europe, is engaged in the research and manufacture of vacuum interrupters in line with VIL technology. Should demand for the vacuum interrupter increase in Europe it is likely that the Japanese and USA manufacturers would market vacuum interrupters suitable for use in Europe in competition with VIL.

All the tests of Article 85 (3) are accordingly satisfied.

8. Lastly, the Commission considers that the agreement of 27 April 1978 replaces the agreement of 25 March 1970 because Brush is an electrical engineering firm competing with AEI and RP, because it is big enough to alter the structure of the joint venture, because by acquiring 20% of the shares Brush is in a position to influence VIL's business policy and because the agreement of 25 March 1970 was radically amended upon the arrival of Brush in

VIL, notably in order to give Brush its fair share of the seats on the Board of Directors of their joint subsidiary.

The Commission considers that the change of circumstances which were brought about by that agreement were brought about by the parties themselves, and that the earlier agreement, the subject of the Commission Decision of 20 January 1977, thereafter became inapplicable.

9. Having regard to the nature and complexity of the factors involved, as already referred to in the Decision and as demonstrated by the slow rate of progress in developing the technology by VIL, having regard to the period considered necessary to make for significant progress, and, at the same time, having regard to the restriction on potential competition, a period of exemption to expire on 31 March 1988 appears reasonable in order to allow the programme of investment and research now possible to be carried through to fruition.

It is to be noted that 31 March 1986 is the date prescribed in the agreement as being the date after which any of the parties can withdraw from VIL but is thereafter entitled to the technical support of VIL for a period of between 12 and 18 months. This period of between 12 and 18 months is calculated as being the time required by a withdrawing party to be capable of starting to manufacture vacuum interrupters in quantities sufficient to supply itself and its customers.

The Commission should in the circumstances of this case be enabled to keep the progress of development under review during the period of exemption and it is therefore a condition of the exemption that regular technical reports be furnished to the Commission. Such reports will be treated on the basis of business secrets. The parties concerned have no objection to this condition.

10. The exemption is subject to an obligation to notify the Commission of:

- any change in the structure and share ownership of VIL during the period of the exemption,
- any authorization given by AEI, RP and Brush for VIL to carry on any other business, with full particulars of such authorization,
- the furnishing of annual reports and the furnishing of regular technical reports.

HAS ADOPTED THIS DECISION:

Article 1

The provisions of Article 85 (1) of the Treaty establishing the European Economic Community are hereby, pursuant to Article 85 (3) of the said Treaty, declared inapplicable to the agreement made on 27 April 1978 between Associated Electrical Industries Ltd, Reyrolle Parsons Ltd, Brush Switchgear Ltd and Vacuum Interrupters Ltd.

Article 2

Vacuum Interrupters Ltd shall notify the Commission:

1. of any changes, during the period of the exemption, in its share capital and/or the ownership of its shares within 28 days of such becoming effective; and
2. of any authorization given by Associated Electrical Industries Ltd, Reyrolle Parsons Ltd and Brush Switchgear Ltd during the period of exemption, to carry on any other business, with full particulars of such authorization, within 28 days of such authorization being given.

Article 3

Vacuum Interrupters Ltd shall supply to the Commission:

1. in each year their annual report; and
2. in each second year from 11 December 1980 a comprehensive technical report detailing progress and/or difficulties in developing, manufacturing, distributing or selling vacuum interrupters.

Article 4

This Decision shall apply with effect from 12 May 1978 and shall apply until 31 March 1988.

Article 5

4. Brush Switchgear Ltd, Falcon House,
Loughborough, Leicestershire, England.

This Decision is addressed to:

1. Vacuum Interrupters Ltd, 68 Ballards Lane,
Finchley, London N3, England;
2. Associated Electrical Industries Ltd, 1 Stanhope
Gate, London W1, England;
3. Reyrolle Parsons Ltd, Hebburn, Co. Durham,
England;

Done at Brussels, 11 December 1980.

For the Commission

Raymond VOUEL

Member of the Commission

ANNEX

IV/27.442 – Vacuum Interrupters

Market shares

		AEI (GEC- group figures)	Brush	RP
Electrical equipment in general	United Kingdom			
Switchgear apparatus	Rest of EEC			
Interrupters in general	United Kingdom			
<i>NB:</i> normally co-extensive with	Rest of EEC			
switchgear apparatus	United Kingdom			
Vacuum interrupters	Rest of EEC			
	United Kingdom	Shares equal to shareholding in Vacuum Interrupters Ltd ⁽¹⁾ .		
	Rest of EEC			

⁽¹⁾ But see paragraph E. 1 of this Decision.

COMMISSION DECISION**of 11 December 1980****relating to a proceeding under Article 85 of the EEC Treaty
(IV/26.912 — Hennessy-Henkell)****(Only the French and German texts are authentic)****(80/1333/EEC)****THE COMMISSION OF THE EUROPEAN
COMMUNITIES,**

Having regard to the Treaty establishing the European Economic Community, and in particular Article 85 thereof,

Having regard to Council Regulation No 17 of 6 February 1962 ⁽¹⁾, and in particular Articles 3 and 9 thereof,

Having regard to the notification made to the Commission on 20 April 1971 by Jas Hennessy & Co., Cognac, France, in accordance with Article 4 of Council Regulation No 17, concerning an exclusive concession agreement concluded on 23 and 26 February 1971 with Henkell & Co., Wiesbaden-Biebrich, Federal Republic of Germany and amended by a supplementary agreement on 15 November 1974, and the application for an individual decision under Article 85 (3) of the Treaty made on 29 July 1978 by Jas Hennessy, after the Commission had informed the latter that the contract notified contained certain provisions preventing it from benefiting from the provisions of Commission Regulation No 67/67/EEC of 22 March 1967 on the application of Article 85 (3) of the Treaty to certain categories of exclusive dealing agreements ⁽²⁾,

Having regard to the Commission's decision of 8 May 1980 to initiate proceedings,

Having heard the undertakings concerned in accordance with Article 19 (1) of Regulation No 17 and with Commission Regulation No 99/63/EEC of 25 July 1963 ⁽³⁾,

Having regard to the opinion delivered by the Advisory Committee on Restrictive Practices and Dominant Positions in accordance with Article 10 of Regulation No 17 on 16 October 1980,

Whereas:

I. THE FACTS

The facts may be summarized as follows:

A. The undertakings and the relevant market

1. Jas Hennessy & Co (Hennessy), Cognac, France, has, since 1971, formed part of Moët-Hennessy, a group engaged in three areas of activity, champagne (principal brand name: Moët et Chandon), beauty products (principal brand name Dior) and cognac.

The cognac sector accounts for 27% of the group's turnover, and consists of Hennessy and its subsidiaries. Hennessy is one of the three major cognac merchants and is engaged in the manufacture and marketing of cognac obtained from wine which it distils itself or from spirits purchased from wine growers; in 1979, Hennessy accounted for nearly 16% of all shipments of cognac.

Exports account for 95% of its turnover, which in 1979 was almost FF 543 million. Following Hennessy's own geographical breakdown, its four largest markets outside France were the USA, Ireland (Northern and southern), the Federal Republic of Germany and Great Britain, in that order, and accounted between them for 60% of its sales.

Hennessy cognac is distributed in the common market by Moët-Hennessy subsidiaries in Ireland, Italy and the Netherlands. In the other Member States, with the exception of the United Kingdom, exclusive concession agreements have been entered into, including that for Germany with Henkell & Co., Wiesbaden, which is the subject of this Decision.

2. Sektkellereien Henkell & Co (Henkell), Wiesbaden-Biebrich, Federal Republic of Germany, is engaged in Germany in the business of alcoholic and spirituous beverages. It produces sekt, rum and spirits and imports cognac, champagne, aperitifs, liqueur wines

⁽¹⁾ OJ No 13, 21. 2. 1962, p. 204/62.

⁽²⁾ OJ No 57, 25. 3. 1967, p. 849/67.

⁽³⁾ OJ No 127, 20. 8. 1963, p. 2268/63.

and wine. Sales of sekt account for most (78%) of its turnover, which in 1979 amounted to DM 330 million. Sales of Hennessy products account for ...% ⁽¹⁾ of its turnover. Henkell's share of the cognac and armagnac market in the Federal Republic of Germany is approximately ...%.

3. Total sales of cognac amounted to 381 000 hectolitres of pure alcohol (Hl PA) in 1978, of which 212 541 H PA, broken down as follows, were sold in the common market:

France	85 749
United Kingdom	49 861
Germany	30 307
Netherlands	15 393
Belgium	14 309
Ireland	6 848
Italy	5 044
Denmark	3 922
Luxembourg	1 108

Exports amounted to about FF 2 300 million in value, with the following values (in FF '000) for the three largest markets:

United Kingdom	384 517
USA	303 569
Federal Republic of Germany	236 157

(Source: Bureau National du Cognac report on the market situation and trends for the marketing year 1977/78).

B. Description of agreement

1. Agreement notified

4. On 23 and 26 February 1971 Hennessy and Henkell concluded an exclusive concession agreement for the distribution of Hennessy cognac in the Federal Republic of Germany. The agreement took effect on 1 July 1971, was concluded for a term of 25 years and was notified to the Commission on 20 April 1971.

It replaced another exclusive concession agreement which had been entered into by Hennessy and Henkell on 25 February 1960 and notified to the Commission on 29 January

1963. It is one of a number of agreements concluded by Hennessy for the exclusive distribution of its products in certain EEC countries in which it does not have a marketing subsidiary, that is to say Belgium, Luxembourg and Denmark.

5. The content of the agreement of 23 and 26 February 1971 is basically the following:

- Hennessy made Henkell its general agent for the Federal Republic of Germany, the free ports and duty-free shops, especially those at airports in that country; Henkell was to purchase cognac from Hennessy and to use its best endeavours to promote the sale of Hennessy products (Article 1);
- Henkell undertook to represent no other brand of cognac or wine-based spirit, irrespective of its origin, unless authorized to do so by Hennessy in writing (Article 2);
- Hennessy undertook not to supply its products to any customer other than those stipulated in the agreement, within the Federal Republic of Germany (Article 3);
- Hennessy allowed Henkell a 'commission' of 10% on orders placed with it by Henkell. In addition, for consignments for the German domestic market it agreed to pay 15% towards distribution and marketing costs (Article 5 (1));
- Hennessy guaranteed Henkell a price such that 'the German domestic market and the margin of 25% (10% commission and 15% contribution towards distribution and marketing costs) would be effectively protected from the point of view of prices against infiltration' (Article 5 (4));
- Henkell would fix its resale prices for the German domestic market. Hennessy's consent was required where Henkell 'wishes to fix its resale prices above cost price plus 17% or below cost price plus 12%'. As a temporary measure, Henkell could apply resale prices differing from its price-list provided they did not fall below cost price or exceed cost price plus 17%. If it did this it must inform Hennessy. Costs price was calculated 'on the basis of the price ex Cognac in cases plus carriage costs from Cognac to Wiesbaden plus monopoly duty but net of value added tax'. Henkell must also notify Hennessy as soon as possible of any changes in its price-lists or actual prices (Article 6).

⁽¹⁾ In the published version of the Decision, some figures have hereinafter been omitted, pursuant to the provisions of Article 21 of Regulation No 17 concerning non-disclosure of business secrets.

2. *Supplementary agreement of 15 November 1974*

6. Hennessy informed the Commission on 18 April 1975, in reply to the latter's request of 24 March 1975 for information, that certain amendments had been made to the agreement by a supplementary agreement dated 15 November 1974.
7. The supplementary agreement stipulated *inter alia* that Hennessy's contribution towards Henkell's marketing and distribution costs was reduced to 8%, thereby lowering Henkell's commission to 18%. In addition, Henkell could now distribute wine-based spirits other than cognac and German Weinbrand through its own sales network. Henkell could also distribute cognac and Weinbrand through a second sales network or acquire a shareholding in companies whose interests included cognac or Weinbrand. Henkell was free to purchase Hennessy cognac from other German or foreign companies but not from French companies. Finally, Henkell undertook to distribute Hennessy cognac, applying appropriate procedures, in the same way as the major brands of spirits.
8. The Commission requested Hennessy to explain the meaning of Article 5 (4) of the agreement, in which the company guaranteed Henkell 'a price ex Cognac or free-at-frontier such that the German domestic market and a margin of 18% (25% before the supplementary agreement of 1974) would be effectively protected from the point of view of prices against infiltration'. Hennessy stated in a letter dated 3 November 1978: 'the purpose of Article 5 of our agreement with Henkell was to protect our distributor against parallel imports or infiltration. The basic price invoiced to Henkell was the European price mentioned above', i.e. the basic ex-Cognac tariff applicable to distributors of Hennessy products worldwide.

3. *Similar agreements*

9. The earlier agreement of 25 February 1960 between Hennessy and Henkell contained an Article 6 (b) that was similar to Article 5 (4) of the present agreement on the protection of the German market against infiltration. It did not contain any clause imposing limits within which Henkell must fix its sales prices.

Article 7 stipulated, however, that Henkell undertook to fix its retail prices by agreement with Hennessy.

10. The Commission also examined concession agreements entered into by Hennessy for the sole distribution of its products in Belgium, Denmark and Luxembourg. Those with Chassart in Belgium and T. Jespersen & Cie in Denmark did not restrict the right of the sole distributor to fix his retail prices. The agreement with the Distillerie Othon Schmitt, for Luxembourg, contained a clause in which the latter undertook to fix its retail prices and enforce them by agreement with Hennessy. Following representations by the Commission Hennessy agreed to delete this clause by supplementary agreement. As far as the United Kingdom was concerned, Hennessy stated that an agreement was being prepared with International Distillers & Vintners Limited, but that there was no exclusive agreement relating to that country at that time.

4. *Application of the agreement*

11. Henkell stated in a letter dated 16 January 1980, in reply to a request by the Commission for information concerning the terms on which Article 6 of the agreement would apply: 'Hennessy has never withheld consent for the fixing of prices. In 1974 and 1978 discussions were necessary concerning the Bras d'Or and XO brand names on account of the situation arising under the contract. Prices for these brands were fixed by joint agreement'.
12. In a letter dated 22 October 1979 Hennessy in turn stated: 'It is quite true that we have approached Henkell on two occasions in order to ensure that it performed its obligations under the contract regarding the fixing of the prices of our Bras d'Or brand in 1974 and XO in 1978. Henkell had fixed the price of Bras d'Or at DM ... and we requested it to raise it to DM ... In the case of XO we requested it to raise its price from DM ... to DM ...'.
13. In 1974 the cost price, within the meaning of Article 6 of the agreement, of Bras d'Or was DM ... (according to Hennessy) or DM ... (according to Henkell). The price originally suggested by Henkell was therefore equivalent to the cost price plus 50.7% and that adopted at Hennessy's request amounted to the cost price plus 117.4%. The cost price in 1978 of the XO

brand was DM ... (according to Hennessy) or DM ... (according to Henkell); consequently the price suggested by Henkell was the cost price plus 17% and that adopted at Hennessy's request was the cost price plus 31.7%.

14. In its letter of 21 January 1980, Henkell forwarded to the Commission, at the latter's request, its cost prices and price-lists, which are shown below, per bottle packed in cases of 12:

1. Cost prices

(DM)

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Hennessy VS									
Hennessy VSOP									
Hennessy Bras d'Or									
Hennessy XO									

2. Price-lists

Hennessy VS									
Hennessy VSOP									
Hennessy Bras d'Or									
Hennessy XO									

15. It can be seen from these figures that Henkell's prices for Bras d'Or from 1972 onwards and for XO from 1974 were fixed at a level distinctly higher than the ceiling mentioned in the agreement (cost price plus 17%) and were between 23.3% and 117.4% higher than cost price. Moreover, the prices of the VS and VSOP brands in 1979 were lower than the floor price mentioned in the agreement (cost price plus 12%). For VS they were cost price plus 11% and for VSOP cost price plus 3%.

II. LEGAL ASSESSMENT

A. Applicability of Article 85 (1) of the EEC Treaty

16. Article 85 (1) of the EEC treaty prohibits, as incompatible with the common market, all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market.
17. Hennessy and Henkell are undertakings within the meaning of Article 85 (1). The agreement concluded by Hennessy with Henkell on 23 and 26 February 1971 for the distribution of its products in the Federal Republic of Germany

is an agreement between undertakings which may be caught by Article 85 (1).

18. The version of the agreement existing prior to the amendment of 15 November 1974 restricted competition for the following reasons: in the supply of Hennessy cognac in the Federal Republic of Germany, by virtue of the exclusive sales and purchase clause binding Hennessy to Henkell; and as regards opportunities for other producers of cognac or wine-based spirits to use Henkell's sales network for distributing their products in the Federal Republic of Germany, by virtue of the no-competition clause prohibiting Henkell from representing directly or indirectly any other brand of cognac or wine-based spirits, irrespective of its origin, without Hennessy's formal consent in writing.
19. The supplementary agreement of 15 November 1974 narrowed the scope of the exclusive purchasing clause by limiting it to purchases made in France, and that of the restrictive clause by permitting Henkell to distribute directly wine-based spirits other than cognac and German Weinbrand. The agreement continues to restrict competition, however, in that only Henkell, but no other customer in the Federal Republic of Germany, can obtain Hennessy products direct from that company or from its subsidiaries (exclusive sale); in that Henkell is unable to obtain Hennessy products from any other French undertaking (partially

exclusive purchase); and in that no other producer of cognac or Weinbrand can use Henkell's sales network to distribute its products in the Federal Republic of Germany (no-competition clause).

20. Articles 5 (4) and 6 of the agreement aggravate these restrictions on competition. Article 5 (4) provides that Hennessy undertakes to guarantee Henkell prices such 'that the German domestic market and the margin of 18% are effectively protected from the point of view of prices against infiltration,' and according to Hennessy's statement is intended to protect (Henkell) against parallel imports, i.e. to protect it against competition from other merchants. Article 6, which has the object of limiting Henkell's freedom to fix resale prices, prevents the exclusive dealer from fixing them freely on the basis of the conditions obtaining on the market.
21. The Agreement may affect trade between Member States firstly because it creates a sole direct importer of Hennessy cognac into the Federal Republic of Germany and prevents Henkell from obtaining Hennessy products through another French undertaking and from distributing other brands of cognac through its sales organization; secondly, because it also seeks to restrict parallel imports into Germany; and thirdly because Henkell's lack of freedom to fix its retail prices may deflect trade from the direction it would naturally take if there was total freedom to form prices.
22. The restriction of competition and the effect upon trade between Member States are appreciable, given that Hennessy, with a turnover of FF 543 million, is one of the three major producers of cognac, the Federal Republic of Germany is the world's third largest importer of cognac (after the United Kingdom and the United States) and Henkell, whose turnover is DM 330 million, sells approximately ..% of the cognac and armagnac on that market.

B. Inapplicability of Article 85 (3) of the EEC Treaty

23. Article 85 (3) of the EEC Treaty provides that the provisions of paragraph 1 of that Article may be declared inapplicable in the case of certain agreements or categories of agreements

between undertakings meeting certain requirements.

24. Article 1 (1) of Regulation No 67/67/EEC provides that under Article 85 (3) of the Treaty the prohibition contained in Article 85 (1) of the Treaty is not to apply to agreements to which only two undertakings are party and whereby one party agrees with the other to supply only to that other certain goods for resale within a defined area of the common market, provides that apart from the exclusivity, no restriction on competition be imposed on the exclusive dealer other than those provided for in Article 2 (1) of that Regulation. Although the notified agreement does indeed contain, in addition to exclusivity of sales and purchases, a no-competition clause permitted by Article 2 (1) of Regulation No 67/67/EEC, it does not qualify for exemption under that Regulation, because it contains further restrictions. The obligation imposed by Article 6 of the contract on the exclusive dealer to obtain the manufacturer's consent in order to exceed the limits laid down in the agreement when fixing retail prices is not one of the restrictions which may be imposed on him by virtue of Article 2 (1) of Regulation No 67/67/EEC, nor is it included among the obligations which, according to Article 2 (2), do not preclude the applicability of Article 1 (1) of the Regulation.
25. Moreover, Article 3 (b) of Regulation No 67/67/EEC provides that Article 1 (1) of that Regulation is not to apply:

'... in particular where the Contracting Parties ... take other measures to prevent dealers or consumers from obtaining from elsewhere goods to which the contract relates or from selling them in the territory covered by the contract',

while Article 5 (4) of the agreement provides that 'Jas Hennessy & Co. guarantees Henkell & Co. a price ex Cognac or free-at-frontier such that the German domestic market and the margin of 18% are effectively protected from the point of view of prices against infiltration', and is intended, as Hennessy stated in its letter of 3 November 1978, to protect Henkell 'against parallel imports or infiltration'.
26. Notwithstanding the inapplicability of Regulation No 67/67/EEC, a duly notified exclusive dealership agreement may be exempted after undergoing individual

examination provided it satisfies the conditions laid down in Article 85 (3). The latter specify that it must contribute to improving the distribution of products while allowing consumers a fair share of the resulting benefit, and it must not impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives nor afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

27. As the Commission has stated in the recitals to Regulation No 67/67/EEC, in the present state of trade exclusive dealing agreements relating to international trade lead in general to an improvement in distribution. The fact that a producer maintains contacts with only one dealer in a country makes it easier to overcome sales difficulties resulting from linguistic, legal and other differences.

In the case under consideration it can be conceded that the exclusive dealership agreement in question would, for the reasons outlined above, help improve the distribution of Hennessy products on the German market. In particular, Henkell, as the sole distributor of those products in the Federal Republic, would enjoy a certain measure of security which would encourage it to invest so as ensure their wider distribution.

28. For such improvement to be effective, however, the exclusive dealer would have to be able to fix resale prices freely on the basis of the cost price of the products purchased from the manufacturer and by adapting his profit margin to the sales policy determined by him on the basis of the conditions obtaining on the market. This requirement is essential if Hennessy products are to penetrate the German market better, and to combat competition from other brands.

29. Such is not the case here, since Hennessy is enabled to oversee Henkell's prices. Under Article 6 of the agreement, 'Hennessy's consent is necessary when Henkell wishes to fix its resale prices above cost price plus 17% or below cost price plus 12%'. Henkell may, nevertheless, apply prices differing from those in its price-list, but only temporarily and provided Hennessy is notified as quickly as possible. Above all, such prices may not under any circumstances fall below the 'cost price' which includes a commission of 18% paid by

Hennessy to Henkell, whereas Henkell should be free to reduce this rebate and charge lower prices if it considered that necessary. It is clear from the information provided by Hennessy and Henkell that the abovementioned provisions of Article 6 of the agreement have been applied annually in respect of Bras d'Or since 1972 and XO since 1974, and in respect of VS and VSOP in 1979. In addition, Hennessy availed itself of this clause when requesting Henkell to fix its prices above the maximum price laid down in the agreement. Hennessy stated in its letter of 22 October 1979: 'It is quite true that we have approached Henkell on two occasions in order to ensure that it performed its obligations under the contract' by increasing its resale prices for Bras d'Or in 1974 and XO in 1978, whereas the prices originally fixed by Henkell came within the limits laid down in the agreement (for XO in 1978) or already exceeded the ceiling laid down in the agreement (for Bras d'Or in 1974).

30. Nor can it be concluded that a fair share of the benefits which could result from exclusive distribution is being set aside for consumers. An improvement in distribution should be accompanied, particularly, by a reduction in sales prices to consumers, whereas under Article 6 of the agreement Henkell is not free to take a decision on this, and it is clear from the manner in which the agreement has been applied that Hennessy has prevailed upon Henkell to fix higher prices than those which ought to have ensued from the agreement.

31. The no-competition clause in Article 2 of the contract may be considered indispensable to the attainment of the objectives of the exclusive concession contract, as they allow more intensive promotion of the goods the subject of the contract, in that the exclusive concessionnaire will concentrate his efforts on the latter, as was indicated by the Commission in point III.3 of its 'Jallatte' Decision (*Official Journal of the European Communities* No 3 of 6 January 1966, page 37).

32. By contrast, the restriction of the concessionnaire's freedom to fix his resale prices, contained in Article 6, cannot be regarded as indispensable to the attainment of the objectives of the agreement, even if the products in question are considered, as Hennessy considers them, to be luxury products. Hennessy stated in its letter of 3 November 1978 that the purpose of Article 6 of the agreement is to ensure that its products

'which are regarded as luxury products, do not become subject to cut-price selling which would lead to business anarchy'. The Commission has already stated, however, when considering selective distribution arrangements in the luxury perfumes industry, that 'the luxury character of a product could not in itself be regarded as an adequate ground for exemption under Article 85 (3)' ⁽¹⁾. Hennessy has also put the following argument, in its letter of 3 November 1978: 'We consider that the relative freedom which we give to Henkell, to fix the prices of its products within limits which seem reasonable to us, is the counterpart of the exclusivity of sale which we guarantee to our distributor'.

But in the context of an exclusive concession contract, surveillance by the manufacturer of its distributor's resale prices cannot be considered indispensable to the attainment of any beneficial purpose, referred to at 27 above, which may exist. Moreover, the 'relative freedom' pleaded by Hennessy does not exist, since the latter was able to force Henkell to fix its prices outside the limits provided for in the contract.

33. Hennessy maintained, moreover, in its letter of 20 July 1978 that 'to authorize a distributor to apply resale prices determined by him alone, where the market in question was that of a brand name and not of a distributor, might jeopardize the brand name and the product'. This argument is undermined, however, by the behaviour of Hennessy itself, which has not imposed such stringent clauses on other distributors of the same brands in the common market, or has agreed to abolish them at the Commission's request. Hennessy also maintains that its agreement is a special case in view of its long duration (25 years) and the importance of the German market, and states in this connection: 'We consider it our duty under such an agreement to monitor closely the trade policy pursued by our agent when promoting our products and consequently his price policy which to us appears essential for maintaining the brand image of our products'. It should be noted, however, that Hennessy's competitors, the other cognac merchants who have notified their sole distribution agreements to the Commission, especially Martell, Camus and Courvoisier, have not taken measures to restrict the freedom of their sole distributors to

fix their prices or to protect their territories, notwithstanding that some of those contracts concern the German market or others of similar importance. Above all, under no circumstances is it acceptable that circumstances such as the size of the market in question or the duration of the agreement could justify additional restrictions on competition. On the contrary, they invite much closer examination of the terms under which a distributor has been made sole dealer, since the unfavourable effects of these restrictions may be more appreciable.

34. Nor can Article 5 (4) of the agreement, which is designed to protect Henkell against parallel imports, be regarded as indispensable to the attainment of the objectives of the agreement, since it goes beyond those objectives in seeking to shield the sole dealer against competition from products bearing the same brand name, coming from other Member States.
35. The provisions of the contract which prevent the exclusive concessionaire from freely fixing its resale prices (Article 6) and which protect the concessionaire against parallel imports (Article 5 (4)) cannot be exempted under Article 85 (3) of the Treaty, and the same applies to the provisions for exclusivity of sale and purchase and for non-competition, since they go hand-in-hand with the abovementioned provisions of Articles 5 (4) and 6. The agreement notified cannot, therefore, be granted exemption under Article 85 (3) of the Treaty.

C. Article 3 (1) of Regulation No 17

36. According to Article 3 of Regulation No 17, the Commission may, if it finds upon application or upon its own initiative that there is infringement of Article 85, by decision require the undertakings or associations of undertakings concerned to bring such infringement to an end.
37. For the abovementioned reasons, Hennessy and Henkell have infringed Article 85 of the Treaty and should consequently be required by the Commission to bring those infringements

⁽¹⁾ Fourth Report on Competition Policy, point 35.

to an end. To achieve this purpose, it is sufficient for them to bring the contract within the terms of Regulation No 67/67/EEC by deleting the restrictive clauses of Article 5 (4) and 6 of the said contract.

Article 3

The parties to whom this Decision is addressed shall terminate forthwith the infringements referred to in Article 1 hereto.

HAS ADOPTED THIS DECISION:

Article 1

Articles 1, 2, 3, 5 (4) and 6 of the exclusive concession agreement concluded on 23 and 26 February 1971 between Jas Hennessy & Co. and Henkell & Co. for the distribution of Hennessy cognac in the Federal Republic of Germany constitute infringements of the provisions of Article 85 (1) of the Treaty establishing the European Economic Community.

Article 2

The request for application of Article 85 (3) of the Treaty to the agreement notified is dismissed.

Article 4

This Decision is addressed to:

- Jas Hennessy & Co.,
1, rue de la Richonne,
F — 16101 Cognac — cedex;
- Henkell & Co.,
Biebricher Allee 142,
D — 6200 Wiesbaden 1.

Done at Brussels, 11 December 1980.

For the Commission

Raymond VOUEL

Member of the Commission

ANNEX I

‘L'article 5 notre contrat avec Henkell a pour objet de protéger notre distributeur contre les importations parallèles ou les infiltrations. Les prix de base facturés à Henkell restent le prix en Europe, comme mentionné ci-dessus.’

ANNEX II

‘Nous sommes bien intervenus à deux reprises pour qu'Henkell exécute ses obligations contractuelles en ce qui concerne la fixation des prix de notre qualité Bras d'Or en 1974 et en 1978 pour la vente de notre qualité XO. Henkell avait fixé ses tarifs pour le Bras d'Or à 33,48 DM et nous lui avons demandé de les fixer à 48,30 DM; pour l'XO nous avons demandé à notre agent de porter son prix de 61,66 DM à 69,40.’

ANNEX III

‘Nous estimons que la liberté relative que nous laissons à la Société Henkell de fixer à la vente les prix de nos produits, dans une fourchette qui nous semble raisonnable, est la contrepartie de l'exclusivité de vente que nous garantissons à notre distributeur.’

ANNEX IV

‘Autoriser un distributeur à pratiquer à la revente les prix qu'il déterminerait seul, alors qu'il s'agit du marché d'une marque et non pas du distributeur, risquerait de porter atteinte aux intérêts de la marque et du produit.’

ANNEX V

‘Nous considérons que dans le cadre d'un tel accord, nous devons contrôler étroitement la politique commerciale suivie par notre agent pour le développement de nos marques, et par voie de conséquence, sa politique de prix qui nous semble essentielle quant au maintien de l'image de marque de nos produits.’

COMMISSION DECISION

of 17 December 1980

relating to a proceeding under Article 85 of the EEC Treaty
(IV/29.869 — Italian cast glass)

(Only the Italian text is authentic)

(80/1334/EEC)

THE COMMISSION OF THE EUROPEAN
COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 85 thereof,

Having regard to Council Regulation No 17 of 6 February 1962 ⁽¹⁾, and in particular Articles 1 and 3 thereof,

Having regard to the proceedings initiated by the Commission on its own initiative on 11 December 1979 against Fabbrica Pisana SpA, Pisa, Società Italiana Vetro SpA, San Salvo (Chieti), Fabbrica Lastre di Vetro Sciarra SpA, Rome, and F-Unione Fiduciaria SpA, Milan, in respect of agreements concluded by them concerning the cast glass market in Italy,

Having heard the undertakings concerned in accordance with Article 19 (1) of Regulation No 17 and Commission Regulation No 99/63/EEC ⁽²⁾,

Having regard to the opinion of the Advisory Committee on Restrictive Practices and Dominant Positions delivered pursuant to Article 10 of Regulation No 17 on 17 October 1980,

Whereas:

I. THE FACTS

The main facts of the case are the following:

A. The undertakings

1. Fabbrica Pisana SpA (hereinafter referred to as 'Fabbrica Pisana'), the head office of which is in Pisa and the share capital of which amounts to Lit 11 934 500 000, is a wholly-owned subsidiary of Saint-Gobain Industries, a member of the Saint-Gobain/Pont-à-Mousson group. This group, which is one of the largest industrial groups in the world, comprises 134 companies established in 17 different countries. It is divided into six industrial and commercial divisions, and each division comes under a holding company which is wholly controlled by Saint-Gobain/Pont-à-Mousson. Apart from

Fabbrica Pisana, the group owns the following companies in Italy, all of which are in various ways connected with the glass market: Vetreria Milanese Lucchini-Perego, Vetreria Italiana Balzaretti-Modigliani, Vetreria Luigi Fontana and Vetreria Riunite Bordonni-Miva.

The Saint Gobain/Pont-à-Mousson group employs some 110 000 persons, 69 000 of whom work in the 'buildings' division, which includes the glass-producing factories.

Saint-Gobain Industries, which heads the 'buildings' division, controls 25 subsidiaries, some of which, including Fabbrica Pisana in Italy, manufacture cast glass.

Fabbrica Pisana has factories at Caserta, Pisa, Savigliano and Turin producing the following types of glass:

1. float glass, clear and coloured (blue, amber, bronze, green and grey);
2. cast glass, clear and coloured U-section profiled glass;
3. processed glass products for the building industry (Biver).

Since 1975, Fabbrica Pisana has concentrated most of its investment on the production of float glass and, as regards cast glass, has since 1976 not produced any 'horticultural' glass. It employs about 3 000 persons.

2. Società Italiana Vetro SpA (hereinafter referred to as 'SIV'), the head office of which is in Rome and the share capital of which amounts to Lit 28 000 000 000, is a State-controlled company. It was set up in May 1962 by Ente Finanziamento Industria Meccanica, Rome (hereinafter referred to as 'EFIM') and Società Finanziamenti Idrocarburi SpA, Milan (hereinafter referred to as 'S'). At present, S and Società Mineraria Carbonifera Sarda (hereinafter referred to as 'MCS'), a subsidiary of the EFIM group, each hold 50 % of the capital of SIV.

Up to May 1974, SIV had facilities for the production of window glass (drawn sheet glass) only. Its capacity was gradually reduced to 38 000 tonnes per year and production was stopped altogether in September

⁽¹⁾ OJ No 13, 21. 2. 1962, p. 204.

⁽²⁾ OJ No 127, 20. 8. 1963, p. 2268/63.

1975. Starting in May 1974, a float glass production line with a capacity of 120 000 tonnes per year was put into operation, together with a cast glass production line.

SIV, whose plant is at San Salvo near Vasto (Chieti) and which employs 3 500 persons, now produces float glass, cast glass and processed glass (safety and insulating glass).

As regards cast glass in particular, production never reached its optimum level and, during 1976/77, the factory was operating at 50 % of its capacity. Recently, capacity utilization was improved following integration of the cast glass factory with the float glass production lines of SIV and Flovetto ⁽¹⁾.

SIV relies heavily on export markets: in 1976, the proportion of its output sold on the Italian market amounted to only 56 % of total output. SIV's sales organization in Europe comprises an eastern area subsidiary (SIV-Deutschland in Frankfurt) and a western area subsidiary (SIV-France in Paris).

3. Fabbrica Lastre di Vetro Sciarra SpA (hereinafter referred to as 'Fabbrica Sciarra'), the capital of which amounts to Lit 350 000 000 and the head office of which is in Rome, is a family undertaking which became an SpA in 1959. The shares have remained the property of the heirs of the founder of the undertaking, who are the owners of 'Specchi Cristalli Vetro Pietro Sciarra SpA', Rome, which is engaged mainly in the processing of glass.

Fabbrica Sciarra, which normally employs fewer than 100 persons, produces only cast glass, mainly patterned glass ('stampato') 4 mm thick and wired glass ('retinato') 6 mm thick. The glass manufactured by Fabbrica Sciarra is used mainly in the building industry; in 1976, it stopped producing horticultural glass, which had been a speciality in the company's production of clear patterned cast glass.

4. F-Unione Fiduciaria SpA (hereinafter referred to as 'F'), Milan, which provides management and

⁽¹⁾ A joint subsidiary of SIV and Fabbrica Pisana (each owning 50 %).

accountancy services and also specializes in supervisory and statistical research activities, was entrusted by Fabbrica Pisana, SIV and Fabbrica Sciarra with the task of supervising the proper implementation of the agreement at issue in this proceeding.

B. The product and the situation of the market

1. Cast glass, which is one of the three kinds of flat glass (the others being 'drawn glass' and 'plate glass'), is used in:

- the building industry (doors, divides, roofing, tiling),
- horticulture (greenhouses),
- industry (household electrical equipment),
- furniture (tables, chairs, chandeliers).

The following varieties of cast glass require to be distinguished:

- (a) 'patterned' glass, which has designs printed on the surface;
- (b) 'wired' glass, which is reinforced by metal;
- (c) 'U-section profiled' glass;
- (d) 'horticultural' glass, which is the glass normally used in greenhouses and which is a by-product of 'patterned' or 'profiled' glass;
- (e) 'cullet', i.e. fragments of cast glass of all qualities which are recovered and used to feed float glass production lines.

The various types of cast glass are manufactured in different thicknesses and may be either clear or coloured; in use, they are very largely intersubstitutable.

2. The following table gives statistics concerning the Italian market in cast glass from 1974 to 1978 (the year in which the agreements which are the subject of this proceeding expired).

(Tonnes)

Year	Out-put ⁽¹⁾	Imports ⁽²⁾				Exports ⁽²⁾				Apparent consumption
		EEC	% AC	Extra EEC	% AC	EEC	% out-put	Extra EEC	% out-put	
1974	127 982	23 819	15.4	6 391	4.1	2 561	2.0	1 895	1.4	153 736
1975	77 668	20 752	20.9	5 680	5.7	2 806	3.6	2 200	2.8	99 094
1976	77 724	22 115	20.2	12 403	11.3	2 108	2.7	3 058	3.2	108 968
1977	70 910	25 783	26.1	10 262	10.3	2 453	3.4	5 757	8.1	93 750
1978	77 983	37 571	32.8	9 040	7.9	3 632	4.6	6 741	8.6	114 221

Sources: ⁽¹⁾ Istituto Italiano di Statistica.

⁽²⁾ SOEC NIMEXE.

3. The foregoing figures reveal that four fifths of Italian imports of cast glass came from other EEC countries (although only about two thirds did so in 1976 and 1977), and that during the two years covered by the agreement which is the subject of this proceeding, total imports did not increase, while those from non-member countries more than doubled.

As to exports, which are considerably less than imports (equal to only 20 to 25 % of the latter), although those to other EEC countries remained more or less unchanged during the years covered by the agreement, those to non-member countries, in contrast, increased considerably: those for 1977/78 were about double those for 1976, which in turn were about one third higher than those for 1975).

4. In 1978, the market shares of the undertakings concerned were approximately: Fabbrica Pisana 28 %, SIV 13 %, Fabbrica Sciarra 11 %. The remainder of the market was accounted for by Vernante-Pennitalia (11 %) and by imports.

5. Exports of cast glass make up a substantial proportion of the output of the companies concerned. Thus, in recent years, Fabbrica Sciarra has exported on average 18 % of its output and SIV between one third and one quarter, of which more than half went to Community countries. Fabbrica Pisana also exported substantial quantities of cast glass to Community countries.

6. Cast glass manufacturers' customers are for the most part processing industries and wholesalers. Among the wholesalers some, though these are relatively few in number, merely resell the glass as bought, whilst others have facilities for cutting and other operations.

C. The agreements

1. The agreements which are the subject of this proceeding, were not notified to the Commission by the companies concerned, and the Commission's staff experienced a number of difficulties in obtaining information about them. For instance on 8 June 1978, the management of F refused to allow the investigations requested by the Commission, and it was only following the Commission Decision of 31 January 1979 ⁽¹⁾ that they accepted such

investigations, having previously requested and obtained authorization from the three manufacturers.

The agreements concerned cover three aspects:

- quantitative sharing out of the types of cast glass,
- communication of all data relating to the manufacturing and marketing of the relevant products, and
- supervision of the proper implementation of the agreement by the parties.

2. A 'memorandum on the supervision of the quantities of "patterned" and "wired" glass manufactured and sold' expresses in formal terms an agreement concluded on 30 March 1976 by Fabbrica Pisana, SIV and Fabbrica Sciarra.

This memorandum fixed a quota for sales on the Italian market for each of the three companies concerned, and also the kinds of cast glass which each undertaking could sell on that market within its quota. The following quantities and kinds were fixed for 1976, and never subsequently altered:

A. for Fabbrica Pisana:

- quota: 30 100 tonnes per year,
- products: patterned and wired glass (clear and coloured), profiled glass (except 'cc' designs 8 to 10 mm);

B. for SIV:

- quota: 14 260 tonnes per year,
- products: clear patterned and wired glass;

C. for Fabbrica Sciarra:

- quota: 14 260 tonnes per year,
- products: clear patterned and wired glass (except 'cc' designs 150 cm in width).

In addition, it provided that the monthly supplies of any company which exceeded its monthly average should be offset every quarter by increased supplies by the other companies in proportion to their shortfall in supplies in relation to their own monthly averages.

The parties wanted to perceive the memorandum in question as a specialization agreement, since SIV and Fabbrica Sciarra abandoned the manufacture of profiled glass and coloured wired glass in favour of Fabbrica Pisana; Fabbrica Sciarra abandoned the manufacture of 150 cm-wide double patterned ('cc') glass, and Fabbrica Pisana that of 8 to 10 mm-thick profiled glass. In addition, all three companies abandoned the manufacture of horticultural glass.

⁽¹⁾ OJ No L 57, 8. 3. 1979, p. 33.

3. The following three documents were attached to the text of the abovementioned memorandum:

- (a) a declaration by SIV, in which that company declared that the cyclical crisis which had affected the Italian market in 1975 justified the agreement, and stated that its participation was linked with the continuation of the exceptional circumstances which brought it about,
- (b) a table of products and of processing coefficients,
- (c) a description of the procedures for supervising the implementation of the memorandum.

4. The last-named document required the companies to draw up and forward to Fides on the dates specified the information which had been agreed, namely:

- (a) on 20 April 1976:
 - a summary table of the stocks in hand as at 31 March 1976 of the products listed in point 4 of the memorandum,
 - the technical structure of price lists as at 2 April 1976 by category of product;
- (b) before the 10th day of each month, starting on 10 May 1976:
 - a detailed statement of transactions for each product during the previous month (including shipments for export and transfers between manufacturers), specifying the particulars appearing on the dispatch and invoice documents and distinguishing clearly between sales in Italy, exports and transfers between manufacturers ('prospetto 1'),
 - a detailed statement, for each product, of goods supplied on consignment to customers or third parties during the previous month, giving precise details of the supplies and the entry in the register of goods on consignment ('prospetto 2'),
 - a monthly and cumulative summary statement of the abovementioned supplies, indicating quantities and value ('prospetto 3'),
 - a summary statement of stock movements as a means of checking what happened during the previous month in respect of each product and in respect of the total of the products ('prospetto 4').

5. Fides was required, on the basis of the same document, to carry out the following functions:

- (a) to draw up a monthly and cumulative summary of shipments of each category of product ('prospetto RS'). This table, containing information on average prices for each product and each undertaking, was to be sent to the

undertakings within five working days of receipt of the information described above.

No other information was to be communicated to the undertakings without their express authorization;

- (b) to carry out in each undertaking a verification of the information provided, including:

- verification of the quantities dispatched (dispatch and invoice documents) and of their consistency with the store accounts and with the general accounts,
- verification of the quantities delivered on consignment to customers or third parties, on the basis of the dispatch documents, store accounts and register of goods on consignment.

The verification was to cover at least 10% of the quantities dispatched covered by the agreement.

If it deemed appropriate, Fides could request additional information, including:

- verification of the consistency of stock movements and of the figures in the industrial accounts,
- random checks on the store accounts on the basis of the loading and unloading documents, and comparison with the figures in the general accounts,
- random checks on the physical quantities compared with the accounting quantities indicated or appearing in the store accounts.

The results of these checks and verifications were to be the subject of meetings of representatives of all parties concerned.

6. The memorandum of 30 March 1976 and the documents attached thereto were supplemented by the contracts which the manufacturers concluded with Fides. Those contracts were the result, firstly, of identical letters of authority sent by the manufacturers (letter dated 31 March 1976 from SIV and two letters each dated 8 April 1976 from Fabbrica Pisana and Fabbrica Sciarra) and, secondly, of the letters in reply sent by Fides on 20 April 1976.

The purpose of the first three letters, which were in absolutely identical terms, was to confirm the authority conferred upon Fides from 1 April 1976 for the entire duration of the agreement of 30 March 1976 to collect all the information and papers (and copy all the papers) it needed to perform its functions under the abovementioned memorandum.

The letters also authorized access to all the offices, factories and warehouses of the undertakings and confirmed that they had each agreed to the communication to their partners of the information collected from each of them by Fides.

Lastly, the letters determined how the expenses incurred by Fides were to be shared: 50% by Fabbrica Pisana, 25% by SIV and 25% by Sciarra.

The three letters sent by Fides to the undertakings on 21 June 1976 stated the names of the persons authorized by Fides to perform the checks.

7. The verification visits made to Fides premises enabled it to be established that the various provisions of the agreements were indeed put into effect:

(a) in particular, numerous documents in the Commissions's possession show that Fides carried out its obligations as required, notably:

- dispatch statements relating to information that had been collected by Fides from the undertakings and sent to the undertakings between March 1976 and November 1977;
- dispatch memos relating to invoices sent by Fides to the manufacturers regarding the professional services connected with the relevant agreements; these memos also refer to the division of the expenses amongst the companies;

(b) as regards the checks carried out by Fides, numerous documents prove that the agreements provided for the memorandum were strictly implemented:

- inspection notes file for April to May 1976, including:
 - the general report on the checks carried out by Fides,
 - sales to customers,
 - stocks held on consignment,
 - prices and terms of sale,
 - output figures;
- Fides' inspection notes file for November 1976 to July 1977, including communications from Fabbrica Pisana and Fabbrica Sciarra on:
 - details of supplies to customers,
 - details of deliveries on consignment,
 - a summary of monthly and cumulative supplies,
 - a summary of store documents;
- Fides' inspection notes file for 1978, including:
 - the price checks carried out by Fides from 29 May to 2 June 1978 on SIV and Fabbrica Pisana,
 - the list prices for cast glass,
 - the detailed list (Fabbrica Pisana, SIV and Fabbrica Sciarra) of sales, broken down by customer, for April 1978,

- the 'prospetto 4' documents concerning the statements for stock conformity,
- the lists of quantities sold in Italy and for export in February and March 1978, on a monthly basis and as a running total, and details of such supplies,
- the periodic summaries supplied by Fides ('prospetto RS') from 1 April 1976 to 30 September 1977,
- the prices charged by Fabbrica Pisana and the list of its customers (processors and glaziers) indicating individual discounts from 0 to 10%.

II. ASSESSMENT

A. Applicability of Article 85 (1)

Article 85 (1) of the Treaty establishing the European Economic Community prohibits as incompatible with the common market all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market.

1. The memorandum of 30 March 1976, together with the documents attached thereto, concluded by the glass manufacturers Fabbrica Pisana, SIV and Fabbrica Sciarra in order to control the production and sale of cast glass, constitute agreements between undertakings within the meaning of Article 85 (1). The commitments entered into, by Exchanges of letters completed on 20 April 1976, by these manufacturers with Fides regarding supervision of the implementation of the obligations entered into by the manufacturers themselves also constitute an agreement within the meaning of Article 85 (1). Although concluded separately, the agreements are not independent of each other, as they have the same object, involve the same companies and provide for the same means of implementation in practice they therefore form a single agreement.

2. The companies which concluded the agreements referred to above, namely Fabbrica Pisana, SIV and Fabbrica Sciarra, are undertakings within the meaning of Article 85 (1). Fides is also an undertaking within the meaning of that Article, since it is a company which carries on an economic activity complementary to those of the companies which signed the memorandum of 30 March 1976 in the pursuit of objectives connected with the production

and sale of cast glass and which, in so doing, effectively took part in a practice which restricted competition within the meaning of Article 85 (1).

3. The agreements in question are liable to affect trade between Member States. The activities of each of the manufacturers concerned are not restricted to the Italian market, but also extend to the markets of the Community countries. In particular, Fabbrica Pisana and SIV are undertakings which are very active in export markets; during the period covered by the agreements, the quantitative and qualitative limits on their sales in the Italian market must necessarily have affected their capacities to export to other markets, particularly those in the EEC. Consequently, trade flows have been altered by the fact that each undertaking was no longer able to determine independently its own production and sales policy as regards both the Italian and export markets.

It has been established that imports of cast glass into Italy during the period covered by the agreements increased considerably; however, this increase was almost entirely confined to imports from non-member countries, while those from EEC countries remained practically unchanged. In view of the fact that nearly 80% of imports of cast glass into Italy formerly came from other EEC countries, and only just over 20% from outside, this sudden increase in imports from non-member countries at the time of the agreement, together with the stability of those from other EEC countries, can be explained only by the fact that Fabbrica Pisana belongs to the St Gobain/Pont-à-Mousson group. Indeed, given that a very large proportion of the EEC's production of cast glass comes from that group's factories, that the group is also connected through technology agreements with other major European producers of cast glass, and that the agreements concluded between that undertaking, SIV and Fabbrica Sciarra were intended to preserve the market share each had already acquired, the consequence was that they considerably reduced the tendency for imports from EEC countries (in which Fabbrica Pisana, through the St Gobain/Pont-à-Mousson group, has fellow subsidiaries) to increase; otherwise, that tendency could have prejudiced the objectives which not only Fabbrica Pisana but also SIV and Fabbrica Sciarra sought to attain through their agreements.

Consequently, the agreements which are the subject of this proceeding led consumers to seek other sources of supply outside the EEC. In any event, even though both imports and exports increased, that

fact does not preclude the agreements affecting trade between Member States within the meaning of Article 85 of the EEC Treaty, as the judgment of the Court of Justice in *Consten/Grundig* ⁽¹⁾ makes clear.

Finally, trade in cast glass between Italy and the other EEC member countries has been appreciably influenced by these agreements.

4. The agreements in question have as their object and effect the prevention, restriction or distortion of competition between the undertakings concerned on the market in cast glass in Italy. By predetermining part (that intended for the Italian market) of the production of the undertakings concerned, which is a restriction of competition specifically covered by Article 85 (1) (b), the agreements in question were intended to stabilize those undertakings' production and to permit them at least partly to protect the prices of their products from the effects of consumer demand. The manufacturers, having quotas fixed the basis of established market shares, no longer had any incentive to reduce their prices to win a larger market share as, if they had done so, they would have forfeited the opportunity of drawing the maximum benefit from their production quotas. The Commission has been unable to discern any reduction or stabilization of the prices of the various kinds of cast glass during the period covered by the agreements. By attempting to bring about so-called 'specialization' between the undertakings party to the agreement, the agreements in question caused competition to be restricted to the extent that an undertaking's market position is strengthened by the disappearance of competitors. However, the sharing of production and sales which the undertakings established among themselves through the memorandum applied only to certain kinds of cast glass, so that it was too limited, and based on criteria of marketing convenience rather than on objective criteria taking account of the production facilities necessary and the intrinsic characteristics of the products. Moreover, the agreements covered all of Italy and sales in that country only; consequently, on the one hand, the volume protected from competition was very large, since it took in all the parties' sales of cast glass in Italy, and on the other hand, the sharing did not concern products for export; it cannot, therefore, be considered true specialization.

⁽¹⁾ Joined Cases 56 and 58/64 (1966) ECR 341.

As regards more particularly the obligations which Fides concluded with Fabbrica Pisana, SIV and Fabbrica Sciarra, these in fact were complementary to the memorandum of 30 March 1976, since they made it possible to implement the memorandum: the manufacturers in question decided not to exchange directly the statistical data and other information relating to their manufacturing and marketing policies, but to do so through a third party, namely Fides, so ensuring that the information to be provided by the participants on the basis of the memorandum of 30 March 1976 was objective. In assessing whether the agreements concluded between Fabbrica Pisana, SIV and Fabbrica Sciarra on the one hand and Fides on the other were liable to restrict competition on the market in cast glass, despite the fact that the first three companies are manufacturing undertakings and Fides a service undertaking, it must be borne in mind that Fides enabled and consciously assisted the implementation of the restrictions of competition which were the very purpose of the agreements, and consequently it is jointly responsible for the resulting restrictive effects.

The agreement based on the said obligations constitutes a restriction of competition which is liable to influence the business policy of each manufacturer *vis-a-vis* the others inasmuch as it requires the undertakings concerned to exchange, through Fides, commercial information on amounts sold and prices for each type of product, information which is not normally shared between competitors. The verification of compliance with the sales quotas for cast glass on the Italian market similarly contributed to the realization of a restriction of competition. In conclusion, the agreement concluded by Fides with Fabbrica Pisana, SIV and Fabbrica Sciarra also had as its object and effect the restriction of competition on the market in cast glass in Italy.

B. Inapplicability of Article 85 (3)

Under Article 85 (3), the provisions of Article 85 (1) may be declared inapplicable in the case of any agreement, any decision or any concerted practice which contributes to improving the production or distribution of goods or to promoting technical or economic progress while allowing consumers a fair share of the resulting benefit, and which does not impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives or afford such undertakings the

possibility of eliminating competition in respect of a substantial part of the products in question.

1. Under Article 4 (1) of Regulation No 17, agreements in respect of which the parties concerned seek the application of Article 85 (3) must be notified to the Commission. Until they have been notified, no decision in application of Article 85 (3) may be taken. In this instance, no such notification was given. Consequently it is not possible to examine whether the requirements under Article 85 (3) have been met by the agreements in question.

At all events, at least one of the requirements under Article 85 (3) has not been met, since, through the agreements which are the subject of this decision, more than half of Italian production of cast glass was shielded from competition, thus eliminating competition in respect of a substantial part.

2. Consideration must next be given to the question whether the undertakings concerned could have thought that, by virtue of the nature of the agreements, they did not need to notify them, on the grounds that the agreements were covered by the block exemption provided for in Regulation (EEC) No 2779/72. Article 1 of that Regulation (subsequently amended by Regulation (EEC) No 2903/77) states that Article 85 (1) of the EEC Treaty shall not apply to agreements whereby, with the object of specialization, undertakings mutually bind themselves for the duration of the agreements not to manufacture certain products or cause them to be manufactured by other undertakings, and to leave it to the other Contracting Parties to manufacture such products or cause them to be manufactured by other undertakings.

However, as has been demonstrated above (point II.A.4), the agreements in question do not provide for true specialization amongst the undertakings concerned. They also provide for quantitative sharing of production and sales and the exchange of commercial information on production and sales; these clauses are not among those covered by the abovementioned Regulation. In addition, the block exemption relating to specialization agreements may not be invoked in this instance, because the threshold of 10 % of the volume of business conducted in the products covered by the agreements in a member country (the threshold laid down in Article 3 (1) (a) of the abovementioned Regulation) was significantly exceeded.

In conclusion, therefore, Regulation (EEC) No 2779/72 does not apply in the present case.

3. Furthermore, the reference to the sectoral crisis situation which the signatories of the memorandum of 30 March 1976 put forward as a justification of the conclusion of their agreements cannot be considered as being such for the purposes of Article 85 (3). On the one hand, that provision makes no reference to such a situation and, on the other, no decision genuinely to reduce the productive capacities of the undertakings which took part in the practice in question (which might have been appropriate to the structural crisis situation) was taken; it was merely decided unilaterally to set quantitative shares for sales of cast glass on the Italian market, to the benefit exclusively of the manufacturers, without any advantage for consumers. It is therefore not possible to allow, in the guise of a crisis cartel, restrictions of competition which are not indispensable.

4. The Commission has established that implementation of the agreements in question did indeed cease on or before the expiry date laid down, i.e. 30 March 1978, and that even while they were in force they were applied only partially and in limited degree. These facts must be taken into account in assessing the case.

With particular reference to the Fides company, the latter, although not directly involved in the production or distribution of the products in question, was nevertheless jointly responsible for the application of the agreements restricting competition. Consequently, if fines were to be imposed on the undertakings which concluded the agreements in question, Fides also would have to be taken into consideration to the extent of its joint responsibility. In such a case, it would be necessary when assessing the gravity of the infringement also to take into account the fact that until now, the Commission has never addressed a decision pursuant to Article 85 (1) to undertakings in a position of joint responsibility of this kind.

For all these reasons it is considered that fines should not be imposed.

HAS ADOPTED THIS DECISION:

Article 1

The agreements concluded by Fabbrica Pisana SpA, Società Italiana Vetro SpA (SIV) and Fabbrica Lastre di Vetro Sciarra SpA on 30 March 1976 and in force until 30 March 1978, and agreements with those companies entered into with Fides-Unione Fiduciaria SpA by exchange of letters concluded on 20 April 1976, infringed Article 85 (1) of the Treaty establishing the European Economic Community as regards their clauses concerning:

- (a) in the memorandum of 30 March 1976:
 - the quantitative sharing of the various kinds of cast glass,
 - the exchange of commercial information on quantities sold and prices of each type of product;
- (b) in the agreements with Fides:
 - the measures for implementing the obligations concerning the forwarding of the abovementioned information and the supervision of compliance with the quantitative sharing between the undertakings.

Article 2

This Decision is addressed to:

1. Fabbrica Pisana SpA, Pisa;
2. Società Italiana Vetro (SIV) SpA, San Salvo (Chieti);
3. Fabbrica Lastre di Vetro Sciarra SpA, Rome;
4. Fides-Unione Fiduciaria SpA, Milan.

Done at Brussels, 17 December 1980.

For the Commission

Raymond VOUEL

Member of the Commission

FIRST COMMISSION DIRECTIVE**of 22 December 1980****on the approximation of the laws of the Member States relating to methods of analysis
necessary for checking the composition of cosmetic products****(80/1335/EEC)**

THE COMMISSION OF THE EUROPEAN
COMMUNITIES,

Having regard to the Treaty establishing the
European Economic Community,

Having regard to Council Directive 76/768/EEC of
27 July 1976 on the approximation of the laws of the
Member States relating to cosmetic products⁽¹⁾, as
amended by Directive 79/661/EEC⁽²⁾, and in
particular Article 8 (1) thereof,

Whereas Directive 76/768/EEC provides for the
official testing of cosmetic products with the aim of
ensuring that the conditions prescribed pursuant to
Community provisions concerning the composition
of the cosmetic products are satisfied;

Whereas all the necessary methods of analysis must
be established as soon as possible; whereas the laying
down of methods for the sampling, laboratory
preparation, identification and determination of free
sodium and potassium hydroxides, the identification
and determination of oxalic acid and alkaline salts
thereof in hair care products, the determination of
chloroform in toothpastes and of zinc, and the
identification and determination of phenolsulfonic
acid constitutes a first step in this direction;

Whereas the measures laid down in the present
Directive are in conformity with the opinion of the
Committee on the adaptation of Directive 76/768/
EEC to technical progress,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Member States shall take all necessary steps to ensure
that, in the official testing of cosmetic products:

— the sampling,

- the laboratory preparation of test samples,
- the identification and determination of free
sodium and potassium hydroxides,
- the identification and determination of oxalic
acid and alkaline salts in hair-care products,
- the determination of chloroform in toothpastes,
- the determination of zinc,
- the identification and determination of
phenolsulfonic acid

are performed in accordance with the methods
described in the Annex.

Article 2

Member States shall bring into force the laws,
regulations or administrative provisions necessary to
comply with this Directive not later than 31
December 1982.

They shall forthwith inform the Commission
thereof.

Article 3

This Directive is addressed to the Member States.

Done at Brussels, 22 December 1980.

For the Commission

Richard BURKE

Member of the Commission

⁽¹⁾ OJ No L 262, 27. 9. 1976, p. 169.

⁽²⁾ OJ No L 192, 31. 7. 1979, p. 35.

ANNEX**I. SAMPLING OF COSMETIC PRODUCTS****1. SCOPE AND FIELD OF APPLICATION**

The procedure for the sampling of cosmetic products is described with a view to their analysis in the various laboratories.

2. DEFINITIONS**2.1. *Basic sample:***

a unit taken from a batch offered for sale.

2.2. *Total sample:*

the sum of all the basic samples having the same batch number.

2.3. *Laboratory sample:*

a representative fraction of the total sample that is to be analyzed in the individual laboratories.

2.4. *Test portion:*

a representative portion of the laboratory sample that is required for one analysis.

2.5. *Container:*

the article that contains the product and is in continuous direct contact with it.

3. SAMPLING PROCEDURE

3.1. Cosmetic products shall be sampled in their original containers and forwarded to the analytical laboratory unopened.

3.2. For cosmetic products which are placed on the market in bulk or retailed in a container different from the original manufacturer's pack, appropriate instructions for sampling at the point of use or sale should be issued.

3.3. The number of basic samples required for the preparation of the laboratory sample shall be determined by the analytical method and the number of analyses to be performed by each laboratory.

4. SAMPLE IDENTIFICATION

4.1. Samples shall be both sealed where taken and identified, in accordance with the rules in force in the relevant Member State.

4.2. Each basic sample taken shall be labelled with the following information:

- name of the cosmetic product,
- date, time and place of sampling,
- name of the person responsible for taking the sample,
- name of the inspectorate.

4.3. A report on the sampling shall be drawn up in accordance with the rules in force in the relevant Member State.

5. STORAGE OF SAMPLES

5.1. Basic samples must be stored in accordance with the manufacturer's instructions appearing on the label if any.

5.2. Unless other conditions are specified, laboratory samples shall be stored in the dark at between 10 and 25 °C.

5.3. Basic samples must not be opened until the analysis is about to begin.

II. LABORATORY PREPARATION OF TEST PORTIONS**1. GENERAL**

1.1. Where possible the analysis shall be carried out on each basic sample. If the basic sample is too small, the minimum number of basic samples should be used. They should first be mixed together thoroughly before taking the test portion.

- 1.2. Open the container, under an inert gas if so specified in the analytical method and withdraw the number of test portions required as quickly as possible. The analysis should then proceed with the least possible delay. If the sample has to be preserved the container should be resealed under an inert gas.
 - 1.3. Cosmetic products may be prepared in liquid or solid forms or in a semi-solid form. If separation of an initially homogeneous product occurs it should be re-homogenized before taking the test portion.
 - 1.4. If the cosmetic product is put up for sale in a special way, as a result of which it cannot be treated in accordance with these instructions, and if no provision is made for the relevant methods of examination an original procedure may be adopted, provided that it is set out in writing as part of the analysis report.
2. **LIQUIDS**
 - 2.1. These may occur in the form of products such as solutions in oil, in alcohol, and in water, toilet waters, lotions or milks, and may be packed in flasks, bottles, ampoules or tubes.
 - 2.2. **Withdrawal of the test portion:**
 - shake the container vigorously before opening,
 - open the container,
 - pour a few millilitres of the liquid into a test-tube for visual examination of its character for the purpose of taking the test-portion,
 - reseal the container, or
 - withdraw the required test portions,
 - reseal the container carefully.
3. **SEMI-SOLIDS**
 - 3.1. These may occur in the form of products such as pastes, creams, stiff emulsions and gels and may be packed in tubes, plastic bottles or jars.
 - 3.2. **Withdrawal of the test portion, either:**
 - 3.2.1. narrow-necked containers. Expel at least the first centimetre of the product. Extrude the test portion and reseal the container immediately.
 - 3.2.2. wide-necked containers. Scrape the surface evenly to remove the top layer. Take out the test portion and reseal the container immediately.
4. **SOLIDS**
 - 4.1. These may occur in the form of products such as loose powders, compacted powders, sticks and may be packed in a wide variety of containers.
 - 4.2. **Withdrawal of the test portion, either:**
 - 4.2.1. loose powder — shake vigorously before unstoppering or opening. Open and remove the test portion.
 - 4.2.2. Compact powder or stick — remove the surface layer by even scraping. Take the test portion from underneath.
5. **PRODUCTS IN PRESSURIZED PACKAGES ('aerosol dispensers')**
 - 5.1. These products are defined in Article 2 of Council Directive 75/324/EEC of 20 May 1975⁽¹⁾.
 - 5.2. **Test portion:**

After vigorous shaking, a representative quantity of the contents of the aerosol dispenser are transferred with the aid of a suitable connector (see for example Figure 1: in specific cases the analytical method may require the use of other connectors) into a plastic-coated glass bottle (Figure 4) fitted with an aerosol valve but not fitted with a dip tube. During the transfer the bottle is held valve downwards. This transfer renders the contents clearly visible corresponding to one of the following four cases:

⁽¹⁾ OJ No L 147, 9. 6. 1975, p. 40.

- 5.2.1. An aerosol product in the form of a homogeneous solution for direct analysis.
- 5.2.2. An aerosol product consisting of two liquid phases. Each phase can be analyzed after the lower phase has been separated into a second transfer bottle. In this case the first transfer bottle is held valve downwards. In such a case this lower phase is often aqueous and devoid of propellant (e.g. butane/water formulation).
- 5.2.3. An aerosol product containing a powder in suspension. The liquid phase can be analyzed after removal of the powder.
- 5.2.4. A foam or cream product. First weigh exactly into the transfer bottle 5 to 10 g of 2-methoxyethanol. This substance prevents foam from forming during the degassing operation and it is then possible to expel the propellant gases without loss of liquid.

5.3. **Accessories**

The connector (Figure 1) is made of duralumin or brass. It is designed to fit to different valve systems via a polyethylene adaptor. It is given as an example: other connectors may be used. (See Figures 2 and 3).

The transfer bottle (Figure 4) is made of white glass coated on the outside with a protective layer of transparent plastic material. It holds 50 to 100 ml. It is fitted with an aerosol valve without a dip tube.

5.4. **Method**

In order that enough of the sample may be transferred, the transfer bottle must be purged of air. For this purpose, introduce through the connector about 10 ml of dichlorodifluoromethane or butane (depending on the aerosol product to be examined) and then degas completely until the liquid phase disappears, holding the transfer bottle with the valve uppermost. Remove the connector. Weigh the transfer bottle ('a' grams). Vigorously shake the aerosol dispenser from which the sample is to be taken. Attach the connector to the valve on the sample aerosol container (valve upwards), fit the transfer flask (neck downwards) to the connector and press. Fill the transfer bottle to about two thirds full. If the transfer ceases prematurely owing to pressure equalization, it can be resumed by chilling the transfer bottle. Remove the connector, weigh the filled bottle ('b' grams) and determine the weight of aerosol sample transferred, m_1 ($m_1 = b - a$).

The sample thus obtained can be used:

1. for a normal chemical analysis;
2. for an analysis of the volatile constituents by gas chromatography.

5.4.1. *Chemical analysis*

Holding the transfer bottle valve upwards, proceed as follows:

- degas. If the degassing operation gives rise to foaming, use a transfer bottle into which an exactly-weighed quantity (5 to 10 g) of 2-methoxyethanol has previously been introduced with a syringe through the connector,
- complete the removal of the volatile constituents without loss by shaking in a waterbath maintained at 40 °C. Detach the connector,
- reweigh the transfer bottle ('c' grams) in order to determine the weight of the residue, m_2 ($m_2 = c - a$).
(NB: When calculating the weight of the residue, deduct the weight of any 2-methoxyethanol used.)
- open the transfer bottle by removing the valve,
- dissolve the residue completely in a known quantity of an appropriate solvent,
- perform the desired determination on an aliquot.

Formulas for the calculation are:

$$R = \frac{r \times m_2}{m_1} \text{ and } Q = \frac{R \times P}{100},$$

where:

m_1 = mass of aerosol taken into the transfer bottle;

m_2 = mass of residue after heating at 40 °C;

r = percentage of the particular substance in m_2 (determined according to the appropriate method);

R = percentage of the particular substance in the aerosol as received;

Q = total mass of the particular substance in the aerosol dispenser;

p = net mass of initial aerosol dispenser (basic sample).

5.4.2. *Analysis of volatile constituents by gas chromatography*

5.4.2.1. Principle

Using a gas-chromatography syringe, remove an appropriate quantity from the transfer bottle. Then inject the contents of the syringe into the gas chromatograph.

5.4.2.2. Accessories

Series A2 'precision sampling' gas-chromatography syringe 25 µl or 50 µl (Figure 5) or equivalent. This syringe is equipped with a slide valve at the needle end. The syringe is connected to the transfer bottle by a connector at the bottle and a polyethylene tube (length 8 mm, internal diameter 2.5 mm) at the syringe.

5.4.2.3. Method

After an appropriate quantity of aerosol product has been taken into the transfer bottle, fit the conical end of the syringe to the transfer bottle as described in 5.4.2.2. Open the valve and aspirate a suitable quantity of liquid. Eliminate gas bubbles by operating the plunger several times (chill the syringe if necessary). Close the valve when the syringe contains the appropriate quantity of bubble-free liquid and detach the syringe from the transfer bottle. Fit the needle, insert the syringe into the gas chromatograph injector, open the valve and inject.

5.4.2.4. Internal standard

If an internal standard is required, it is introduced into the transfer bottle (by means of an ordinary glass syringe using a connector).

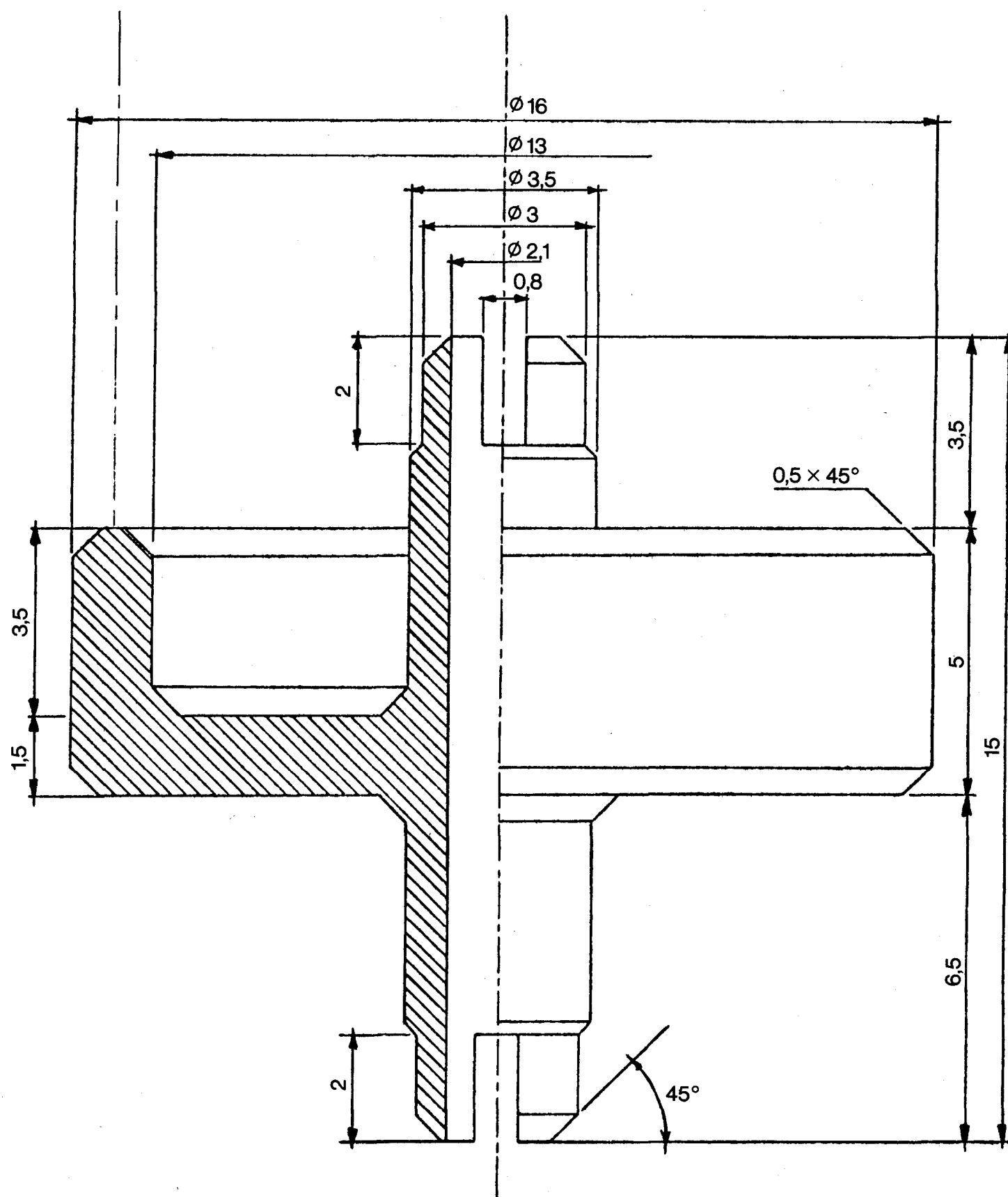
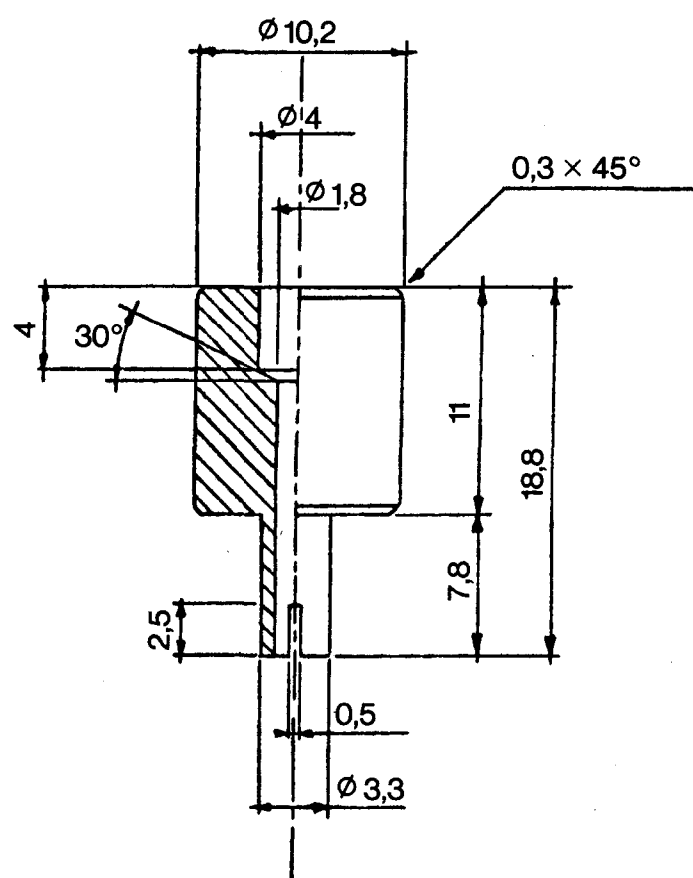
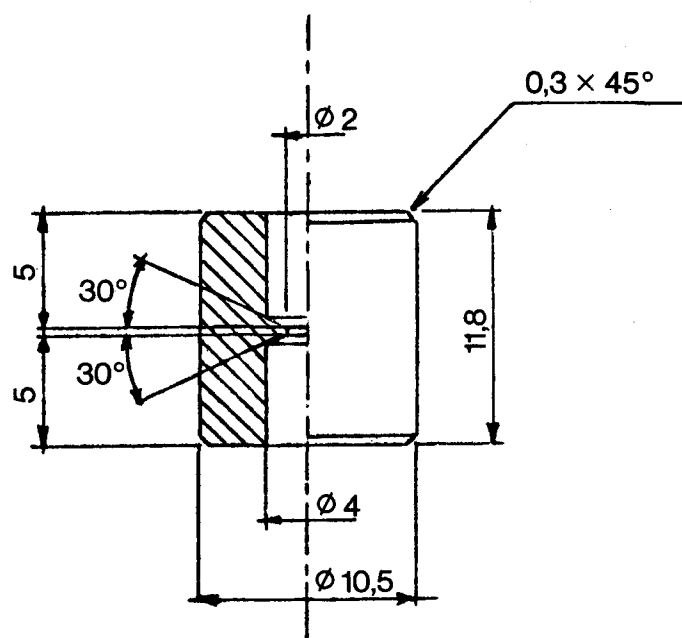


Figure 1
Connector P1

*Figure 2***Connector M2**

for transfer between male and female valves

*Figure 3***Connector M1**

for transfer between two male valves

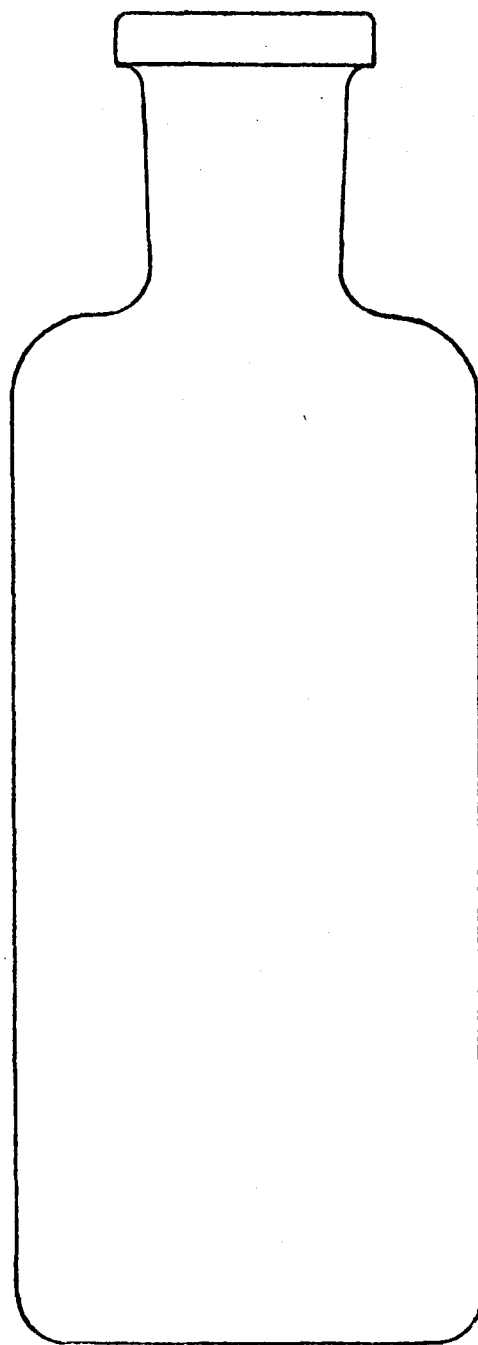


Figure 4
Transfer bottle
Capacity 50 to 100 ml

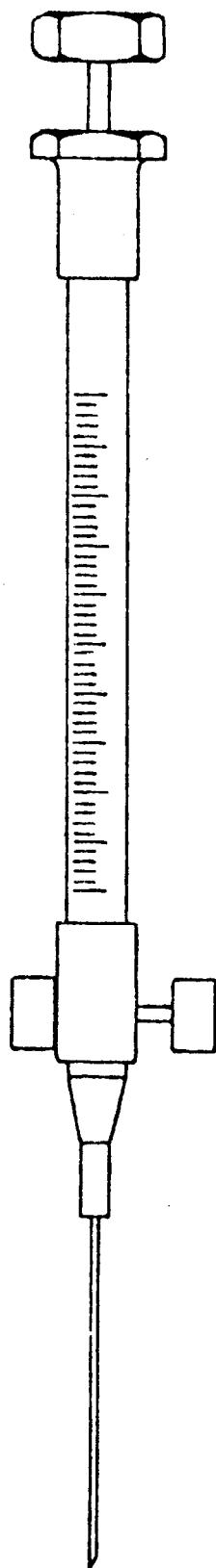


Figure 5
Pressure gas syringe

III. DETERMINATION AND IDENTIFICATION OF FREE SODIUM AND POTASSIUM HYDROXIDES

1. SCOPE AND FIELD OF APPLICATION

The method specifies the procedure for identifying cosmetic products containing significant amounts of free sodium and/or potassium hydroxides and for the determination of such free sodium and/or potassium hydroxides in hair straightener preparations and nail cuticle solvent preparations.

2. DEFINITION

The free sodium and potassium hydroxide is defined by the volume of standard acid required to neutralize the product under specified conditions, the resulting quantity being expressed as % m/m free sodium hydroxide.

3. PRINCIPLE

The sample is dissolved or dispersed in water and titrated with standard acid. The pH value is recorded concurrently with addition of acid: for a simple solution of sodium or potassium hydroxides the end point is a clear cut maximum rate of change of recorded pH value.

The simple titration curve may be obscured by the presence of:

- (a) ammonia and other weak organic bases, which have themselves a rather flat titration curve. Ammonia is removed in the method by evaporation at reduced pressure but at room temperature;
- (b) salts of weak acids, which may give rise to a titration curve with several points of inflection. In such cases only the first part of the curve to the first of these points of inflection corresponds to the neutralization of hydroxyl ion coming from free sodium or potassium hydroxide.

An alternative procedure for titration in alcohol is given where excessive interference from salts of weak inorganic acids is indicated.

Whilst the theoretical possibility exists that other soluble strong bases, e.g. lithium hydroxide, quaternary ammonium hydroxide, could be present giving rise to the high pH, the presence of these in this type of a cosmetic product is highly unlikely.

4. IDENTIFICATION

4.1. Reagents

- 4.1.1. Standard alkaline buffer solution pH 9.18 at 25 °C: 0.05 M sodium tetraborate decahydrate.

4.2. Apparatus

- 4.2.1. Usual laboratory glassware
- 4.2.2. pH meter
- 4.2.3. Glass membrane electrode
- 4.2.4. Standard calomel reference electrode.

4.3. Procedure

Calibrate the pH meter with the electrodes using the standard buffer solution. Prepare a 10 % solution or dispersion of the product to be analyzed, in water, and filter. Measure the pH. If the pH is 12 or over a quantitative determination must be carried out.

5. DETERMINATION

5.1. Titration in aqueous medium

5.1.1. Reagent

- 5.1.1.1. Standard 0.1 N hydrochloric acid

5.1.2. Apparatus

- 5.1.2.1. Usual laboratory glassware
- 5.1.2.2. pH meter preferably with recorder
- 5.1.2.3. Glass membrane electrode
- 5.1.2.4. Standard calomel reference electrode.

5.1.3. Procedure

Weigh accurately into a 150-ml beaker a test portion of between 0.5 and 1.0 g. If ammonia is present add a few anti-bumping granules, place the beaker in a vacuum desiccator, evacuate using a water pump until the odour of ammonia is no longer detectable (about three hours).

Add 100 ml water, dissolve or disperse the residue and titrate with the 0.1 N hydrochloric acid solution (5.1.1.1) recording the change in pH (5.1.2.2).

5.1.4. Calculation

Identify the points of inflection on the titration curves. Where the first point of inflection occurs at a pH below 7 the sample is free of sodium or potassium hydroxide.

Where there are two or more points of inflection in the curve only the first is relevant.

Note the volume of titrant to this first point of inflection.

Let V represent this volume of titrant, in ml,

M represent the weight of the test portion, in grams.

The content of sodium and/or potassium hydroxides in the sample expressed as % m/m of sodium hydroxide is calculated using the formula:

$$\% = 0.4 \frac{V}{M}$$

The situation may arise in which, despite indications of the presence of a significant quantity of sodium and/or potassium hydroxides, the titration curve fails to show a distinct point of inflection. In such a case the determination should be repeated in isopropanol.

5.2. Titration in isopropanol**5.2.1. Reagents**

5.2.1.1. Isopropanol

5.2.1.2. Standard 1.0 N aqueous hydrochloric acid

5.2.1.3. 0.1 N hydrochloric acid in isopropanol prepared immediately before use by diluting the 1.0 N aqueous hydrochloric acid with isopropanol.

5.2.2. Apparatus

5.2.2.1. Usual laboratory glassware

5.2.2.2. pH meter preferably with recorder

5.2.2.3. Glass membrane electrode

5.2.2.4. Standard calomel reference electrode.

5.2.3. Procedure

Weigh accurately into a 150-ml beaker a test portion of between 0.5 and 1.0 g. If ammonia is present add a few antibumping granules, place the beaker in a vacuum desiccator, evacuate using a water pump until the odour of ammonia is no longer detectable (about three hours).

Add 100 ml isopropanol, dissolve or disperse the residue and titrate with the 0.1 N hydrochloric acid in isopropanol (5.2.1.3) recording the change in apparent pH (5.2.2.2).

5.2.4. Calculation

As in 5.1.4. The first point of inflection is at an apparent pH of about 9.

5.3. Repeatability⁽¹⁾

For a sodium or potassium hydroxide content in the range of 5% m/m as sodium hydroxide, the difference between the results of two determinations carried out in parallel on the same sample should not exceed an absolute value of 0.25%.

⁽¹⁾ See ISO/DIS 5725.

IV. DETERMINATION AND IDENTIFICATION OF OXALIC ACID AND ITS ALKALINE SALTS IN HAIR-CARE PRODUCTS

1. SCOPE AND FIELD OF APPLICATION

The method described below is suitable for the determination and identification of oxalic acid and its alkaline salts in hair-care products. It can be used for colourless aqueous/alcoholic solutions and lotions which contain about 5% of oxalic acid or an equivalent quantity of alkaline oxalate.

2. DEFINITION

The content in oxalic acid and/or its alkaline salts determined by this method is expressed as a percentage by mass (m/m) of free oxalic acid in the sample.

3. PRINCIPLE

After removal of any anionic surface-active agents present with p-toluidine hydrochloride, the oxalic acid and/or the oxalates are precipitated as calcium oxalate, whereupon the solution is filtered. The precipitate is dissolved in sulphuric acid and titrated against potassium permanganate.

4. REAGENTS

All reagents should be of analytical purity

- 4.1. 5% (m/m) ammonium acetate solution
- 4.2. 10% (m/m) calcium chloride solution
- 4.3. 95% (V/V) ethanol
- 4.4. carbon tetrachloride
- 4.5. diethyl ether
- 4.6. 6.8% (m/m) p-toluidine dihydrochloride solution
- 4.7. 0.1N potassium permanganate solution
- 4.8. 20% (m/m) sulphuric acid
- 4.9. 10% (m/m) hydrochloric acid
- 4.10. Sodium acetate trihydrate
- 4.11. Acetic acid glacial
- 4.12. Sulphuric acid (1:1)
- 4.13. Saturated barium hydroxide solution.

5. APPARATUS

- 5.1. Separating funnels, 500 ml
- 5.2. Beakers, 50 ml and 600 ml
- 5.3. Glass filter crucibles, G-4
- 5.4. Measuring cylinders, 25 ml and 100 ml
- 5.5. Pipettes, 10 ml
- 5.6. Suction flasks, 500 ml
- 5.7. Water-jet pump
- 5.8. Thermometer graduated from 0 to 100 °C
- 5.9. Magnetic stirrer with heating element
- 5.10. Magnetic stirring rods, teflon-coated
- 5.11. Burette, 25 ml
- 5.12. Conical flasks, 250 ml

6. PROCEDURE

- 6.1. Weigh out 6 to 7 g of the sample into a 50-ml beaker, bring the pH to 3 with dilute hydrochloric acid (4.9) and wash into a separating funnel with 100 ml of distilled water. Add successively 25 ml of ethanol (4.3), 25 ml of p-toluidine dihydrochloride solution (4.6) and 25 to 30 ml of carbon tetrachloride (4.4) and shake the mixture vigorously.
- 6.2. After separation of the phases, remove the lower (organic) phase repeat the extraction, using the reagents mentioned in 6.1, and again remove the organic phase.
- 6.3. Wash the aqueous solution into a 600-ml beaker and remove any carbon tetrachloride still present by boiling the solution.
- 6.4. Add 50 ml of ammonium acetate solution (4.1), bring the solution to the boil (5.9) and stir 10 ml of hot calcium chloride solution (4.2) into the boiling solution; allow the precipitate to settle.

- 6.5. Check that precipitation is complete by adding a few drops of calcium chloride solution (4.2), allow to cool to room temperature and then stir in 200 ml of ethanol (4.3); (5.10) leave to stand for 30 minutes.
- 6.6. Filter the liquid through a glass filter crucible (5.3), transfer the precipitate with a small quantity of hot water (50 to 60 °C) into the filter crucible and wash the precipitate with cold water.
- 6.7. Wash the precipitate five times with a little ethanol (4.3) and then five times with a little diethyl ether (4.5) and dissolve the precipitate in 50 ml of hot sulphuric acid (4.8) by drawing the latter through the filter crucible under reduced pressure.
- 6.8. Transfer the solution without loss into a conical flask (5.11) and titrate against potassium permanganate solution (4.7) until a light pink colouration occurs.

7. CALCULATION

The content of the sample expressed as oxalic acid percentage by mass is calculated from the formula

$$\% \text{ oxalic acid} = \frac{A \times 4.50179 \times 100}{E \times 1\,000}$$

in which:

- A is the consumption of 0.1 N potassium permanganate measured in accordance with 6.8;
E is the test quantity of sample in grams (6.1);
4.50179 is the conversion factor for oxalic acid.

8. REPEATABILITY⁽¹⁾

For an oxalic acid content of about 5% the difference between the results of two determinations in parallel carried out on the same sample should not exceed an absolute value of 0.15%.

9. IDENTIFICATION

9.1. Principle

Oxalic acid and/or oxalates are precipitated as calcium oxalate and dissolved in sulphuric acid. To the solution is added a little potassium permanganate solution, which turns colourless and causes the formation of carbon dioxide. When the resultant carbon dioxide is passed through a barium hydroxide solution, a white precipitate (miliness) of barium carbonate is formed.

9.2. Procedure

- 9.2.1. Treat a portion of the sample to be analyzed as described in section 6.1 to 6.3; this will remove any detergents present.
- 9.2.2. Add a spatula tipful of sodium acetate (4.10) to about 10 ml of the solution obtained in accordance with 9.2.1 and acidify the solution with a few drops of glacial acetic acid (4.11).
- 9.2.3. Add 10% calcium chloride solution (4.2) and filter. Dissolve the calcium oxalate precipitate in 2 ml of sulphuric acid (1:1) (4.12).
- 9.2.4. Transfer the solution into a test tube and add drop-wise about 0.5 ml of 0.1 N potassium permanganate solution (4.7). If oxalate is present, the solution loses colour at first gradually and then rapidly.
- 9.2.5. Immediately after adding the potassium permanganate, place an appropriate glass tube with stopper over the test tube, heat the contents slightly and collect the carbon dioxide formed in a saturated barium hydroxide solution (4.13). The appearance, after three to five minutes, of a milky cloud of barium carbonate indicates the presence of oxalic acid.

⁽¹⁾ See ISO/DIS 5725.

V. DETERMINATION OF CHLOROFORM IN TOOTHPASTE

1. SCOPE AND FIELD OF APPLICATION

This method is used for the determination of chloroform in toothpaste by gas chromatography. This method is suitable for the determination of chloroform at levels of 5% or less.

2. DEFINITION

The chloroform content determined by this method is expressed as a percentage by mass of the product.

3. PRINCIPLE

The toothpaste is suspended in a dimethylformamide/methanol mixture to which is added a known quantity of acetonitrile as internal standard. After centrifuging, a portion of the liquid phase is subjected to gas chromatography and the chloroform content calculated.

4. REAGENTS

All reagents should be of analytical purity.

4.1. Porapak Q, Chromosorb 101 or equivalent, 80 to 100 mesh

4.2. Acetonitrile

4.3. Chloroform

4.4. Dimethylformamide

4.5. Methanol

4.6. Internal standard solution.

Pipette 5 ml of dimethylformamide (4.4) into a 50-ml standard flask and add about 300 mg (M mg) of acetonitrile, accurately weighed. Make up to the mark with dimethylformamide and mix.

4.7. Solution for the determination of relative response factor. Pipette exactly 5 ml of internal standard solution (4.6) into a 10-ml standard flask and add about 300 mg (M_1 mg) of chloroform, accurately weighed. Make up to the mark with dimethylformamide and mix.

5. APPARATUS AND EQUIPMENT

5.1. Analytical balance.

5.2. Gas chromatograph, with flame ionization detector

5.3. Micro-syringe with a capacity of 5 to 10 μ l and graduation of 0.1 μ l.

5.4. Bulb pipettes with capacities of 1, 4 and 5 ml.

5.5. Volumetric flasks, 10 and 50 ml.

5.6. Test tubes, approximately 20 ml, with screw caps, Sovirel France No 20 or equivalent. The screw cap has an internal sealing plate coated on one side with teflon.

5.7. Centrifuge.

6. PROCEDURE

6.1. Suitable gas chromatography conditions

6.1.1. Column material : glass

length: 150 cm

internal diameter: 4 mm

external diameter: 6 mm.

6.1.2. Pack the column with Porapak Q, Chromosorb 101 or equivalent 80 to 100 mesh (4.1) with the aid of a vibrator.

6.1.3. Detector, flame ionization : adjust its sensitivity so that when 3 μ l of solution 4.7 is injected, the height of the acetonitrile peak is about three quarters full-scale deflection.

6.1.4. Gases:

Carrier, nitrogen, flow rate 65 ml/min.

Auxiliary: adjust the flow of gases to the detector so that the flow of air or oxygen is five to 10 times that of the hydrogen.

- 6.1.5. *Temperatures:*
 injector block 210 °C
 detector block 210 °C
 column oven 175 °C.
- 6.1.6. *Chart speed:*
 about 100 cm per hour.
- 6.2. **Sample preparation**
 Take the sample for analysis from an unopened tube. Remove one third of the contents, replace the cap on the tube, mix carefully in the tube and then take the test portion.
- 6.3. **Determination**
- 6.3.1. Weigh out, into a screw-capped tube (5.6) to the nearest 10 mg, 6 to 7 g (M_0 g) of the toothpaste prepared in accordance with section 6.2, and add three small glass beads.
- 6.3.2. Pipette exactly 5 ml of the internal standard solution (4.6), 4 ml of dimethylformamide (4.4) and 1 ml of methanol (4.5) into the tube, close the tube and mix.
- 6.3.3. Shake for half an hour with a mechanical shaker and centrifuge the closed tube for 15 minutes, at such a speed as to produce a clear separation of the phases.
Note: It occasionally happens that the liquid phase is still cloudy after centrifuging. Some improvement can be obtained by adding 1 to 2 g of sodium chloride to the liquid phase, allowing to settle and recentrifuging.
- 6.3.4. Inject 3 µl of this solution (6.3.3) under the conditions described in section 6.1. Repeat this operation. For the conditions described above, the following retention times can be given as guide values:
 methanol approximately one minute
 acetonitrile approximately 2.5 minutes
 chloroform approximately six minutes
 dimethylformamide > 15 minutes
- 6.3.5. *Determination of the relative response factor*
 Inject 3 µl of solution 4.7 for the determination of this factor. Repeat this operation. Determine the relative response factor daily.

7. CALCULATIONS

- 7.1. **Calculation of the relative response**
- 7.1.1. Measure the height and the width at half height of the acetonitrile and chloroform peaks and calculate the area of both peaks, using the formula: height × width at half height.
- 7.1.2. Determine the area of the acetonitrile and chloroform peaks in the chromatograms obtained in accordance with section 6.3.5 and calculate the relative response f_s with the aid of the following formula:

$$f_s = \frac{A_s \cdot M_i}{M_s \cdot A_i} = \frac{A_s \cdot \frac{1}{10} M}{A_i \cdot M_1}$$

in which:

- f_s = the relative response factor for chloroform;
 A_s = the area of the chloroform peak (6.3.5);
 A_i = the area of the acetonitrile peak (6.3.5);
 M_s = the quantity of chloroform in mg per 10 ml of the solution referred to in section 6.3.5 (= M_1);
 M_i = the quantity of acetonitrile in mg per 10 ml of the solution referred to in section 6.3.5 (= $1/10 M$).

Calculate the mean of the readings obtained.

7.2 Calculation of the chloroform content

7.2.1. Calculate in accordance with item 7.1.1 the area of the chloroform and acetonitrile peaks of the chromatograms obtained by the procedure described in section 6.3.4.

7.2.2. Calculate the chloroform content in the toothpaste with the aid of the following formula:

$$\% X = \frac{A_s \cdot M_i}{f_s \cdot M_{sx} \cdot A_i} \cdot 100 \% = \frac{A_s \cdot M}{f_s \cdot A_i \cdot M_o \cdot 100}$$

in which:

% X = the chloroform content of the toothpaste expressed by mass;

A_s = the area of the chloroform peak (6.3.4);

A_i = the area of the acetonitrile peak (6.3.4);

M_{sx} = the mass in mg of the sample referred to in section 6.3.1 (= 1 000 · M_o)

M_i = the quantity of acetonitrile in mg per 10 ml of the solution obtained in accordance with section 6.3.2 (1/10 M).

Calculate the mean of the levels found and express the result to an accuracy of within 0.1 %.

8. REPEATABILITY ⁽¹⁾

For a chloroform content of about 3 %, the difference between the results of two determinations in parallel carried out on the same sample should not exceed an absolute value of 0.3 %.

VI. DETERMINATION OF ZINC

1. SCOPE AND FIELD OF APPLICATION

This method is suitable for the determination of zinc present as chloride, sulphate or 4-hydroxybenzenesulphonate, or as an association of several of these zinc salts, in cosmetics.

2. DEFINITION

The zinc content of the sample is determined gravimetrically as the bis(2-methyl-8-quinolyl oxide) and is expressed as percentage by mass of zinc in the sample.

3. PRINCIPLE

Zinc present in solution is precipitated in an acid medium as zinc bis(2-methyl-8-quinolyl oxide). After filtration the precipitate is dried and weighed.

4. REAGENTS

All reagents should be of analytical purity.

4.1. 25 % (m/m) concentrated ammonia; $d_{\frac{20}{4}} = 0.91$

4.2. Glacial acetic acid

4.3. Ammonium acetate

4.4. 2-Methylquinolin-8-ol

4.5. 6 % (m/v) ammonia solution

Transfer 240 g of concentrated ammonia (4.1) into a 1 000-ml standard flask, make up to the mark with distilled water and mix.

4.6. 0.2 M ammonium acetate solution

Dissolve 15.4 g of ammonium acetate (4.3) in distilled water, make up to the mark in a 1 000-ml standard flask and mix.

4.7. 2-Methylquinolin-8-ol solution

Dissolve 5 g of 2-methylquinolin-8-ol in 12 ml of glacial acetic acid and transfer with distilled water into a 100-ml standard flask. Make up to the mark with distilled water and mix.

5. APPARATUS AND EQUIPMENT

5.1. Standard flasks, 100 and 1 000 ml

5.2. Beakers, 400 ml

5.3. Measuring cylinders, 50 and 150 ml

5.4. Graduated pipettes, 10 ml

⁽¹⁾ See ISO/DIS 5725.

- 5.5. Glass filter crucibles G-4
- 5.6. Vacuum flasks, 500 ml
- 5.7. Water-jet pump
- 5.8. Thermometer graduated from 0 to 100 °C
- 5.9. Desiccator with a suitable desiccant and humidity indicator, e.g. silicagel or equivalent
- 5.10. Drying oven regulated to a temperature 150 ± 2 °C
- 5.11. pH meter
- 5.12. Hot plate.

6. PROCEDURE

- 6.1. Weigh out into a 400-ml beaker, 5 to 10 g (M grams), containing about 50 to 100 mg of zinc, of the sample to be analyzed add 50 ml of distilled water and mix.
- 6.2. For every 10 mg of zinc present in the solution (6.1) add 2 ml of the 2-methylquinolin-8-ol solution (4.7) and mix.
- 6.3. Dilute the mixture with 150 ml of distilled water, bring the temperature of the mixture up to 60 °C (5.12) and add 45 ml of 0.2M ammonium acetate solution (4.6), stirring constantly.
- 6.4. Adjust the pH of the solution to 5.7 to 5.9, with 6 % ammonia solution (4.5), stirring constantly; use a pH meter to measure the pH of the solution,
- 6.5. Allow the solution to stand for 30 minutes. Filter with the aid of a water-jet pump through a G-4 filter crucible which has been dried beforehand (150 °C) and weighed after cooling (M_0 grams), and wash the precipitate with 150 ml of distilled water at 95 °C.
- 6.6. Place the crucible in a drying oven regulated to 150 °C and dry for one hour.
- 6.7. Remove the crucible from the drying oven, place it in a desiccator (5.9) and, when it has cooled to room temperature, determine the mass (M_1 grams).

7. CALCULATION

Calculate the zinc content of the sample as a percentage by mass (% m/m) with the aid of the following formula:

$$\% \text{ zinc} = \frac{(M_1 - M_0) \times 17.12}{M}$$

in which

M = the mass in grams of the sample taken in accordance with 6.1;

M_0 = the mass in grams of the empty and dry filter crucible (6.5);

M_1 = the mass in grams of the filter crucible with precipitate (6.7).

8. REPEATABILITY (1)

For a zinc content of about 1 % (m/m), the difference between the results of two determinations in parallel on the same sample should not exceed an absolute value of 0.1 %.

VII. DETERMINATION AND IDENTIFICATION OF 4-HYDROXYBENZENESULPHONIC ACID

1. SCOPE AND FIELD OF APPLICATION

This method is suitable for the identification and determination of 4-hydroxybenzenesulphonic acid in cosmetic products such as aerosols and face lotions.

2. DEFINITION

The 4-hydroxybenzenesulphonic acid content determined in accordance with this method is expressed as a percentage by mass of anhydrous zinc 4-hydroxybenzenesulphonate in the product.

(1) ISO/DIS 5725.

3. PRINCIPLE

The test portion is concentrated under reduced pressure, dissolved in water and purified by chloroform extraction. The determination of 4-hydroxybenzenesulphonic acid is carried out iodometrically on an aliquot of the filtered aqueous solution.

4. REAGENTS

All reagents should be of analytical purity.

- 4.1. 36 % (m/m) concentrated hydrochloric acid ($d_{20}^4 = 1.18$)
- 4.2. Chloroform
- 4.3. Butanol-1-ol
- 4.4. Glacial acetic acid
- 4.5. Potassium iodide
- 4.6. Potassium bromide
- 4.7. Sodium carbonate
- 4.8. Sulphanilic acid
- 4.9. Sodium nitrite
- 4.10. 0.1N potassium bromate
- 4.11. 0.1N sodium thiosulphate solution
- 4.12. 1 % (m/v) aqueous solution of starch
- 4.13. 2 % (m/v) aqueous solution of sodium carbonate
- 4.14. 4.5 % (m/v) aqueous solution of sodium nitrite
- 4.15. 0.05 % (m/v) solution of dithizone in chloroform
- 4.16. Developing solvent: butan-1-ol/glacial acetic acid/water (4 : 1 : 5 parts by volume); after mixing in the separating funnel, discard the lower phase.
- 4.17. Pauly reagent
Dissolve 4.5 g of sulphanilic acid (4.8) in 45 ml of concentrated hydrochloric acid (4.1), while heating, and dilute the solution with water to 500 ml. Cool 10 ml of the solution in a dish with ice-water and add, while stirring, 10 ml of cold sodium nitrite solution (4.14). Allow the solution to stand for 15 minutes at 0 °C (at this temperature the solution remains stable for one to three days) and immediately before spraying (7.5) add 20 ml of sodium carbonate solution (4.13).
- 4.18. Ready-prepared cellulose plates for thin-layer chromatography; format 20 × 20 cm, thickness of the adsorbent layer 0.25 mm;

5. APPARATUS AND EQUIPMENT

- 5.1. Round-bottomed flasks with ground glass stopper, 100 ml
- 5.2. Separating funnel, 100 ml
- 5.3. Conical flask with ground glass stopper, 250 ml
- 5.4. Burette, 25 ml
- 5.5. Bulb pipettes, 1, 2 and 10 ml
- 5.6. Graduated pipette, 5 ml
- 5.7. Micro-syringe, 10 µl with 0.1 µl graduations
- 5.8. Thermometer graduated from 0 to 100 °C
- 5.9. Water bath equipped with a heating element
- 5.10. Drying oven, well ventilated and regulated at 80 °C
- 5.11. The usual apparatus for carrying out thin-layer chromatography.

6. SAMPLE PREPARATION

In the method described below for the identification and determination of hydroxybenzenesulphonic acid in aerosols use is made of the residue obtained by releasing from the aerosol can the solvents and propellants that vaporize at normal pressure.

7. IDENTIFICATION

- 7.1. With the aid of a micro-syringe (5.7) apply 5 µl of the residue (6) or sample at each of six points on the starting line at a distance of 1 cm from the lower edge of the thin-layer plate (4.18).
- 7.2. Place the plate in a developing tank which already contains the developing solvent (4.16) and develop until the solvent front has reached 15 cm from the starting line.
- 7.3. Remove the plate from the bath and dry at 80 °C until no acetic acid vapour is perceptible. Spray the plate with sodium carbonate solution (4.13) and dry in air.

- 7.4. Cover one half of the plate with a glass plate and spray the uncovered part with 0.05 % dithizone solution (4.15). The appearance of purplish-red spots in the chromatogram indicates the presence of zinc ions.
- 7.5. Cover the sprayed half of the plate with a glass plate and spray the other half with Pauly reagent (4.17). The presence of 4-hydroxybenzenesulphonic acid is indicated by the appearance of a yellowish-brown spot with an R_f value of about 0.26 whilst a yellow spot with an R_f value of about 0.45 in the chromatogram indicates the presence of 3-hydroxybenzenesulphonic acid.

8. DETERMINATION

- 8.1. Weigh out 10 g of the sample or residue (6) into a 100-ml round-bottomed flask and evaporate almost to dryness under vacuum in a rotary evaporator over a water bath kept at 40 °C.
- 8.2. Pipette 10.0 ml (V₁ ml) water into the flask and dissolve the evaporation residue (8.1) by heating.
- 8.3. Quantitatively transfer the solution into a separating funnel (5.2) and extract the aqueous solution twice with 20-ml portions of chloroform (4.2). After each extraction discard the chloroform phase.
- 8.4. Filter the aqueous solution through a fluted filter. Depending on the expected hydroxybenzenesulphonic acid content, pipette 1.0 or 2.0 ml (V₂) of the filtrate into a 250-ml conical flask (5.3) and dilute to 75 ml with water.
- 8.5. Add 2.5 ml of 36 % hydrochloric acid (4.1) and 2.5 g of potassium bromide (4.6), mix and bring the temperature of the solution up to 50 °C with the aid of a water bath.
- 8.6. From a burette, add 0.1N potassium bromate (4.10) until the solution, which is still at 50 °C turns yellow.
- 8.7. Add a further 3.0 ml of potassium bromate solution (4.10), stopper the flask and allow to stand for 10 minutes in a water bath at 50 °C.
If after 10 minutes the solution loses its colour, add another 2.0 ml of potassium bromate solution (4.10), stopper the flask and heat for 10 minutes over a water bath kept at 50 °C. Record the total quantity of potassium bromate solution added (a).
- 8.8. Cool the solution to room temperature, add 2 g of potassium iodide (4.5) and mix.
- 8.9. Titrate the iodine formed against 0.1N sodium thiosulphate solution (4.11). Towards the end of the titration add a few drops of starch solution (4.12) as indicator. Record the quantity of sodium thiosulphate used (b).

9. CALCULATION

Calculate the zinc hydroxybenzenesulphonate content of the sample or residue (6) as a percentage by mass (% m/m) with the aid of the following formula:

$$\% \text{ m/m zinc hydroxybenzenesulphonate} = \frac{(a-b) \times V_1 \times 0.00514 \times 100}{m \times V_2}$$

in which:

- a = the total quantity in millilitres of 0.1N potassium bromate solution added (8.7),
- b = the quantity in millilitres of 0.1N sodium thiosulphate solution used for the back-titration (8.9),
- m = the quantity of product or residue analyzed, expressed in milligrams (8.1),
- V₁ = the volume of the solution obtained in accordance with 8.2, expressed in millilitres,
- V₂ = the volume of the dissolved evaporation residue used for the analysis (8.4), expressed in millilitres.

Note: In the case of aerosols, the measurement result in % (m/m) of the residue (6) must be expressed in terms of original product. For the purpose of this conversion, reference is made to the rules for the sampling of aerosols.

10. REPEATABILITY ⁽¹⁾

For a content of about 5 % zinc hydroxybenzenesulphonate, the difference between the results of two determinations carried out in parallel on the same sample should not exceed an absolute value of 0.5 %.

11. INTERPRETATION OF THE RESULTS

Under Council Directive 76/768/EEC relating to cosmetic products, the maximum authorized concentration of zinc 4-hydroxybenzenesulphonate in face lotions and deodorants is 6 % (m/m). This formulation means that besides the hydroxybenzenesulphonic acid content, the zinc content must be determined. Multiplication of the calculated zinc hydroxybenzenesulphonate content (9) by a factor of 0.1588 yields the minimum zinc content in % (m/m) that must theoretically be present in the product in view of the measured hydroxybenzenesulphonic acid content. The zinc content as actually measured gravimetrically (see the relevant provisions) may, however, be higher, because zinc chloride and zinc sulphate may also be used in cosmetic products.

⁽¹⁾ See ISO/DIS 5725.