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**COMMISSION REGULATION (EC) No 1622/2000  
of 24 July 2000**

**laying down certain detailed rules for implementing Regulation (EC) No 1493/1999 on the common organisation of the market in wine and establishing a Community code of oenological practices and processes**

(OJ L 194, 31.7.2000, p. 1)

Amended by:

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► <b><u>M1</u></b> Commission Regulation (EC) No 2451/2000 of 7 November 2000	L 282	7	8.11.2000
► <b><u>M2</u></b> Commission Regulation (EC) No 885/2001 of 24 April 2001	L 128	54	10.5.2001
► <b><u>M3</u></b> Commission Regulation (EC) No 1609/2001 of 6 August 2001	L 212	9	7.8.2001
► <b><u>M4</u></b> Commission Regulation (EC) No 1655/2001 of 14 August 2001	L 220	17	15.8.2001
► <b><u>M5</u></b> Commission Regulation (EC) No 2066/2001 of 22 October 2001	L 278	9	23.10.2001
► <b><u>M6</u></b> Commission Regulation (EC) No 2244/2002 of 16 December 2002	L 341	27	17.12.2002



**COMMISSION REGULATION (EC) No 1622/2000  
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**laying down certain detailed rules for implementing Regulation  
(EC) No 1493/1999 on the common organisation of the market in  
wine and establishing a Community code of oenological practices  
and processes**

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Regulation (EC) No 1493/1999 of 17 May 1999 on the common organisation of the market in wine<sup>(1)</sup>, and in particular Articles 42, 44, 45, 46 and 80 thereof,

Whereas:

- (1) Chapter I of Title V of Regulation (EC) No 1493/1999 and several of the Annexes thereto lay down general rules on oenological practices and processes and refer for the rest to detailed implementing rules to be adopted by the Commission.
- (2) Until Regulation (EC) No 1493/1999 was adopted, those rules were scattered throughout a large number of Community regulations. In the interests of both economic operators in the Community and the authorities responsible for applying Community rules, all those provisions should be collated in a Community code of oenological practices and processes and the Regulations on the subject, i.e. Commission Regulations (EEC) No 1618/70<sup>(2)</sup>, No 1972/78<sup>(3)</sup>, as last amended by Regulation (EEC) No 45/80<sup>(4)</sup>, No 2394/84<sup>(5)</sup>, as last amended by Regulation (EEC) No 2751/86<sup>(6)</sup>, No 305/86<sup>(7)</sup>, No 1888/86<sup>(8)</sup>, No 2202/89<sup>(9)</sup>, No 2240/89<sup>(10)</sup>, No 3220/90<sup>(11)</sup>, as last amended by Regulation (EC) No 1477/1999<sup>(12)</sup>, and (EC) No 586/93<sup>(13)</sup>, as last amended by Regulation (EC) No 693/96<sup>(14)</sup>, No 3111/93<sup>(15)</sup>, as last amended by Regulation (EC) No 693/98<sup>(16)</sup>, and (EC) No 1128/96<sup>(17)</sup>, should be repealed.
- (3) This Community code must include the current rules and adapt them to the new requirements of Regulation (EC) No 1493/1999. However, they must also be simplified and made more coherent and certain gaps must be filled in to ensure that the Community rules in this area are comprehensive. In addition, some rules should be made more specific to ensure greater legal certainty when they are applied.
- (4) Furthermore, in order to simplify the rules, only the detailed implementing rules explicitly referred to in Regulation (EC) No 1493/1999 should be included. For the rest, the rules under Articles 28 et seq. of the Treaty should suffice to ensure free movement of wine-sector products where oenological processes and practices are concerned.

<sup>(1)</sup> OJ L 179, 14.7.1999, p. 1.

<sup>(2)</sup> OJ L 175, 8.8.1970, p. 17.

<sup>(3)</sup> OJ L 226, 17.8.1978, p. 11.

<sup>(4)</sup> OJ L 7, 11.1.1980, p. 19.

<sup>(5)</sup> OJ L 224, 21.8.1984, p. 19.

<sup>(6)</sup> OJ L 253, 5.9.1986, p. 11.

<sup>(7)</sup> OJ L 38, 13.2.1986, p. 13.

<sup>(8)</sup> OJ L 163, 13.6.1986, p. 19.

<sup>(9)</sup> OJ L 209, 21.7.1989, p. 31.

<sup>(10)</sup> OJ L 215, 26.7.1989, p. 16.

<sup>(11)</sup> OJ L 308, 8.11.1990, p. 22.

<sup>(12)</sup> OJ L 171, 7.7.1999, p. 6.

<sup>(13)</sup> OJ L 61, 13.3.1993, p. 39.

<sup>(14)</sup> OJ L 97, 18.4.1996, p. 17.

<sup>(15)</sup> OJ L 278, 11.11.1993, p. 48.

<sup>(16)</sup> OJ L 96, 28.3.1998, p. 17.

<sup>(17)</sup> OJ L 150, 25.6.1996, p. 13.

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- (5) It should also be specified that the code is to apply without prejudice to specific provisions in other fields, in particular, rules already existing or to be adopted in future for foodstuffs.
- (6) Article 42(5) of Regulation (EC) No 1493/1999 permits grapes other than those of the wine-grape varieties listed in the classification established in accordance with Article 19 of that Regulation, or products derived therefrom, to be used in the Community for the manufacture of the products listed in Article 42(5). A list should be drawn up of the varieties to which such derogations may apply.
- (7) Pursuant to Annex V to Regulation (EEC) No 1493/1999 a list should be drawn up of quality liqueur wines produced in specified regions (quality liqueur wines psr) for which special rules of preparation are allowed. To enable products to be more easily identified and to facilitate intra-Community trade, reference should be made to the descriptions of products as established by Community rules or, where appropriate, by national legislation.
- (8) Limits on the use of certain substances should also be fixed, pursuant to Annex IV to Regulation (EC) No 1493/1999, and conditions should be laid down for the use of some of them.
- (9) In the light of current technical and scientific knowledge on the addition of lysozyme, in particular as regards the quality and health characteristics of wine treated in this way, definitive limits cannot be laid down at present for this new treatment. It should not be allowed for the moment and further trials should be conducted during the forthcoming wine year.
- (10) Article 44 of Council Regulation (EEC) No 337/79<sup>(1)</sup>, as amended by Regulation (EEC) No 3307/85<sup>(2)</sup>, reduced the maximum total sulphur dioxide content of wines other than sparkling and liqueur wines and certain quality wines by 15 mg per litre, with effect from 1 September 1986. To avoid difficulty in disposing of wine as a result of this change in the production rules, wine produced before that date in the Community, with the exception of Portugal, was allowed to be offered for direct human consumption after that date. That authorisation also applied, for a transitional period of one year from that date, to wine originating in third countries or in Portugal, provided that its total sulphur dioxide content complied with the Community rules or, where applicable, the Spanish rules in force before 1 September 1986. Since there might still be stocks of such wine, the measure in question should be extended.
- (11) Articles 12 and 16 of Council Regulation (EEC) No 358/79<sup>(3)</sup> reduced the maximum total sulphur dioxide content of sparkling wines, quality sparkling wines and quality sparkling wines produced in specified regions by 15 milligrams per litre with effect from 1 September 1986. In the case of sparkling wines originating in the Community, with the exception of Portugal, Article 22(1) of Regulation (EEC) No 358/79 allowed such products to be disposed of until stocks were exhausted provided that they had been prepared in accordance with that Regulation as it applied before 1 September 1986. Transitional provisions should be laid down for imported sparkling wines and sparkling wines produced in Spain and Portugal before 1 September 1986 in order to avoid difficulties in disposing of such products. Those products should therefore be permitted to be offered for sale for a transitional period after that date, provided that their total sulphur dioxide content complies with the Community provisions in force before 1 September 1986.

<sup>(1)</sup> OJ L 54, 5.3.1979, p. 1.

<sup>(2)</sup> OJ L 367, 31.12.1985, p. 39.

<sup>(3)</sup> OJ L 54, 5.3.1979, p. 130.

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- (12) Annex V(B)(1) to Regulation (EC) No 1493/1999 fixes the maximum volatile-acid content of wine. Provision may be made for derogations for certain quality wines produced in specified regions (quality wines psr) and certain table wines described by means of a geographical indication or having an alcoholic strength of 13 % or more. Some German, Spanish, French, Italian, Austrian and United Kingdom wines in these categories normally have a volatile acidity higher than that provided for in abovementioned Annex V owing to the special methods by which they are prepared and their high alcoholic strength. In order that those wines may continue to be prepared by the customary methods whereby they acquire their characteristic properties, provision should be made for a derogation from abovementioned Annex V(B)(1) in their case.
- (13) In accordance with Annex V(D)(3) to Regulation (EEC) No 1493/1999, the wine-growing regions where addition of sucrose was traditionally practised in accordance with legislation in force on 8 May 1970 should be specified.
- (14) The small size of the wine-growing sector of the Grand Duchy of Luxembourg means that the competent authorities can carry out systematic analytical checks of all batches of products turned into wine. Declarations of intention to enrich wine are not indispensable so long as those conditions continue to apply.
- (15) In accordance with Annex V(G)(5) to Regulation (EC) No 1493/1999, all enrichment, acidification and deacidification operations must be notified to the competent authorities. This also holds for quantities of sugar, concentrated grape must and rectified concentrated grape must held by the natural or legal persons undertaking such operations. The purpose of such notification is to allow the operations in question to be monitored. Notifications must therefore be addressed to the competent authority of the Member State on whose territory the operation is to take place and must be as accurate as possible. Where an increase in alcoholic strength is involved, the competent authority must be notified in sufficient time to carry out an effective check. In the case of acidification and deacidification, a check after the operation is sufficient. To simplify administrative procedures, it must therefore be possible to make such notification, except for the first notification in the wine year, by updating records regularly verified by the competent authority.
- (16) Annex V(F)(1) to Regulation (EC) No 1493/1999 lays down certain rules for the sweetening of wines. That provision refers primarily to table wine but also applies to quality wines psr by virtue of Annex VI(G)(2) to that Regulation.
- (17) Sweetening must not lead to enrichment in excess of the limits set in Annex V(C) to Regulation (EC) No 1493/1999. Special provision has been made to that end in Annex VI(F)(1) to that Regulation. In addition, checks are essential to ensure compliance with the provisions in question.
- (18) In order in particular to help make checks effective, sweetening should be carried out only at the production stage or another stage as close to production as possible. It should therefore be restricted to the production and wholesale stages.
- (19) The supervisory authorities must be informed of all impending sweetening operations. Anyone intending to carry out a sweetening operation should therefore be required to notify the supervisory authorities in writing. However, this procedure may be simplified when an undertaking carries out sweetening frequently or continuously.
- (20) The purpose of such notifications is to allow the operations in question to be monitored. Notifications must therefore be addressed to the competent authority of the Member State on whose territory the operation is to take place, be as accurate as possible and reach the competent authority prior to the operation.

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- (21) For checks to be effective, the quantities of grape must or concentrated grape must held by the party concerned before the sweetening operation must be declared. However, such declarations are of no value unless there is also an obligation to keep inwards and outwards registers of products used in sweetening operations.
- (22) In order to prevent sucrose from being used to sweeten liqueur wines, the use of rectified concentrated grape must, in addition to concentrated grape must, should be permitted.
- (23) 'Coupage' is a widespread oenological practice and, in view of its possible consequences, its use must be regulated in order to prevent abuse.
- (24) *Coupage* is the mixing of wines or musts of different origins or of different categories.
- (25) Indication of geographical origin or vine variety is of great importance for the commercial value of wines or musts originating in the same wine-growing zone of the Community or in the same production area of a third country. The mixing of wines or grape musts from the same zone, but from different geographical areas within that zone, or from different vine varieties or harvest years should therefore also be regarded as *coupage* where the description of the resulting product mentions the geographical origin, wine variety or harvest year.
- (26) Article 42(6) of Regulation (EC) No 1493/1999 in principle forbids the *coupage* of white table wine with red table wine but provides for a derogation for areas where that practice was traditional.
- (27) Under that derogation special detailed rules should be laid down for Spain in line with the structure of the wine-growing sector and consumer attitudes, which change slowly.
- (28) In order to restrict the *coupage* of white and red table wines to Spain, where it is necessary, it is vital to ensure that wine produced by this practice cannot be consumed outside that country.
- (29) The Member States should be allowed to authorise the use, for a limited time for experimental purposes, of oenological practices and processes not provided for in Regulation (EC) No 1493/1999.
- (30) Under Article 46(3) of Regulation (EC) No 1493/1999 methods of analysis must be adopted for establishing the composition of the products covered by Article 1 of that Regulation and rules must be laid down for establishing whether those products have undergone processes contrary to authorised oenological practices.
- (31) Annex VI(J)(1) to Regulation (EC) No 1493/1999 provides for an analytical test which is at least to measure the factors, among those listed in point (J)(3) of that Annex, enabling the quality wine psr concerned to be distinguished.
- (32) Uniform methods of analysis must be introduced to ensure that the particulars on documents relating to the products in question are accurate and comparable for verification purposes. Such methods must therefore be compulsory for all commercial transactions and verification procedures. However, in view of the control requirements and the trade's limited facilities, a small number of usual procedures should continue to be allowed for a limited period so that the requisite factors can be determined rapidly and with reasonable accuracy.
- (33) The Community methods for the analysis of wines were laid down by Commission Regulation (EEC) No 2676/90<sup>(1)</sup>. Since

<sup>(1)</sup> OJ L 272, 3.10.1990, p. 1.

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the methods described therein are valid, that Regulation should remain in force, with the exception of the usual methods which will ultimately no longer be described.

- (34) Under Article 80 of Regulation (EC) No 1493/1999 measures may be adopted to facilitate the changeover to the arrangements provided for in this Regulation. That possibility should be used to protect traders holding large stocks of certain products covered by that Regulation from substantial losses.
- (35) The measures provided for in this Regulation are in accordance with the opinion of the Management Committee for Wine,

HAS ADOPTED THIS REGULATION:

*Article 1*

**Purpose**

Without prejudice to the general rules on foodstuffs, oenological practices and processes are governed by the Community rules laid down in Chapter I of Title V of Regulation (EC) No 1493/1999 and the Annexes thereto and by the code set out in this Regulation.

This code shall comprise the detailed rules for implementing Regulation (EC) No 1493/1999, particularly those relating to products intended for use in winemaking (Title I) and oenological practices and processes authorised in the Community (Titles II and III).

TITLE I

**REQUIREMENTS FOR CERTAIN GRAPES AND GRAPE MUSTS**

*Article 2*

**Use of grapes of certain varieties**

1. Grapes of varieties classified solely as table-grape varieties shall not be used in winemaking.
2. Notwithstanding Article 42(5) of Regulation (EC) No 1493/1999, grapes of varieties listed in Annex I hereto may be used in the Community to prepare the products covered by that provision.

*Article 3*

**Use of certain products not possessing the natural alcoholic strength by volume for the production of sparkling wine, aerated sparkling wine and aerated semi-sparkling wine**

The years when, because of unfavourable weather conditions, products from wine-growing zones A and B not possessing the minimum natural alcoholic strength by volume laid down for the relevant wine-growing zone may be used, under the conditions laid down in Article 44(3) of Regulation (EC) No 1493/1999, for the production of sparkling wine, aerated sparkling wine and aerated semi-sparkling wine shall be as set out in Annex II hereto.

*Article 4*

**Use of grape must of certain vine varieties for the preparation of quality sparkling wine of the aromatic type and quality sparkling wine psr of the aromatic type, and exceptions to such use**

1. The list of vine varieties producing grape must or grape must in fermentation that must be used to constitute the cuvée for preparing quality sparkling wines of the aromatic type and quality sparkling wines psr of the aromatic type in accordance with Annex V(I)(3)(a) and Annex VI(K)(10)(a) to Regulation (EC) No 1493/1999 shall be as set out in Annex III(A) hereto.

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2. The derogations referred to in Annex V(I)(3)(a) and Annex VI(K)(10)(a) to Regulation (EC) No 1493/1999 regarding the vine varieties and the products used to constitute the cuvée shall be as laid down in Annex III(B) hereto.

## TITLE II

**OENOLOGICAL PRACTICES AND PROCESSES**

## CHAPTER I

**RESTRICTIONS AND REQUIREMENTS PERTAINING TO THE USE OF CERTAIN SUBSTANCES AUTHORISED FOR OENOLOGICAL PURPOSES***Article 5***Restrictions on the use of certain substances**

The substances authorised for oenological purposes listed in Annex IV to Regulation (EC) No 1493/1999 may be used only subject to the limits laid down in Annex IV hereto.

*Article 6***Polyvinylpolypyrrolidone**

Polyvinylpolypyrrolidone, the use of which is provided for in Annex IV(1)(p) and (3)(y) to Regulation (EC) No 1493/1999, may be used only if it meets the requirements and purity criteria set out in Annex V hereto.

*Article 7***Calcium tartrate**

Calcium tartrate, the use of which in assisting the precipitation of tartar is provided for in Annex IV(3)(v) to Regulation (EC) No 1493/1999, may be used only if it meets the requirements set out in Annex VI hereto.

*Article 8***Tartaric acid**

Tartaric acid, the use of which for deacidification purposes is provided for in Annex IV(1)(m) and Annex IV(3)(l) to Regulation (EC) No 1493/1999, may be used only for products that:

- are from the Elbling and Riesling vine varieties, and
- are obtained from grapes harvested in the following wine-growing regions in the northern part of wine-growing zone A:
  - Ahr,
  - Rheingau,
  - Mittelrhein,
  - Mosel-Saar-Ruwer,
  - Nahe,
  - Rheinhessen,
  - Rheinpfalz,
  - Moselle luxembourgeoise.

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Tartaric acid, the use of which is provided for in Annex IV(1)(l) and (m) and Annex IV(3)(k) and (l) to Regulation (EC) No 1493/1999, also called L-tartaric acid, must be of agricultural origin and extracted specifically from wine products. It must also comply with the purity criteria laid down in Commission Directive 96/77/EC<sup>(1)</sup>.

<sup>(1)</sup> OJ L 339, 30.12.1996, p. 1.

▼B*Article 9***Aleppo pine resin**

Aleppo pine resin, the use of which is provided for in Annex IV(1)(n) to Regulation (EC) No 1493/1999, may be used only to produce 'retsina' table wine. This oenological practice may be carried out only:

- in the geographical territory of Greece,
- using grape must from grape varieties, areas of production and wine-making areas as specified in the Greek provisions in force at 31 December 1980,
- by adding 1 000 grams or less of resin per hectolitre of the product used, before fermentation or, where the actual alcoholic strength by volume does not exceed one third of the overall alcoholic strength by volume, during fermentation.

Greece shall notify the Commission in advance if it intends to amend the provisions referred to in the second indent. If the Commission does not respond within two months of such notification, Greece may implement the planned amendments.

*Article 10***Beta-glucanase**

Beta-glucanase, the use of which is provided for in Annex IV(1)(j) and (3)(m) to Regulation (EC) No 1493/1999, may be used only if it meets the requirements set out in Annex VII hereto.

*Article 11***Lactic bacteria**

Lactic bacteria, the use of which is provided for in Annex IV(1)(q) and (3)(z) to Regulation (EC) No 1493/1999, may be used only if they meet the requirements set out in Annex VIII hereto.

▼M5*Article 11a***Lysozyme**

Lysozyme, the use of which is provided for in Annex IV(1)(r) and (3)(zb) to Regulation (EC) No 1493/1999, may be used only if it meets the requirements set out in Annex VIIIa hereto.

▼B*Article 12***Ion exchange resins**

The ion exchange resins which may be used in accordance with Annex IV(2)(h) to Regulation (EC) No 1493/1999 shall be styrene and divinylbenzene copolymers containing sulphonic acid or ammonium groups. They must comply with the requirements laid down in Council Directive 89/109/EEC of 21 December 1988 on the approximation of the laws of the Member States relating to materials and articles intended to come into contact with foodstuffs<sup>(1)</sup> and Community and national provisions adopted in implementation thereof. In addition, when tested by the method of analysis laid down in Annex IX hereto, they must not lose more than 1 mg/l of organic matter into any of the solvents listed. They must be regenerated with substances permitted for use in the preparation of foodstuffs.

These resins may be used only under the supervision of an oenologist or technician and in installations approved by the authorities of the Member States on whose territory they are used. Such authorities shall lay down the duties and responsibility incumbent on approved oenologists and technicians.

<sup>(1)</sup> OJ L 40, 11.2.1989, p. 38.



**▼B***Article 13***Potassium ferrocyanide**

Potassium ferrocyanide, the use of which is provided for in Annex IV(3)(p) to Regulation (EC) No 1493/1999, may be used only under the supervision of an oenologist or technician officially approved by the authorities of the Member State in whose territory the process is carried out, the extent of whose responsibility shall be fixed, if necessary, by the Member State concerned.

After treatment with potassium ferrocyanide wine must contain traces of iron.

Supervision of the use of the product covered by this Article shall be governed by the provisions adopted by the Member States.

*Article 14***Calcium phytate**

Calcium phytate, the use of which is provided for in Annex IV(3)(p) to Regulation (EC) No 1493/1999, may be used only under the supervision of an oenologist or technician officially approved by the authorities of the Member State in whose territory the process is carried out, the extent of whose responsibility shall be fixed, if necessary, by the Member State concerned.

After treatment wine must contain traces of iron.

Supervision of the use of the product referred to in the first paragraph shall be governed by the provisions adopted by the Member States.

*Article 15***DL-tartaric acid**

DL-tartaric acid, the use of which is provided for in Annex IV(3)(s) to Regulation (EC) No 1493/1999, may be used only under the supervision of an oenologist or technician officially approved by the authorities of the Member State in whose territory the process is carried out, the extent of whose responsibility shall be fixed, if necessary, by the Member State concerned.

Supervision of the use of the product covered by this Article shall be governed by the provisions adopted by the Member States.

*Article 16***Electrodialysis treatment**

Electrodialysis treatment, the use of which to ensure the tartaric stabilisation of wine is provided for in Annex IV(4)(b) to Regulation (EC) No 1493/1999, may be used only if it meets the requirements set out in Annex X hereto. It shall be used solely for table wine until 31 July 2001.

*Article 17***Urease**

Urease, the use of which to reduce the level of urea in wine is provided for in Annex IV(4)(c) to Regulation (EC) No 1493/1999, may be used only if it meets the requirements and purity criteria set out in Annex XI hereto.

*Article 18***Addition of oxygen**

Addition of oxygen, which is provided for in Annex IV(4)(a) to Regulation (EC) No 1493/1999, must be carried out using pure gaseous oxygen.

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## CHAPTER II

## SPECIFIC RESTRICTIONS AND REQUIREMENTS

*Article 19***Sulphur dioxide content**

1. The amendments to the lists of wines in Annex V(A)(2) to Regulation (EC) No 1493/1999 shall be as set out in Annex XII hereto.

2. The following may be offered for direct human consumption until stocks are exhausted:

- wine, other than liqueur wines and sparkling wines, produced in the Community, with the exception of Portugal, before 1 September 1986, and
- wine, other than liqueur wines and sparkling wines, originating in third countries or in Portugal and imported into the Community before 1 September 1987,

provided that their total sulphur dioxide content on release to the market for direct human consumption does not exceed:

- (a) 175 milligrams per litre for red wines;
- (b) 225 milligrams per litre for white and rosé wines;
- (c) notwithstanding (a) and (b) above, for wines with a residual sugar content expressed as invert sugar of not less than five grams per litre, 225 milligrams per litre for red wines and 275 milligrams per litre for white and rosé wines.

In addition, the following may be offered for direct human consumption in the country of production and for export to third countries until stocks are exhausted:

- wine produced in Spain before 1 September 1986, the total sulphur dioxide content of which does not exceed the maximum laid down by the Spanish provisions in force before that date, and
- wine produced in Portugal before 1 January 1991, the total sulphur dioxide content of which does not exceed the maximum laid down by the Portuguese provisions in force before that date.

3. Sparkling wines originating in third countries and Portugal and imported into the Community before 1 September 1987 may be offered for direct human consumption until stocks are exhausted provided that their total sulphur dioxide content does not exceed:

- 250 milligrams per litre for sparkling wines, and
- 200 milligrams per litre for quality sparkling wines.

In addition, the following may be offered for direct human consumption in the country of production and for export to third countries until stocks are exhausted:

- wine produced in Spain before 1 September 1986, the total sulphur dioxide content of which does not exceed the maximum laid down by the Spanish provisions in force before that date, and
- wine produced in Portugal before 1 January 1991, the total sulphur dioxide content of which does not exceed the maximum laid down by the Portuguese provisions in force before that date.

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4. The cases where the Member States may authorise, because of weather conditions, that the maximum total sulphur dioxide content of wine, which is set at less than 300 milligrams per litre in point A of Annex V to Regulation (EC) No 1493/1999, be increased by a maximum of 40 milligrams per litre for certain wines produced in certain wine-growing zones within their territory shall be as listed in Annex XIIa hereto.

▼B*Article 20***Volatile acid content**

The wines covered by exceptions regarding the maximum volatile acid content in accordance with Annex V(B)(3) to Regulation (EC) No 1493/1999 shall be as set out in Annex XIII hereto.

*Article 21***Use of calcium sulphate in certain liqueur wines**

Derogations regarding the use of calcium sulphate as referred to in Annex V(J)(4)(b) to Regulation (EC) No 1493/1999 may be granted only for the following Spanish wines:

- (a) '*Vino generoso*' as defined in Annex VI(L)(8) to Regulation (EC) No 1493/1999;
- (b) '*Vino generoso de licor*' as defined in Annex VI(L)(11) to Regulation (EC) No 1493/1999.

## TITLE II

**OENOLOGICAL PRACTICES**

## CHAPTER I

**ENRICHMENT***Article 22***Authorisation to use sucrose**

The wine-growing regions where the use of sucrose is authorised pursuant to Annex V(D)(3) to Regulation (EC) No 1493/1999 shall be as follows:

- (a) wine-growing zone A,
- (b) wine-growing zone B,
- (c) wine-growing zone C, with the exception of vineyards in Italy, Greece, Spain and Portugal and vineyards in the French departments under jurisdiction of the courts of appeal of:
  - Aix-en-Provence,
  - Nîmes,
  - Montpellier,
  - Toulouse,
  - Agen,
  - Pau,
  - Bordeaux,
  - Bastia.

However, enrichment by dry sugaring may be authorised by the national authorities as an exception in the French departments referred to above. France shall notify the Commission and the other Member States forthwith of any such authorisations.

*Article 23***Enrichment in the event of exceptionally unfavourable weather conditions**

The years during which an increase in the alcoholic strength by volume as referred to in Annex V(C)(3) to Regulation (EC) No 1493/1999 may be authorised in accordance with the procedure laid down in Article 75 of that Regulation because of exceptionally unfavourable weather conditions in accordance with point (C)(4) of that Annex, and the wine-growing zones, geographical regions and varieties concerned, where applicable, shall be as set out in Annex XIV hereto.

▼B*Article 24***Enrichment of the cuvée for sparkling wines**

In accordance with Annex V(H)(4) and (I)(5) and Annex VI(K)(11) to Regulation (EC) No 1493/1999, each Member State may authorise the enrichment of the cuvée at the place of preparation of sparkling wines, provided that:

- (a) none of the constituents of the cuvée has previously undergone enrichment;
- (b) the said constituents are derived solely from grapes harvested in its territory;
- (c) the enrichment is carried out in a single operation;
- (d) the following limits are not exceeded:
  - 3.5 % vol. for a cuvée comprising constituents from wine-growing zone A, provided that the natural alcoholic strength by volume of each constituent is at least 5 % vol.
  - 2.5 % vol. for a cuvée comprising constituents from wine-growing zone B, provided that the natural alcoholic strength by volume of each constituent is at least 6 % vol.
  - 2 % vol. for a cuvée comprising constituents from wine-growing zones C I a, C I b), C II and C III, provided that the natural alcoholic strength by volume of each constituent is at least 7.5 % vol., 8 % vol., 8.5 % vol. and 9 % vol. respectively.

The above limits shall be without prejudice to the application of Article 44(3) of Regulation (EC) No 1493/1999 to cuvées intended for the preparation of sparkling wines as referred to in Annex I(15) to that Regulation;

- (e) the method used is addition of sucrose, of concentrated grape must or of rectified concentrated grape must.

*Article 25***Administrative rules applicable to enrichment**

1. Notifications as referred to in Annex V(G)(5) to Regulation (EC) No 1493/1999 relating to operations to increase alcoholic strength shall be made by the natural or legal persons carrying out the operations concerned and in compliance with suitable time limits and control conditions set by the competent authority of the Member State on whose territory the operation takes place.

2. Notifications as referred to in paragraph 1 shall be made in writing and shall include the following information:

- the name and address of the person making the notification,
- the place where the operation is to be carried out,
- the date and time when the operation is to commence,
- the description of the product undergoing the operation,
- the process used for the operation, with details of the type of product to be used.

3. However, Member States may allow prior notifications covering several operations or a specified period to be sent to the competent authorities. Such notifications shall be accepted only if the person making the notification keeps a written record of each enrichment operation as provided for in paragraph 6 and of the information required by paragraph 2.

4. Where the person concerned is prevented by reasons of *force majeure* from carrying out the notified operation in due time, Member States shall specify the conditions under which that person is to submit a new notification to the competent authority so that the necessary checks can be carried out.

They shall notify such provisions in writing to the Commission.

5. Notifications as referred to in paragraph 1 shall not be required in the Grand Duchy of Luxembourg.

▼B

6. The particulars relating to operations to increase alcoholic strength shall be entered in the records immediately after the operation is completed, in accordance with the provisions adopted pursuant to Article 70 of Regulation (EC) No 1493/1999.

In cases where prior notifications covering several operations do not indicate the date and time when the operations are to commence, an entry must also be made in the records before each operation commences.

## CHAPTER II

## ACIDIFICATION AND DEACIDIFICATION

*Article 26***Administrative rules applicable to acidification and deacidification**

1. In the case of acidification and deacidification, operators shall make notifications as referred to in Annex V(G)(5) to Regulation (EC) No 1493/1999 not later than the second day following the first operation carried out in any wine year. Such notifications shall be valid for all operations in that wine year.

2. Notifications as referred to in paragraph 1 shall be made in writing and shall include the following information:

- the name and address of the person making the notification,
- the type of operation involved,
- the place where the operation took place.

3. The particulars relating to each acidification and deacidification operation shall be entered in the records in accordance with the provisions adopted pursuant to Article 70 of Regulation (EC) No 1493/1999.

## CHAPTER III

## COMMON RULES APPLICABLE TO ENRICHMENT, ACIDIFICATION AND DEACIDIFICATION

*Article 27***Acidification and enrichment of one and the same product**

The cases where acidification and enrichment of one and the same product within the meaning of Annex I to Regulation (EC) No 1493/1999 are permitted in accordance with Annex V(E)(7) thereto shall be decided in accordance with the procedure laid down in Article 75 of that Regulation and shall be as set out in Annex XV hereto.

*Article 28***General rules applicable to enrichment, acidification and deacidification of products other than wine**

The processes referred to in Annex V(G)(1) to Regulation (EC) No 1493/1999 must be carried out in a single operation. However, Member States may permit some of these processes to be carried out in more than one operation where this improves the vinification of the products concerned. In such cases, the limits laid down in Annex V to Regulation (EC) No 1493/1999 shall apply to the whole operation concerned.

*Article 29***Derogation from the dates laid down for enrichment, acidification and deacidification**

Notwithstanding the dates laid down in Annex V(G)(7) to Regulation (EC) No 1493/1999, enrichment, acidification and deacidification operations may be carried out before the dates set out in Annex XVI hereto.



CHAPTER IV  
SWEETENING

*Article 30*

**Technical rules applicable to sweetening**

The sweetening of table wines and quality wines psr shall be authorised only at the production and wholesale stages.

*Article 31*

**Administrative rules applicable to sweetening**

1. Any natural or legal person intending to carry out a sweetening operation shall notify the competent authority of the Member State on whose territory the operation is to take place.

2. Notifications shall be made in writing and must reach the competent authority at least 48 hours before the day on which the operation is to take place.

However, where an undertaking frequently or continuously carries out sweetening operations, Member States may allow a notification covering several operations or a specified period to be sent to the competent authorities. Such notification shall be accepted only on condition that the undertaking keeps a written record of each sweetening operation and records the information required by paragraph 3.

3. Notifications shall include the following information:

(a) for sweetening operations carried out in accordance with Annexes V(F)(1)(a) and VI(G)(2) to Regulation (EC) No 1493/1999:

- (i) the quantity and the total and actual alcoholic strengths of the table wine or the quality wine psr to be sweetened,
- (ii) the quantity and the total and actual alcoholic strengths of the grape must to be added,
- (iii) the total and actual alcoholic strengths of the table wine or quality wine psr after sweetening.

(b) for sweetening operations carried out in accordance with Annexes V(F)(1)(b) and VI(G)(2) to Regulation (EC) No 1493/1999:

- (i) the quantity and the total and actual alcoholic strengths of the table wine or the quality wine psr to be sweetened,
- (ii) the quantity and the total and actual alcoholic strengths of the grape must or the quantity and density of the concentrated grape must to be added, as the case may be,
- (iii) the total and actual alcoholic strengths of the table wine or quality wine psr after sweetening.

4. The persons referred to in paragraph 1 shall keep goods inwards and outwards registers showing the quantities of grape must or concentrated grape must which they are holding for sweetening operations.

*Article 32*

**Sweetening of certain imported wines**

The sweetening of imported wines as referred to in Annex V(F)(3) to Regulation (EC) No 1493/1999 shall be subject to the conditions laid down in Articles 30 and 31 of this Regulation.

*Article 33*

**Specific rules applicable to the sweetening of liqueur wines**

1. Sweetening under the conditions laid down in the second indent of Annex V(J)(6)(a) to Regulation (EC) No 1493/1999 shall be authorised for 'vino generoso de licor' as defined in Annex VI(L)(11) to that Regulation.

**▼B**

2. Sweetening under the conditions laid down in the third indent of Annex V(J)(6)(a) to Regulation (EC) No 1493/1999 shall be authorised for Madeira quality liqueur wine psr.

## CHAPTER V

## COUPAGE

*Article 34***Definition**

1. 'Coupage' within the meaning of Article 46(2)(b) of Regulation (EC) No 1493/1999 means: the mixing together of wines or musts coming from:

- (a) different States,
- (b) different wine-growing zones in the Community within the meaning of Annex III to Regulation (EC) No 1493/1999 or different production zones in a third country,
- (c) the same wine-growing zone in the Community or the same production zone in a third country but being of different
  - geographical origins, or
  - vine varieties, or
  - harvest years,

provided that the geographical origin, vine variety or harvest year is specified or required to be specified in the description of the product concerned, or

(d) different categories of wines or musts.

2. The following shall be regarded as different categories of wine or must:

- red wine, white wine and the musts or wines suitable for yielding one of these categories of wine,
- table wine, quality wine psr and the musts or wines suitable for yielding one of these categories of wine.

For the purposes of this paragraph, rosé wine shall be regarded as red wine.

3. The following processes shall not be regarded as coupage:

- (a) the addition of concentrated grape must or of rectified concentrated grape must to increase the natural alcoholic strength of the product concerned;
- (b) the sweetening,
  - of a table wine,
  - of a quality wine psr where the sweetener comes from the specified region whose name it bears or is rectified concentrated grape must,
- (c) the production of a quality wine psr in accordance with traditional practices as referred to in Annex VI(D)(2) to Regulation (EC) No 1493/1999.

*Article 35***General rules applicable to coupage**

1. Coupage or blending of:

- table wines with each other, or
- wines suitable for yielding table wines with each other or with table wines, or
- quality wines psr with each other,

shall be prohibited if any of the ingredients does not comply with Regulation (EC) No 1493/1999 or with this Regulation.

▼B

2. The result of mixing fresh grapes, grape must, grape must in fermentation or new wine still in fermentation, where any of those products does not possess the required characteristics for obtaining table wine or wine suitable for yielding table wine, with products suitable for yielding such wines or with table wine, shall not be considered to be table wine or wine suitable for yielding table wine.

3. Where coupage takes place and subject to the following paragraphs, the only products which may be considered to be table wines shall be those resulting from coupage of table wines with each other or coupage of table wines with wines suitable for yielding table wines, provided that such wines suitable for yielding table wines have a total natural alcoholic strength by volume not exceeding 17 % vol.

4. Without prejudice to Article 44(7) of Regulation (EC) No 1493/1999 and Article 36 of this Regulation, coupage of a wine suitable for yielding a table wine with:

- (a) a table wine may yield a table wine only if the operation is carried out in the wine-growing zone where the wine suitable for yielding a table wine has been produced;
- (b) another wine suitable for yielding a table wine may yield a table wine only if:
  - the second wine suitable for yielding a table wine has been produced in the same wine-growing zone and
  - the operation is carried out in the same wine-growing zone.

5. Coupage of a grape must or a table wine which has undergone the oenological practice referred to in Annex IV(1)(n) to Regulation (EC) No 1493/1999 with a grape must or a wine which has not undergone that practice shall be prohibited.

*Article 36***Specific rules applicable to coupage of white wines and red wines in Spain**

1. Pursuant to Article 42(6) of Regulation (EC) No 1493/1999, coupage of a wine suitable for yielding a white table wine or of a white table wine with a wine suitable for yielding a red table wine or with a red table wine shall be permitted in Spain until 31 July 2005, provided that the product obtained has the characteristics of a red table wine.

2. Spanish red and rosé table wines resulting from coupage as referred to in paragraph 1 may not be traded with other Member States or exported to third countries.

3. For the purposes of paragraph 2, the competent authority designated by Spain shall guarantee the origin of Spanish red and rosé table wines by affixing a stamp in the box reserved for official comments on the document provided for in Article 70 of Regulation (EC) No 1493/1999, preceded by the words 'wine not produced by white/red coupage'.

## CHAPTER VI

**ADDITION OF OTHER PRODUCTS***Article 37***Addition of distillate to liqueur wines and certain quality liqueur wines psr**

The characteristics of wine distillate and dried-grape distillate which may be added to liqueur wines and certain quality liqueur wines psr in accordance with the second indent of Annex V(J)(2)(a)(i) to Regulation (EC) No 1493/1999 shall be as laid down in Annex XVII hereto.



▼B*Article 38***Addition of other products to, and use of grape must in the preparation of, certain quality liqueur wines psr**

1. The list of quality liqueur wines psr preparation of which involves the use of grape must or a mixture thereof with wine in accordance with Annex V(J)(1) to Regulation (EC) No 1493/1999 shall be as set out in Annex XVIII(A) hereto.
2. The list of quality liqueur wines psr to which the products referred to in Annex V(J)(2)(b) to Regulation (EC) No 1493/1999 may be added shall be as set out in Annex XVIII(B) hereto.

*Article 39***Addition of alcohol to semi-sparkling wine**

Pursuant to Article 42(3) of Regulation (EC) No 1493/1999, the addition of alcohol to semi-sparkling wine shall not lead to an increase of more than 0,5 %/vol. in the total alcoholic strength by volume of the semi-sparkling wine. Alcohol may only be added in the form of expedition liqueur and provided that such a method is allowed under the regulations in force in the producer Member State and that such regulations have been communicated to the Commission and to the other Member States.

## CHAPTER VII

**REQUIREMENTS APPLICABLE TO AGEING***Article 40***Ageing of certain liqueur wines**

Ageing under the conditions laid down in Annex V(J)(6)(c) to Regulation (EC) No 1493/1999 shall be authorised for Madeira quality liqueur wine psr.

## TITLE III

**EXPERIMENTAL USE OF NEW OENOLOGICAL PRACTICES***Article 41***General rules**

1. For experimental purposes as referred to in Article 46(2)(f) of Regulation (EC) No 1493/1999, each Member State may authorise the use of certain oenological practices or processes not provided for in that Regulation, for a maximum of three years, on condition that:
  - the practices and processes concerned meet the requirements laid down in Article 42(2) of Regulation (EC) No 1493/1999,
  - such practices and processes are applied to quantities not exceeding 50 000 hectolitres per year for any one experiment,
  - the products obtained are not sent outside the Member State on whose territory the experiment was conducted,
  - the Member State concerned informs the Commission and the other Member States at the beginning of the experiment of the terms of each authorisation.

‘Experiment’ means an operation or operations carried out in the context of a well-defined research project with a single experimental protocol.

2. Before the end of the period referred to in paragraph 1, the Member State concerned shall forward to the Commission a report on the authorised experiment and the Commission shall notify the other Member States of the results thereof. Depending on these results, the Member State concerned may apply to the Commission for authorisation to continue the experiment, possibly with a larger quantity than in the original experiment, for a further maximum period of three years.

**▼B**

The Member State shall submit an appropriate dossier in support of its application.

3. The Commission, acting in accordance with the procedure laid down in Article 75 of Regulation (EC) No 1493/1999, shall decide on the application referred to in paragraph 2. At the same time, it may decide to allow the experiment to be continued in other Member States under the same terms.

4. At the end of the period referred to in paragraph 1 or, where applicable, paragraph 2, and after gathering all the information on the experiment, the Commission may, if appropriate, submit to the Council a proposal for definitive authorisation of the oenological practice or process covered by the experiment.

## TITLE IV

**FINAL PROVISIONS***Article 42***Wine produced before 1 August 2000**

Wine produced before 1 August 2000 may be offered or supplied for direct human consumption after that date provided that it complies with the Community or national rules in force prior to that date.

*Article 43***Requirements for distillation, movement and use of products not complying with Regulation (EC) No 1493/1999 or with this Regulation**

1. Products which, pursuant to Article 45(1) of Regulation (EC) No 1493/1999, may not be offered or supplied for direct human consumption shall be destroyed. However, Member States may authorise the use of certain products the characteristics of which they shall determine, by distilleries or vinegar factories or for industrial purposes.

2. Such products may not be held without legitimate cause by producers or traders and they may be moved only to distilleries, vinegar factories, establishments using them for industrial purposes or products or elimination plants.

3. Member States may have denaturing agents or indicators added to wines as referred to the preceding paragraph in order to make them more easily identifiable. Where justified, they may also prohibit the uses provided for in paragraph 1 and have the products eliminated.

*Article 44***Repeal**

1. Regulations (EEC) No 1618/70, No 1972/78, No 2394/84, No 305/86, No 1888/86, No 2094/86, No 2202/89, No 2240/89, No 3220/90 and No 586/93 and Regulations (EC) No 3111/93 and No 1128/96 are hereby repealed.

2. Regulation (EEC) No 2676/90 shall apply to products covered by Regulation (EC) No 1493/1999. Parts 1(5), 3(5), 5(3.2), 12(3), 16(3), 18(3), 23(3), 25(2.3), 26(3), 27(3), 30(3), 37(3) and 40(1.4) of the Annex to Regulation (EEC) No 2676/90 are hereby repealed from **►M3** 1 August 2003 ◀.

*Article 45*

This Regulation shall enter into force on the seventh day following its publication in the Official Journal of the European Communities.

It shall apply from 1 August 2000.

**▼B**

This Regulation shall be binding in its entirety and directly applicable in all Member States.

▼B

*ANNEX I*

**List of vine varieties grapes of which may, notwithstanding Article 42(5) of Regulation (EC) No 1493/1999, be used in the preparation of the products covered by that provision**

*(Article 2 of this Regulation)*

(p. m. )

▼B

*ANNEX II*

**Years when products from wine-growing zones A and B not possessing the minimum natural alcoholic strength by volume laid down by Regulation (EC) No 1493/1999 may be used for the production of sparkling wine, aerated sparkling wine and aerated semi-sparkling wine**

*(Article 3 of this Regulation)*

(p. m. )



*ANNEX III*

**A. List of vine varieties grapes of which may be used to constitute the cuvée for preparing quality sparkling wines of the aromatic type and quality sparkling wines psr of the aromatic type**

*(Article 4 of this Regulation)*

Aleatico N  
 Ασύρτικο (Assyrtiko)  
 Bourboulenc B  
 Brachetto N  
 Clairette B  
 Colombard B  
 Freisa N  
 Gamay N  
 Gewuerztraminer Rs  
 Girò N  
 Γλυκερόθρα (Glykerythra)  
 Huxelrebe  
 Macabeu B  
 All the malvoisies  
 Mauzac blanc and rosé  
 Monica N  
 Μοσχοφίλερο (Moschofilero)  
 Mueller-Thurgau B  
 All the muscatels  
 Parellada B  
 Perle B  
 Piquepoul B  
 Poulsard  
 Prosecco  
 Ροδήτης (Roditis)  
 Scheurebe  
 Torbato

**B. Derogations referred to in Annex V(I)(3)(a) and Annex VI(K)(10)(a) to Regulation (EC) No 1493/1999 regarding the constitution of the cuvée for preparing quality sparkling wines of the aromatic type and quality sparkling wines psr of the aromatic type**

Notwithstanding Annex VI(K)(10)(a), quality sparkling wines psr of the aromatic type may be produced by using as constituents of the cuvée wines obtained from grapes of the 'Prosecco' vine variety harvested in the specified regions of the designations of origin Conegliano-Valdobbiadene and Montello e Colli Asolani.

▼**B**

## ANNEX IV

**Restrictions on the use of certain substances***(Article 5 of this Regulation)*

The restrictions applying to the use of the substances referred to in Annex IV to Regulation (EC) No 1493/1999 in accordance with the conditions laid down therein are as follows.

Substance	Use with fresh grapes, grape must, grape must in fermentation, grape must in fermentation obtained from raisined grapes, concentrated grape must and new wine still in fermentation	Use with grape must in fermentation intended for direct human consumption as such, wine suitable for producing table wine, table wine, sparkling wine, aerated sparkling wine, semi-sparkling wine, aerated semi-sparkling wine, liqueur wine and quality wines psr
Preparations of yeast cell wall	40 g/hl	40 g/hl
Carbon dioxide <sup>(1)</sup>		maximum content in wine thus treated: 2 g/l
L-ascorbic acid <sup>(1)</sup>		150 mg/l
Citric acid <sup>(1)</sup>		maximum content in wine thus treated: 1 g/l
Metatartaric acid		100 mg/l
Copper sulphate		1 g/hl provided the copper content of the product thus treated does not exceed 1 mg/l
Charcoal for oenological use	100 g dry weight per hl	100 g dry weight per hl
Nutritive salts: diammonium phosphate or ammonium sulphate	0.3 g/l (expressed in salt) <sup>(2)</sup>	0.3 g/l (expressed in salt) for the preparation of sparkling wine
Ammonium sulphite or ammonium bisulphite	0.2 g/l (expressed in salt) <sup>(2)</sup>	
Growth factors: thiamine in the form of thiamine hydrochloride	0.6 mg/l (expressed in thiamine)	0.6 mg/l (expressed in thiamine) for the preparation of sparkling wine
Polyvinylpyrrolidone	80 g/hl	80 g/hl
Calcium tartrate		200 g/hl
Calcium phytate		8 g/hl
Lysozyme <sup>(1)</sup>	500 mg/l (*)	500 mg/l (*)

▼**M5**▼**B**

<sup>(1)</sup> The purity criteria for this product are as referred to in Commission Directive 96/77/EC of 2 December 1996 laying down specific purity criteria on food additives other than colours and sweeteners (OJ L 339, 30.12.1996, p. 1), as amended by Directive 98/86/EC (OJ L 334, 9.12.1998, p. 1).

<sup>(2)</sup> These products may also be used in combination, up to an overall limit of 0.3 g/l, without prejudice to the 0.2 g/l limit set above.

►**M5** (\*) Where added to both the must and the wine, the total quantity must not exceed the limit of 500 mg/l. ◀



ANNEX V

**Requirements and purity criteria for polyvinylpyrrolidone**

*(Article 6 of this Regulation)*

Polyvinylpyrrolidone (PVPP), the use of which is provided for in Annex IV(1)(p) and (3)(y) to Regulation (EC) No 1493/1999, is a statistically reticulated polymer of [1-(2-oxo-1-pyrrolidinylolethylene).

It is manufactured by polymerizing N-vinyl-2-pyrrolidone in the presence of a catalyst, which may be either caustic soda or N,N'-divinylimidazolidone.

**CHARACTERISTICS**

Light powder, white to cream-coloured.

Insoluble in water and organic solvents.

Insoluble in strong mineral acids and alkalis.

**TESTS**

1. LOSS ON DRYING

Less than 5 % in the following conditions:

Place 2 g of PVPP in a silica capsule with a diameter of 70 mm; dry in oven at 100 to 105 °C for six hours. Leave to cool in a desiccator and weigh.

*Note:*

All the limits fixed below refer to dry weight.

2. ASH

Weight of ash less than 0.5 % in the following conditions:

Gradually ash the residue from test 1, without exceeding 500 to 550 °C, and weigh.

3. ARSENIC

Less than 2 parts per million in the following conditions:

**Preparation of the product to be tested:**

Place 0,5 g of PVPP into a round-bottom flask of borosilicate glass placed on a disk with a hole in the middle, with the neck inclined. Add 5 ml of pure sulphuric acid (AR quality) and 10 ml of pure nitric acid (AR quality) and heat gradually. When the mixture begins to turn brown, add a small quantity of nitric acid and continue to heat. Continue in this way until the liquid remains colourless and the flask fills with white SO<sub>3</sub> fumes. Leave to cool, take up in 10 ml of water and reheat to dispel the nitrous vapours until white fumes are obtained. This operation is repeated a second time; after taking up a third time, bring to the boil for a few seconds, cool and make up to 40 ml with water.

**Reagents (AR quality)**

1. *Concentrated arsenic solution (100 mg of arsenic per litre)*

Weigh exactly 0.132 g of arsenous anhydride, previously dried at 100 °C, into a 500 ml conical flask. Add 3 ml of sodium hydroxide and 20 ml of water. Shake until dissolved. Neutralize the arsenous liquor with 15 ml of sulphuric acid diluted to 10 % (w/w) and add saturated bromine water (AR quality) until the yellow colour of free bromine becomes stable (theoretically, 7 ml). Bring to the boil to dispel the excess bromine, transfer to a 1 000 ml volumetric flask and make up to quantity with distilled water.

2. *Diluted arsenic solution (1 mg of arsenic per litre)*

Mix 10 ml of concentrated arsenic solution (100 mg per litre) with distilled water to make up 1 000 ml. 1 ml of this solution contains 1/1 000 mg of arsenic.



▼B3. *Lead acetate cotton*

Immerse absorbent cotton in a 5 % (w/v) lead acetate solution to which 1 % acetic acid has been added. Drain the cotton and leave to dry in the air. Keep in a well-sealed bottle.

4. *Absorbent cotton dried in an oven at 100 °C*

Keep in a well-sealed bottle.

5. *Mercuric bromide paper*

Place an alcoholic solution of mercuric bromide (5 %) in a rectangular basin. Immerse 80 g/m<sup>2</sup> white filter paper, cut into pieces of 15 × 22 cm and folded in two, in the solution. Drain the paper and leave to dry in a dark place hung over a non-metallic line. Cut at 1 mm away from the fold and 1 cm from lower edges. Cut the paper into 15 × 15 mm squares; keep in a well-sealed bottle, covered with black paper.

6. *Stannous chloride solution*

Cold attack 20 g of pure tin shot (analytical quality) with 100 ml of pure hydrochloric acid,  $d = 1.19$ . Keep in the presence of metallic tin in an airtight bottle with valve stopper.

7. *Potassium iodide solution*

Potassium chloride	10 g
Water to make up	100 ml

8. *Nitric acid for the determination of arsenic (AR quality)*

Acid with a density of 1.38 at 20 °C, containing 61.5 to 65.5 % nitric acid (HNO<sub>3</sub>). It should not leave a fixed residue of more than 0.0001 %. It may not contain lead detectable with dithizone, or more than 1 millionth of chlorine ion, 2 millionths of sulphuric ion, 2 millionths of orthophosphoric ion or one hundred millionth of arsenic.

9. *Sulphuric acid for the determination of arsenic (AR quality)*

Acid with a density of 1.831 to 1.835 at 20 °C containing at least 95 % sulphuric acid (H<sub>2</sub>SO<sub>4</sub>). It should not leave a fixed residue of more than 0.0005 %. It may not contain more than 2 millionths of heavy metals, 1 millionth of iron, 1 millionth of chlorine ion, 1 millionth of nitric ion, 5 millionths of ammonium ion or 2 hundred millionths of arsenic.

10. *20 % (v/v) diluted sulphuric acid solution (36 g H<sub>2</sub>SO<sub>4</sub> per 100 ml)*

Mix 200 ml of pure sulphuric acid (AR quality) with distilled water to make up 1 000 ml.

11. *Platinized zinc*

Pure zinc, free of arsenic, in shot or cylinder form. Platinize the zinc by placing it in a cylindrical flask and covering it with a 1/20 000 platinum chloride solution. After two hours of contact, wash the zinc with distilled water, drain the platinized zinc on several thicknesses of blotting paper, dry and place in a dry bottle.

Verify that 5 g of this zinc, placed in the apparatus described below with 4,5 ml of pure sulphuric acid and made up to 40 ml with water, to which two drops of stannous II chloride and 5 ml of 10 % potassium iodide solution are added, leaves no stain after at least two hours on mercuric bromide paper. Check also that 1 µg of arsenic used as indicated below leaves a discernible trace.

**Description of the apparatus**

Use a 90 to 100 ml flask sealed with a glass stopper fitted with a 90 mm-long glass tube with an inner diameter of 6 mm. The lower part of the tube is tapered and pierced by a lateral hole (anti-entrainment device). The upper edge has a ground flat surface perpendicular to the tube's axis. A second glass tube with the same internal diameter and 30 mm in length with an upper edge having a ground flat surface like the first tube may be attached to the former and secured by two coil springs or rubber rings.

**Procedure**

In the outlet tube, at position A, place a plug of dry absorbent cotton, then a plug of lead acetate cotton.

**▼B**

Place a square of mercuric bromide paper between the two parts of the outlet tube at B and join the two parts of the tube.

Place 40 ml of sulphuric liquid, two drops of tin chloride solution and 5 ml of potassium iodide solution in the flask. Leave for 15 minutes. Add 5 g of platinized zinc and immediately seal the flask with the tube prepared in advance.

Allow the emission to continue until exhausted (at least two hours). Take the apparatus apart, immerse the square of mercuric bromide paper in 10 ml of potassium iodide solution for half an hour, shaking occasionally; rinse generously and leave to dry.

The yellow or brown stain must be invisible, or paler than the stain obtained in a parallel test carried out with 1 ml of arsenic solution at 1 µg per ml, to which 4.5 ml of pure sulphuric acid are added and made up to 40 ml with water, to which two drops of stannous chloride and 5 ml of 10 % potassium iodide solution are then added.

**4. HEAVY METALS**

Expressed as lead, less than 20 ppm in the following conditions:

After weighing, dissolve the ash in 1 ml of pure hydrochloric acid and 10 ml of distilled water. Heat to dissolve. Make up to 20 ml with distilled water. 1 ml of this solution contains the mineral matter of 0.10 g of PVPP.

Place 10 ml of ash solution in a 160 × 16 test tube with 2 ml of a 4 % pure sodium fluoride solution, 0.5 ml of pure ammonium, 3 ml of water, 0.5 ml of pure acetic acid and 2 ml of hydrogen sulphide saturated aqueous solution.

No precipitation should take place. If a brown colour is produced, it should be less than the colour produced by the reference, prepared as follows:

Place 2 ml of a solution containing 0.01 g of lead (Pb) in 1 l (10 mg Pb per litre), 15 ml of water, 0.5 ml of 4 % (m/v) sodium fluoride, 0.5 ml of pure acetic acid and 2 ml of hydrogen sulphide saturated aqueous solution in a 160 × 16 test tube. The tube contains 20 µg of lead

*Note:*

At this concentration, the lead sulphide precipitates only in an acetic medium. Precipitation can be obtained in the presence of only 0.05 ml of hydrochloric acid for 15 ml, but this concentration is too delicate to be achieved exactly in practice.

If the 0.5 ml of acetic acid were replaced by 0.5 ml of hydrochloric acid, only copper, mercury, etc. would be precipitated.

Any iron present, generally in the ferric state, oxidizes hydrogen sulphide by producing a sulphur precipitate which conceals the colloidal lead sulphide precipitate. Complexed with 0.5 ml of sodium fluoride, iron oxidizes hydrogen sulphide more slowly.

This quantity is sufficient to complex 1 mg of iron (III). Increase the quantity of sodium fluoride if more iron is present.

For products containing calcium, filtration is required after the fluoride is added.

**5. TOTAL NITROGEN**

Between 11 and 12.8 % under the following conditions:

**Apparatus**

A. The apparatus is made up of:

1. A 1 l flask A of borosilicate glass as a heating vessel, fitted with a tap-funnel for filling. It can be heated on a gas or electric ring
2. An extension C to collect the spent liquid from the bubbler B.
3. A 500 ml bubbler B with an inclined neck; the entry tube should reach the lower part of the flask. The exit tube is fitted with an anti-entrainment ball which constitutes the upper part of the bubbler. A tap-funnel E for introduction of the liquid to be treated and the alkaline solution.

**▼B**

4. A vertical condenser, 30 to 40 cm in length, with a fine-necked bulb at the end.
  5. A 250 ml conical flask to collect the distillate.
- B. A 300 ml egg-shaped mineralization flask with a long neck.

**Substances required:**

Pure sulphuric acid

Mineralization catalyst

30 % (m/m) sodium hydroxide

40 % (m/v) pure boric acid solution

0.1 N hydrochloric acid solution

A mixed indicator of bromocresol green and methyl red.

The heating vessel must be filled with water acidulated with 1/1 000 sulphuric acid. This liquid should be boiled before each operation, with the purge valve P open to dispel CO<sub>2</sub>.

**Procedure**

Place approximately 0.20 g of PVPP, weighed exactly, in the mineralization flask. Add 2 g of mineralization catalyst and 15 ml of pure sulphuric acid.

Heat over a naked flame, with the neck of the flask inclined, until the solution is colourless and the sides of the flask are free of carbonized substances.

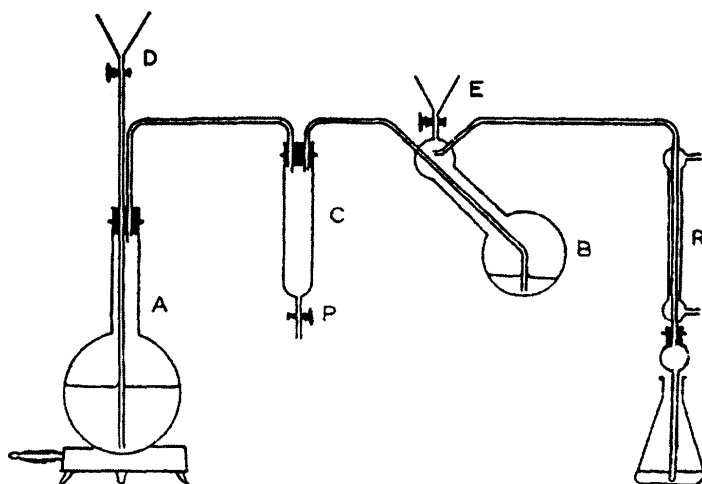
After cooling, dilute with 50 ml of water and cool further; place this liquid in the bubbler B via filter E; next add 40 to 50 ml of 30 % sodium hydroxide, to obtain full alkalization of the liquid and drive off the ammonia with the steam, collecting the distillate in 5 ml of boric acid solution placed in advance in the conical receiver flask with 10 ml of water, with the end of the bulb immersed in the liquid. Add one or two drops of mixed indicator and collect 70 to 100 ml of distillate.

Titrate the distillate with the 0.1 N hydrochloric acid solution until the indicator turns pinkish violet.

1 ml of 0.1 N hydrochloric acid solution corresponds to 1.4 mg of nitrogen.

**Apparatus for distilling ammonia in a stream of water vapour**

(after Parnas and Wagner)



**Tap-funnels P and E may be replaced by a plastic connector and a Mohr clamp.**

## 6. SOLUBILITY IN AN AQUEOUS MEDIUM

Less than 0.5 % in the following conditions:

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Place 10 g of PVPP in a 200 ml flask containing 100 ml of distilled water. Shake and leave for 24 hours. Filter on a filter screen with a porosity of  $2.5\mu$ , then on a filter screen with a porosity of  $0.8\mu$ . The residue left by evaporating the filtrate over a water bath until dry must be less than 50 mg.

## 7. SOLUBILITY IN AN ACID ALCOHOLIC MEDIUM

Less than 1 % in the following conditions:

Place 1 g of PVPP in a flask containing 500 ml of the following mixture:

Acetic acid	3 g
Ethanol	10 ml
Water to make up volume to	100 ml

Leave for 24 hours. Filter on a filter screen with a porosity of  $2.5\mu$ , then on a filter screen with a porosity of  $0.8\mu$ . Concentrate the filtrate over a water bath. Finish evaporation over the water bath in a 70 mm diameter tared silica capsule. The dry residue remaining after evaporation must be less than 10 mg, taking account of any residue left by the evaporation of 500 ml of the acetic acid-ethanol mixture.

## 8. EFFECTIVENESS OF PVPP IN RELATION TO THE ADSORPTION OF PHENOLIC COMPOUNDS

The percentage of activity determined in the following conditions must be 30 % or above.

## A. Reagents:

- 0.1 N sodium hydroxide solution.
- 0.1 N salicylic acid solution  
(13.81 g of salicylic acid are dissolved in 500 ml of methanol and diluted in 1 litre of water)

## B. Procedure

- Weigh 2 to 3 g of PVPP into a 250 ml conical flask and note the weight, W, accurate to 0.001 g.
- Calculate the dry matter of the sample (solid percentage) and note P, expressed as a percentage accurate to 1 decimal point.
- Add the 0,1 N salicylic acid solution using the following formula:  
 $43 \times W \times P = \text{ml of solution to be added.}$
- Close the flask and shake for five minutes.
- Pour the mixture, heated to 25 °C, into a Buchner funnel fitted with a filter connected to a 250 ml flask; wait for it to empty until enough filtrate has been obtained to take a 50 ml sample (the filtrate must be clear).
- Pipette 50 ml of the filtrate into a 250 ml conical flask.
- Determine the neutralization point with phenolphthalein, using a 0.1 N soda solution and note the volume  $V_s$ .
- Titrate 50 ml of salicylic acid as reference in the same way and note the volume  $V_b$ .

## C. Calculation:

$$\text{percentage activity} = \frac{V_b - V_s}{V_b} \times 100$$

*Note:*

All the limits fixed in points 2 to 8 refer to the dry matter.

## 9. FREE N-VINYLPYRROLIDONE — NOT MORE THAN 0,1%

**Method**

Suspend 4.0 g of the sample with 30 ml of water, stir for 15 minutes, pass through a sintered glass filter of 9 to 15  $\mu\text{m}$  (= type G 4) into a 250 ml

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conical flask. Wash the residue with 100 ml of water, add 500 mg of sodium acetate to the combined filtrates and titrate with 0.1 N iodine until the colour of the iodine no longer fades. Add an additional 3.0 ml of 0.1 N iodine, allow to stand for 10 minutes and titrate the excess iodine with 0.1 N sodium thiosulphate, adding 3 ml of starch TS as the end point is approached. Perform a blank determination. Not more than 0.72 ml of iodine is consumed, corresponding to not more than 0.1 % vinylpyrrolidone.

**10. FREE N,N'-DIVINYLMIDAZOLE - NOT MORE THAN 2 MG/KG****Principle**

Free N,N'-divinylimidazolidone migrating from insoluble PVP into a solvent (acetone) is determined by capillary column gas chromatography.

**Internal standard solution**

Dissolve 100 mg of heptanoic acid nitrile (oenanthalic acid nitrile) weighed out to within 0,1 mg in 500 ml of acetone.

**Preparation of the specimen**

Weigh out about 2 to 2.5 g of the polymer to within 0.2 mg into a 50 ml conical flask. Using a pipette, add 5 ml of internal standard solution. Next, run in about 20 ml of acetone. Shake the mixture for four hours or let it equilibrate for at least 15 hours and analyse the supernatant solution by gas chromatography.

**Calibration solution**

Weigh out about 25 mg of N,N'-divinylimidazolidone to within 0.2 mg into a flask and make up to 100 ml with acetone. Using a pipette, transfer 2.0 ml of this solution into another 50 ml calibration flask, make up to 50 ml with acetone. Transfer 2 ml of this solution to another flask, add 5 ml of the internal standard solution (see above) and make up to 25 ml with acetone.

**Gas chromatography conditions**

— Column:	capillary (fused silica) 'DB-Wax' (cross-linked Carbowax 20 M), length 30 m, internal diameter 0.25 mm, film thickness 0.5µm
— Column oven temp.:	programmed, 140 °C to 240 °C, 4 °C/minute
— Injector:	split injector, 220 °C split effluent 30 ml/min
— Detector:	thermoionic detector (optimised in accordance with maker's instructions), 250 °C
— Carrier gas:	Helium, 1 bar (overpressure)
— Amount injected:	1µl of supernatant solution of specimen or calibration solution

**Procedure**

Obtain a reliable determination of the calibration factor for the specific conditions of analysis by means of repetitive injections of the calibration solution. Analyse the sample. The content of N,N'-divinylimidazolidone in insoluble PVP may not be more than 0.1 %.

**Calculation of the calibration factor**

$$f = \frac{W_D \cdot A_{St}}{W_{St} \cdot A_D}$$

$W_D$  = amount of N,N'-divinylimidazolidone taken (mg)

$W_{St}$  = amount of internal standard (mg)

$A_{St}$  = area of peak for internal standard

$A_D$  = area of peak for N,N'-divinylimidazolidone

**▼B****Calculation of the content of N,N-divinylimidazolidone**

$$C_D = \frac{1\,000 \cdot f \cdot A_D \cdot W_{St}}{A_{St} \cdot W_S} \text{ (mg/kg)}$$

$C_D$  = concentration of N,N'-divinylimidazolidone (mg/kg)

$f$  = calibration factor

$A_D$  = area of peak for N,N'-divinylimidazolidone

$W_{St}$  = amount of internal standard added to the sample (mg)

$A_{St}$  = area of peak of internal standard

$W_S$  = amount of specimen taken (g)

**▼B***ANNEX VI***Requirements for calcium tartrate***(Article 7 of this Regulation)*

## AREA OF APPLICATION

Calcium tartrate is added to wine as a technological adjuvant to assist the precipitation of tartar and help the tartaric stabilisation of the wine by reducing the final potassium hydrogen tartrate and calcium tartrate concentrations.

## REQUIREMENTS

- The maximum dose is fixed in Annex IV to this Regulation
- Where calcium tartrate is added, the wine must be shaken and cooled and the crystals formed must be separated by physical processes.



ANNEX VII

**Requirements for beta-glucanase**

(Article 10 of this Regulation)

1. International code for beta-glucanase: E.C. 3-2-1-58
2. Beta-glucan hydrolase (breaking down the glucan in *Botrytis cinerea*)
3. Origin: *Trichoderma harzianum*
4. Area of application: breaking down the beta-glucans present in wines, in particular those produced from botrytised grapes
5. Maximum dose: 3 g of the enzymatic preparation containing 25 % total organic solids (TOS) per hectolitre
6. Chemical and microbiological purity specifications

Loss on drying	Less than 10 %
Heavy metals	Less than 30 ppm
Pb:	Less than 10 ppm
As:	Less than 3 ppm
Total coliforms:	Absent
<i>Escherichia coli</i>	Absent in 25 g sample
<i>Salmonella</i> spp:	Absent in 25 g sample
Aerobic count:	Less than $5 \times 10^4$ cells/g



**▼B***ANNEX VIII***Lactic bacteria***(Article 11 of this Regulation)*

## REQUIREMENTS

Lactic bacteria, the use of which is provided for in Annex IV(1)(q) and (3)(z) to Regulation (EC) No 1493/1999, must belong to the genera *Leuconostoc*, *Lactobacillus* and/or *Pediococcus*. They must convert the malic acid in must or wine into lactic acid and not affect the taste. They must have been isolated from grapes, must, wine or products made from grapes. The name of the genus and species and the reference of the strain must be shown on the label, with the origin and the strain breeder.

Prior authorisation must be obtained for genetic manipulation of lactic bacteria.

## FORM

They must be used in liquid or frozen form or as a powder obtained by lyophilisation, in pure culture or associated culture.

## IMMOBILIZED BACTERIA

The carrier medium for a preparation of immobilised lactic bacteria must be inert and must be permitted for use in winemaking.

## CONTROLS

**Chemical:**

the same requirements as regards screened substances as in other oenological preparations, and heavy metals in particular.

**Microbiological:**

- the level of revivifiable lactic bacteria must be  $10^8/g$  or  $10^7/ml$  or more;
- the level of lactic bacteria of a species different from the strain or strains indicated must be less than 0.01 % of the total revivifiable lactic bacteria;
- the level of aerobic bacteria must be less than  $10^3$  per gram of powder or per millilitre;
- the total yeast content must be less than  $10^3$  per gram of powder or per millilitre;
- the mould content must be less than  $10^3$  per gram of powder or per millilitre.

## ADDITIVES

Additives used in preparing the culture or reactivation of lactic bacteria must be substances permitted for use in foodstuffs and must be mentioned on the label.

## DATE OF PRODUCTION

The manufacturer must indicate the date on which the product left the factory.

## USE

The manufacturer must indicate instructions for use or the reactivation method.

## PRESERVATION

The storage conditions must be clearly marked on the label.

## METHODS OF ANALYSIS

- lactic bacteria: medium A<sup>(1)</sup>, B<sup>(2)</sup> or C<sup>(3)</sup> with the utilisation method for the strain as indicated by the producer,
- aerobic bacteria: Bacto-Agar medium,
- yeasts: Malt-Wickerham medium,
- mould: Malt-Wickerham or Czapeck medium.

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## Medium A

Yeast extract	5 g
Meat extract	10 g
Trypsic peptone	15 g
Sodium acetate	5 g
Ammonium citrate	2 g
Tween 80	1 g
Manganous sulphate	0.050 g
Magnesium sulphate	0.200 g
Glucose	20 g
Water to make up	1 000 ml
pH	5.4

## Medium B

Tomato juice	250 ml
Difco-yeast extract	5 g
Peptone	5 g
L-malic acid	3 g
Tween 80	1 drop
Manganous sulphate	0.050 g
Magnesium sulphate	0.200 g
Water to make up	1 000 ml
pH	4.8

## Medium C

Glucose	5 g
Tryptone Difco	2 g
Peptone Difco	5 g
Liver extract	1 g
Tween 80	0.05 g
Tomato juice diluted 4,2 times filtered with Whatman No 1	1 000 ml
pH	5.5

**▼M5***ANNEX VIIIa***Requirements for lysozyme***(Article 11a of this Regulation)*

## AREA OF APPLICATION

Lysozyme may be added to grape must, grape must in fermentation and wine, for the following purpose: to control the growth and activity of the bacteria responsible for malolactic fermentation in these products

## REQUIREMENTS:

- the maximum dose is fixed in Annex IV to this Regulation,
- the product used must comply with the purity criteria laid down in Directive 96/77/EC.



## ANNEX IX

**Determination of the loss of organic matter from ion exchange resins**

*(Article 12 of this Regulation)*

**1. SCOPE AND AREA OF APPLICATION**

The method determines the loss of organic matter from ion exchange resins.

**2. DEFINITION**

The loss of organic matter from ion exchange resins. The loss of organic matter is determined by the method specified.

**3. PRINCIPLE**

Extracting solvents are passed through prepared resins and the weight of organic matter extracted is determined gravimetrically.

**4. REAGENTS**

All reagents should be of analytical quality.

Extracting solvents.

- 4.1. Distilled water or de-ionised water of equivalent purity.
- 4.2. Ethanol, 15 % v/v. Prepare by mixing 15 parts of absolute ethanol with 85 parts of water (4.1 l).
- 4.3. Acetic acid, 5 % m/m. Prepare by mixing 5 parts of glacial acetic acid with 95 parts of water (4.1).

**5. APPARATUS**

- 5.1. Ion exchange chromatography columns.
- 5.2. Measuring cylinders, capacity 2 l.
- 5.3. Evaporating dishes capable of withstanding a muffle furnace at 850 °C.
- 5.4. Drying oven, thermostatically controlled at  $105 \pm 2$  °C.
- 5.5. Muffle furnace, thermostatically controlled at  $850 \pm 25$  °C.
- 5.6. Analytical balance, accurate to 0,1 mg.
- 5.7. Evaporator, hot plate or infra-red evaporator.

**6. PROCEDURE**

- 6.1. Add to each of three separate ion exchange chromatography columns (5.1) 50 ml of the ion exchange resin to be tested, washed and treated in accordance with the manufacturer's directions for preparing resins for use with food.
- 6.2. For the anionic resins, pass the three extracting solvents (4.1, 4.2 and 4.3) separately through the prepared columns (6.1) at a flow rate of 350 to 450 ml/h. Discard the first litre of eluate in each case and collect the next two litres in measuring cylinders (5.2). For the cationic resins, pass only solvents 4.1 and 4.2 through the columns prepared for this purpose.
- 6.3. Evaporate the three eluates over a hot plate or with an infra-red evaporator (5.7) in separate evaporating dishes (5.3) which have been previously cleaned and weighed ( $m_0$ ). Place the dishes in an oven (5.4) and dry to constant weight ( $m_1$ ).
- 6.4. After recording the constant weight (6.3), place the evaporating dish in the muffle furnace (5.5) and ash to constant weight ( $m_2$ ).
- 6.5. Calculate the organic matter extracted (7.1). If the result is greater than 1 mg/l, carry out a blank test on the reagents and recalculate the weight of organic matter extracted.

The blank test should be carried out by repeating sections 6.3 and 6.4 but using two litres of the extracting solvent, to give weights  $m_3$  and  $m_4$  in sections 6.3 and 6.4 respectively.

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## 7. EXPRESSION OF RESULTS

## 7.1. Formula and calculation of results

The organic matter extracted from ion exchange resins, in mg/l, is given by:

$$500 (m1 - m2)$$

where m1 and m2 are expressed in grams.

The corrected weight (mg/l) of the organic matter extracted from ion exchange resins is given by:

$$500 (m1 - m2 - m3 + m4)$$

where m1, m2, m3 and m4 are expressed in grams.

7.2. The difference in the results between two parallel determinations carried out on the same sample must not exceed 0.2 mg/l.



ANNEX X

**Requirements for electro dialysis treatment**

*(Article 15 of this Regulation)*

The purpose is to obtain tartaric stability of the wine with regard to potassium hydrogen tartrate and calcium tartrate (and other calcium salts) by extraction of ions in supersaturation in the wine under the action of an electrical field and using membranes that are either anion-permeable or cation-permeable.

1. MEMBRANE REQUIREMENTS

- 1.1. The membranes are to be arranged alternately in a 'filter-press' type system or any other appropriate system separating the treatment (wine) and concentration (waste water) compartments.
- 1.2. The cation-permeable membranes must be designed to extract cations only, in particular  $K^+$  and  $Ca^{++}$ .
- 1.3. The anion-permeable membranes must be designed to extract anions only, in particular tartrate anions.
- 1.4. The membranes must not excessively modify the physico-chemical composition and sensory characteristics of the wine. They must meet the following requirements:
  - they must be manufactured according to good manufacturing practice from substances authorised for the manufacture of plastic materials intended to come into contact with foodstuffs as listed in Annex II to Commission Directive 90/128/EEC<sup>(1)</sup>;
  - the user of the electro dialysis equipment must show that the membranes used meet the above requirements and that any replacements have been made by specialised personnel;
  - they must not release any substance in quantities endangering human health or affecting the taste or smell of foodstuffs and must meet the criteria laid down in Directive 90/128/EEC;
  - their use must not trigger interactions between their constituents and the wine liable to result in the formation of new compounds that may be toxic in the treated product.

The stability of fresh electro dialysis membranes is to be determined using a simulant reproducing the physico-chemical composition of the wine for investigation of possible migration of certain substances from them.

The experimental method recommended is as follows:

The simulant is a water-alcohol solution buffered to the pH and conductivity of the wine. Its composition is as follows:

- absolute ethanol: 11 l,
- potassium hydrogen tartrate: 380 g,
- potassium chloride: 60 g,
- concentrated sulphuric acid: 5 ml,
- distilled water: to make up 100 litres.

This solution is used for closed circuit migration tests on an electro dialysis stack under tension (1 volt/cell), on the basis of 50 l/m<sup>2</sup> of anionic and cationic membranes, until 50 % demineralisation of the solution. The effluent circuit is initiated by a 5 g/l potassium chloride solution. Migrating substances are tested for in both the simulant and the effluent.

Organic molecules entering into the membrane composition that are liable to migrate into the treated solution will be determined. A specific determination will be carried out for each of these constituents by an approved laboratory. The content in the simulant of all the determined compounds must be less than 50 g/l.

The general rules on controls of materials in contact with foodstuffs must be applied to these membranes.

<sup>(1)</sup> OJ L 75, 21.3.1990, p. 19. Last amended by Directive 1999/91/EC (OJ L 330, 4.12.1999, p. 41).

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## 2. MEMBRANE UTILISATION REQUIREMENTS

The membrane pair is formulated so that the following conditions are met:

- the pH reduction of the wine is to be no more than 0.3 pH units,
- the volatile acidity reduction is to be less than 0.12 g/l (2 meq expressed as acetic acid);
- treatment must not affect the non-ionic constituents of the wine, in particular polyphenols and polysaccharides;
- diffusion of small molecules such as ethanol is to be reduced and must not cause a reduction in alcoholic strength of more than 0.1 % vol.;
- the membranes must be conserved and cleaned by approved methods with substances authorised for use in the preparation of foodstuffs;
- the membranes are marked so that alternation in the stack can be checked;
- the equipment is to be run using a command and control mechanism that will take account of the particular instability of each wine so as to eliminate only the supersaturation of potassium hydrogen tartrate and calcium salts;
- the treatment is to be carried out on the responsibility of an oenologist or qualified technician.

The treatment is to be recorded in the register referred to in Article 70(2) of Regulation (EEC) No 1493/1999.



ANNEX XI

**Requirements for urease**

(Article 17 of this Regulation)

1. International code for urease: EC 3-5-1-5, CAS No 9002-13-5.
2. Activity: urease activity (active at acidic pH), to break down urea into ammonia and carbon dioxide. The stated activity is not less than 5 units/mg, one unit being defined as the amount that produces one  $\mu\text{mol}$  of ammonia per minute at 37 °C from 5 g/l urea at pH 4.
3. Origin: *Lactobacillus fermentum*.
4. Area of application: breaking down urea present in wine intended for prolonged ageing, where its initial urea concentration is higher than 1 mg/l.
5. Maximum quantity to be used: 75 mg of enzyme preparation per litre of wine treated, not exceeding 375 units of urease per litre of wine. After treatment, all residual enzyme activity must be eliminated by filtering the wine (pore size < 1  $\mu\text{m}$ ).
- 6.

Chemical and microbiological purity specifications:

Loss on drying	Less than 10 %
Heavy metals	Less than 30 ppm
Lead:	Less than 10 ppm
Arsenic:	Less than 2 ppm
Total coliforms:	Absent
<i>Salmonella</i> spp:	Absent in 25 g sample
Aerobic count:	Less than $5 \times 10^4$ cells/g

Urease used in the treatment of wine must be prepared under similar conditions to those for urease as covered by the opinion of the Scientific Committee for Food of 10 December 1998.



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## ANNEX XII

**Derogations regarding sulphur dioxide content***(Article 19 of this Regulation)*

In addition to Annex V(A) to Regulation (EC) No 1493/1999, the maximum sulphur dioxide content for wines with a residual sugar content, expressed as invert sugar, of not less than five grams per litre, shall be increased to:

- (a) 300 mg/l for:
- the quality white wines psr entitled to the designation of origin Gaillac
  - the quality wines psr entitled to bear the designation of origin Alto Adige and Trentino, described by the terms or one of the terms 'passito' or 'vendemmia tardiva';
  - the quality wines psr Moscato di Pantelleria naturale and Moscato di Pantelleria;
  - the table wines with the following geographical indications, with a total alcoholic strength by volume higher than 15 % vol. and a residual sugar content higher than 45 g/l:
    - Vin de pays de Franche-Comté,
    - Vin de pays des coteaux de l'Auxois,
    - Vin de pays de Saône-et-Loire,
    - Vin de pays des coteaux de l'Ardèche,
    - Vin de pays des collines rhodaniennes,
    - Vin de pays du comté Tolosan,
    - Vin de pays des côtes de Gascogne,
    - Vin de pays du Gers,
    - Vin de pays du Lot,
    - Vin de pays des côtes du Tarn,
    - Vin de pays de la Corrèze,
    - Vin de pays de l'Ile de Beauté,
    - Vin de pays d'Oc,
    - Vin de pays des côtes de Thau,
    - Vin de pays des coteaux de Murviel;
- (b) 400 mg/l for:
- quality white wines psr entitled to one of the following registered designations of origin: Anjou-Coteaux de la Loire, Coteaux du Layon followed by the name of the commune of origin, Coteaux du Layon followed by the name 'Chaume', Coteaux de Saumur, Pacherenc du Vic Bilh, Alsace and Alsace grand cru followed by the words 'vendanges tardives' or 'sélection de grains nobles',
  - sweet wines produced from overripe grapes and sweet wines produced from raisined grapes originating in Greece, with a residual sugar content, expressed as invert sugar, of not less than 45 g/l and entitled to one of the following designations of origin: Samos (Σάμος), Rhodes (Ρόδος), Patras (Πάτρα), Rio Patron (Ρίο Πατρών), Kefalonia (Κεφαλονιά), Limnos (Λήμνος), Sitia (Σητεία), Santorini (Σαντορίνη), Nemea (Νεμέα), Daphnes (Δαφνές).

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In addition to Annex V(A) to Regulation (EC) No 1493/1999, the maximum sulphur dioxide content for white wine originating in Canada and with the right to the designation 'Icewine', with a residual sugar content, expressed as invert sugar, of not less than five g/l, shall be increased to 400 mg/l.

▼ **M4***ANNEX XIIa***Increase in the maximum total sulphur-dioxide content where the weather conditions make this necessary***(Article 19 of this Regulation)*

	Year	Member State	Wine-growing zone(s)	Wines concerned
1.	2000	Germany	All wine-growing zones of Germany	All wines obtained from grapes harvested in 2000

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## ANNEX XIII

**Volatile acid content**

Notwithstanding Annex V(B)(1) to Regulation (EC) No 1493/1999, the maximum volatile acid content of wine shall be:

(a) for German wines:

30 milliequivalents per litre for quality wines psr meeting the requirements to be described as 'Eiswein' or 'Beerenauslese';

35 milliequivalents per litre for quality wines psr meeting the requirements to be described as 'Trockenbeerenauslese';

(b) for French wines:

25 milliequivalents per litre for the following quality wines psr:

- Barsac,
- Cadillac,
- Cérons,
- Loupiac,
- Monbazillac,
- Sainte-Croix-du-Mont,
- Sauternes,
- Anjou-Coteaux de la Loire,
- Bonnezeaux,
- Coteaux de l'Aubance,
- Coteaux du Layon,
- Coteaux du Layon, followed by the name of the commune of origin,
- Coteaux du Layon, followed by the name 'Chaume',
- Quarts de Chaume,
- Coteaux de Saumur,
- Jurançon,
- Pacherenc du Vic Bilh,
- Alsace and Alsace grand cru, described and presented by the words 'vendanges tardives' or 'sélection de grains nobles',
- Arbois, followed by the description 'vin de paille',
- Côtes du Jura, followed by the description 'vin de paille',
- L'Etoile, followed by the description 'vin de paille',
- Hermitage, followed by the description 'vin de paille';

the table wines with the following geographical indications, with a total alcoholic strength by volume higher than 15 % and a residual sugar content of more than 45 g/l:

- Vin de pays de Franche-Comté,
- Vin de pays des coteaux de l'Auxois,
- Vin de pays de Saône-et-Loire,
- Vin de pays des coteaux de l'Ardèche,
- Vin de pays des collines rhodaniennes,
- Vin de pays du comté Tolosan,
- Vin de pays des côtes de Gascogne,
- Vin de pays du Gers,
- Vin de pays du Lot,
- Vin de pays des côtes du Tarn,
- Vin de pays de la Corrèze,
- Vin de pays de l'Île de Beauté,
- Vin de pays d'Oc,
- Vin de pays des côtes de Thau,
- Vin de pays des coteaux de Murviel ;

the following quality liqueur wines psr, described and presented by the term 'vin doux naturel':

- Banyuls,
- Banyuls rancio,
- Banyuls grand cru,
- Banyuls grand cru rancio,
- Frontignan,
- Grand Roussillon,

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- Grand Roussillon rancio,
  - Maury,
  - Maury rancio,
  - Muscat de Beaumes-de-Venise,
  - Muscat de Frontignan,
  - Muscat de Lunel,
  - Muscat de Mireval,
  - Muscat de Saint-Jean-de-Minervois,
  - Rasteau,
  - Rasteau rancio,
  - Rivesaltes,
  - Rivesaltes rancio,
  - Vin de Frontignan;
- (c) *for Italian wines:*
- 25 milliequivalents per litre for:
- the quality liqueur wine psr 'Marsala',
  - the quality wines psr Moscato di Pantelleria naturale, Moscato di Pantelleria and Malvasia delle Lipari,
  - the quality wines psr and the liqueur wines psr meeting the requirements to be described by the term or one of the terms 'vin santo', 'passito', 'liquoroso' and 'vendemmia tardiva', and
  - table wines with a geographical indication meeting the requirements to be described by the term or one of the terms 'vin santo', 'passito', 'liquoroso' and 'vendemmia tardiva',
  - table wines obtained from the 'Vernaccia di Oristano B' vine variety harvested in Sardinia and meeting the requirements to be described as 'Vernaccia di Sardegna';
- (d) *for Austrian wines:*
- 30 milliequivalents per litre for quality wines psr meeting the requirements to be described as 'Eiswein' or 'Beerenauslese',
  - 40 milliequivalents per litre for quality wines psr meeting the requirements to be described as 'Ausbruch', 'Troddenbeerenauslese' or 'Strohwein';
- (e) *for wines originating in the United Kingdom:*
- 25 milliequivalents per litre for quality wines psr described and presented by the terms 'botrytis' or other equivalent terms, 'noble late harvested', 'special late harvested' or 'noble harvest' and meeting the requirements to be described as such;
- (f) *for wines wines originating in Spain:*
- 25 milliequivalents per litre for quality wines psr meeting the requirements to be described as 'vendimia tardía';
- ▼M2**
- (g) *for wines originating in Canada:*
- 35 milliequivalents per litre for wines with the right to the designation 'Icewine'.

**▼B***ANNEX XIV***Enrichment where weather conditions have been exceptionally unfavourable***(Article 23 of this Regulation)***▼M1**

	Year	Wine-growing zone	Geographical region	Variety (where applicable)
1.	2000	A	England, Wales	Auxerrois, Chardonnay, Ehrenfelser, Faber, Huxelrebe, Kerner, Pinot Blanc, Pinot Gris, Pinot Noir, Riesling, Schonburger, Scheurebe, Seyval Blanc and Wurzer

**▼B**

*ANNEX XV*

**Cases where acidification and enrichment of one and the same product are authorised**

**(Article 27 of this Regulation)**

(p. m. )

▼B

*ANNEXE XVI*

**Dates before which enrichment, acidification and deacidification operations  
may be carried out in cases of exceptionally bad weather conditions**

**(Article 29 of this Regulation)**

(p. m. )



*ANNEX XVII*

**Characteristics of wine distillate or dried-grape distillate which may be added to liqueur wines and certain quality liqueur wines psr**

*(Article 37 of this Regulation)*

1. <i>Caractéristiques organoleptiques</i>	No extraneous flavour detectable in the raw material
2. Alcoholic strength by volume: minimum maximum	52 % vol. 86 % vol.
3. Total quantity of volatile substances other than ethyl and methyl alcohol	125 g/hl alcohol or more at 100 % vol.
4. Maximum methyl-alcohol content	< 200 g/hl alcohol at 100 % vol.



▼B

## ANNEX XVIII

**List of quality liqueur wines psr the production of which involves the application of special rules****A. LIST OF QUALITY LIQUEUR WINES PSR THE PRODUCTION OF WHICH INVOLVES THE USE OF GRAPE MUST OR A MIXTURE THEREOF WITH WINE***(Article 38(1) of this Regulation)***GREECE**

Σάμος (Samos), Μοσχάτος Πατρών (Patras Muscatel), Μοσχάτος Ρίου Πατρών (Rio Patron Muscatel), Μοσχάτος Κεφαλλονιάς (Kefallonia Muscatel), Μοσχάτος Ρόδου (Rhodes Muscatel), Μοσχάτος Λήμνου (Lemnos Muscatel), Σητεία (Sitia), Νεμέα (Nemea), Σαντορίνη (Santorini), Δαφνές (Dafnes), Μαυροδάφνη Πατρών (Mavrodafne of Patras), Μαυροδάφνη Κεφαλλονιάς (Mavrodafne of Kefallonia).

**SPAIN**

Quality liqueur wine psr	Description of product as established by Community rules or national legislation
Alicante	Moscatel de Alicante Vino dulce
Cariñena	Vino dulce
Jerez-Xérès-Sherry	Pedro Ximénez Moscatel
Montilla-Moriles	Pedro Ximénez
Priorato	Vino dulce
Tarragona	Vino dulce
Valencia	Moscatel de Valencia Vino dulce

**ITALY**

Cannonau di Sardegna, giró di Cagliari, malvasia di Bosa, malvasia di Cagliari, Marsala, monica di Cagliari, moscato di Cagliari, moscato di Sorso-Sennori, moscato di Trani, nasco di Cagliari, Oltrepó Pavese moscato, San Martino della Battaglia, Trentino, Vesuvio Lacrima Christi.

**B. LIST OF QUALITY LIQUEUR WINES PSR THE PRODUCTION OF WHICH INVOLVES THE ADDITION OF THE PRODUCTS REFERRED TO IN ANNEX V(J)(2)(B) TO REGULATION (EC) No 1493/1999***(Article 38(2) of this Regulation)***1. List of quality liqueur wines psr the production of which involves the addition of wine alcohol or dried-grape alcohol with an alcoholic strength of not less than 95 % vol. and not more than 96 % vol.***(First indent of Annex V(J)(2)(b)(ii) to Regulation (EC) No 1493/1999)***GREECE**

Σάμος (Samos), Μοσχάτος Πατρών (Patras Muscatel), Μοσχάτος Ρίου Πατρών (Rio Patron Muscatel), Μοσχάτος Κεφαλλονιάς (Kefallonia Muscatel), Μοσχάτος Ρόδου (Rhodes Muscatel), Μοσχάτος Λήμνου (Lemnos Muscatel), Σητεία (Sitia), Νεμέα (Nemea), Σαντορίνη (Santorini), Δαφνές (Dafnes), Μαυροδάφνη Πατρών (Mavrodafne of Patras), Μαυροδάφνη Κεφαλλονιάς (Mavrodafne of Kefallonia).

**SPAIN**

Contado de Huelva, Jerez-Xérès-Sherry, Manzanilla-Sanlúcar de Barrameda, Málaga, Montilla-Moriles, Rueda.

▼B

2. *List of quality liqueur wines psr the production of which involves the addition of spirits distilled from wine or grape marc with an alcoholic strength of not less than 52 % vol. and not more than 86 % vol.*

(Second indent of Annex V(J)(2)(b)(ii) to Regulation (EC) No 1493/1999)

**GREECE**

Μαυροδάφνη Πατρών (Mavrodafne of Patras), Μαυροδάφνη Κεφαλλονιάς (Mavrodafne of Kefallonia), Σητεία (Sitia), Σαντορίνη (Santorini), Δαφνές (Dafnes), Νεμέα (Nemea).

**FRANCE**

Pineau des Charentes or pineau charentais, floc de Gascogne, macvin du Jura.

3. *List of quality liqueur wines psr the production of which involves the addition of spirits distilled from dried grapes with an alcoholic strength of not less than 52 % vol. and not more than 94.5 % vol.*

(Third indent of Annex V(J)(2)(b)(ii) to Regulation (EC) No 1493/1999)

**GREECE**

Μαυροδάφνη Πατρών (Mavrodafne of Patras), Μαυροδάφνη Κεφαλλονιάς (Mavrodafne of Kefallonia).

4. *List of quality liqueur wines psr the production of which involves the addition of grape must in fermentation obtained from raisined grapes*

(First indent of Annex V(J)(2)(b)(iii) to Regulation (EC) No 1493/1999)

**SPAIN**

Quality liqueur wine psr	Description of product as established by Community rules or national legislation
Jerez-Xérès-Sherry	Vino generoso de licor
Málaga	Vino dulce
Montilla-Moriles	Vino generoso de licor

**ITALY**

Aleatico di Gradoli, Giró di Cagliari, Malvasia delle Lipari, Malvasia di Cagliari, Moscato passito di Pantelleria

5. *List of quality liqueur wines psr the production of which involves the addition of concentrated grape must obtained by the action of direct heat, complying, except for this operation, with the definition of concentrated grape must*

(Second indent of Annex V(J)(2)(b)(iii) to Regulation (EC) No 1493/1999)

**SPAIN**

Quality liqueur wine psr	Description of product as established by Community rules or national legislation
Alicante	
Condado de Huelva	Vino generoso de licor
Jerez-Xérès-Sherry	Vino generoso de licor
Málaga	Vino dulce
Montilla-Moriles	Vino generoso de licor
Navarra	Moscatel

**▼B****ITALY**

Marsala

6. *List of quality liqueur wines for the production of which involves the addition of concentrated grape must*

(Third indent of Annex V(J)(2)(b)(iii) to Regulation (EC) No 1493/1999)

**SPAIN**

Quality liqueur wine	Description of product as established by Community rules or national legislation
Málaga	Vino dulce
Montilla-Moriles	Vino dulce
Tarragona	Vino dulce

**ITALY**

Oltrepó Pavese Moscato, Marsala, Moscato di Trani.