



MicroVal Rules and Certification Scheme

Version 6

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This is version 6 of the MicroVal Rules and Certification Scheme. This document may be subject to changes.

Changes shall be approved by the MicroVal General Committee. The latest version of this document can always be obtained from the MicroVal secretariat.

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MICROVAL RULES AND CERTIFICATION SCHEME

VERSION 6, JUNE 2010

0 Summary

MicroVal Rules and Certification Scheme is a result of the Eureka project “MicroVal” for the validation and approval of alternative methods for the microbiological analysis of food, animal feeding stuffs, beverages and food environmental samples.

MicroVal aims at certifying alternative methods, i.e. methods which perform as well as European or internationally standardized methods, whenever possible a CEN or ISO standard method is used as a reference. The order of priority of selection is a CEN method, an ISO method or a European official method.

This document describes the MicroVal procedure and organization. The MicroVal organization consists of a group of MicroVal Certification Bodies with a MicroVal General Committee and a European network of laboratories, reviewers and auditors.

Certification of alternative methods should ensure its acceptance by governmental inspection laboratories and laboratories in the food trade, thus facilitating international commerce.

1 Scope

The MicroVal Certification Scheme is a third party certification scheme for the validation of alternative methods for microbiological analysis of foods, animal feeding stuffs, beverages and food environmental samples.

Certification according to these Rules and Certification Scheme is based on the European Standard EN-ISO 16140 “Microbiology of food and animal feeding stuffs - Protocol for the validation of alternative methods”.

For alternative test methods where ISO16140 cannot be applied in full during the validation MicroVal will review these requests on applicability in accordance with Chapter 16.

NOTE 1 **Microbiological analysis** includes the micro-organism, its components and products.

NOTE 2 **Food environmental samples** include rinse water, air sampling, surface samples, swabs and residues etc. taken from the food handling or production areas in order to monitor the hygiene of the handling environment.

2 Normative References

This document incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this document only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN-ISO 16140:2003	<i>Microbiology of food and animal feeding stuffs - Protocol for the validation of alternative methods</i>
EN 375:2001	<i>Information supplied by the manufacturer with in vitro diagnostic reagents for professional use</i>
EN-ISO 18113-3:2010	<i>In vitro diagnostic medical devices - Information supplied by the manufacturer (labelling) - Part 3: In vitro diagnostic instruments for professional use</i>
EN-ISO 9001:2008	<i>Quality Management Systems – Requirements</i>
EN-ISO 17025:2005	<i>General requirements for the competence of testing and calibration laboratories</i>
EN 45011:1998	<i>General requirements for bodies operating product certification systems</i>
EN-ISO 13485:2003	<i>Medical devices – Quality management systems – Requirements for regulatory purposes</i>
ISO 1000:1992 / Amd 1:1998	<i>SI units and recommendations for the use of their multiples and of certain other units</i>
ISO 3864-1:2002	<i>Graphical symbols - Safety colours and safety signs - Part 1: Design principles for safety signs in workplaces and public areas</i>
ISO 3864-2:2004	<i>Graphical symbols - Safety colours and safety signs - Part 2: Design principles for product safety labels</i>
ISO 7000:2004	<i>Graphical symbols for use on equipment - Index and synopsis</i>
EN-ISO 9000:2005	<i>Quality management systems – Fundamentals and vocabulary</i>
EN-ISO 19011:2002	<i>Guidelines for quality and/or environmental management systems auditing</i>

3 Definitions

For the purposes of this document, the definitions given in EN-ISO 9000 apply, together with the following.

3.1 Alternative method

Alternative methods are methods used for analyzing and estimating for a given category of products the same parameter as is measured using the corresponding reference method. The method must be a proprietary one, and does not need to cover an entire analytical procedure, i.e. from the preparation of samples to the test report.

The term alternative is used to refer to the entire "test procedure and reaction system". This term includes all ingredients whether material or otherwise, required for implementing the method.

For these requirements, the product is all of the materials (including the protocol) manufactured by the producer.

The protocol is not the label (see 3.3). It is a part of the method.

3.2 Supplier

The organization that provides a product (see 3.4) to the customer (definition from EN-ISO 9000).

NOTE 1 In a contractual situation, the supplier may be called the contractor.

NOTE 2 The supplier may be for example the producer, distributor, importer, assembler or service organization.

NOTE 3 The supplier can be either external or internal to the organization.

3.3 Label

All written, printed or graphic matter

- a) on an alternative method or any of its containers or wrappers or
- b) accompanying an alternative method

relating to identification, technical description and use of the alternative method but excluding shipping documents.

3.4 Product

The result of activities or processes (definition from EN-ISO 9000).

NOTE 1 Product includes service, hardware, processed materials, software, or a combination thereof.

NOTE 2 Product can be tangible (e.g. assemblies or processed materials) or intangible (e.g. information or concepts), or a combination thereof.

3.5 Refurbishing

The processing or reprocessing to specified requirements of an alternative method which has been previously released.

NOTE 1 Refurbishing applies also to repackaging.

3.6 Customer complaint

Any reported allegation, written or verbal, from a customer of deficiencies related to the identity, quality, durability, reliability, safety or performance of an alternative method (see 3.1).

3.7 Labelling

The process of combining labels (see 3.3) with alternative methods.

3.8 Certification Body

A body that conducts certification of conformity. Certification of conformity is the action by a third party, demonstrating that adequate confidence is provided that a duly identified product, process or service is in conformity with a specific standard or other normative document (definition from EN 45011).

3.9 Quality Audit

A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives

(Definition from EN-ISO 9000).

4 MicroVal Organization

The MicroVal organization consists of:

- Several MicroVal Certification Bodies, with a common MicroVal General Committee, and a common Secretariat and
- A European network of sub-contractors : laboratories, reviewers and auditors

The organization of the certification operating parties is defined in Annex A.

4.1 MicroVal General Committee

4.1.1 Definition

The MicroVal General Committee is a common committee between the MicroVal Certification Bodies (see 4.2). The MicroVal Secretariat does the administrative management.

4.1.2 Responsibilities

The MicroVal General Committee approves:

- the elaboration/modification of the Rules and the Certification Scheme
- the elaboration/compilation of the lists of:
 - ✓ expert laboratories (see 4.5.1)
 - ✓ method reviewers (see 4.6)
 - ✓ reference methods (see Annex B)
 - ✓ reference materials
 - ✓ culture collections
- the creation of any specific and impartial Expert Committee, for each technical need (qualification of reviewers, reference methods...)

- the admission of new MicroVal Certification Bodies and if necessary exclusion as well as sanctions (see 4.3.1 and 4.3.2)
- the MicroVal General Committee examines:
- the reports of the audits of the MicroVal Certification Bodies.
- all of the exceptions to the MicroVal Rules and Certification Scheme.

The MicroVal General Committee supervises the efficiency of the MicroVal Certification Bodies (see 4.2.2).

The MicroVal General Committee reviews the appeal of suppliers, if the appeal to the MicroVal Certification Body has failed.

The MicroVal General Committee reviews the appeal of certification bodies that failed to be accepted in the MCB Group.

4.1.3 Voting Procedure

The MicroVal General Committee members have an obligation to vote on all questions formally submitted for voting within the MicroVal General Committee. The voting procedure will be as follows:

- A voting document will have a deadline of two weeks and at the most 1 reminder with an extension for one week
- No reply will automatically mean approval
- Voting possibilities:
 - ✓ yes
 - ✓ yes with comments
 - ✓ no with reasons for disagreement
 - ✓ abstention with reasons for abstention
- A simple majority of at least 2/3 of the votes positive (including the no replies) of the total number of members that is entitled to vote means approval.
- If we do not reach an approval stage, the document will be forwarded to MGC for discussion at the next meeting.

4.1.4 Composition

The MicroVal General Committee is an impartial structure constituted by the following members who represent all the interests involved in the process of certification without any single interest predominating.

☞ **Public authorities** (2-5 representatives):

FLEP (Food Law Enforcement Practitioners) organization of official food control authorities 1 representative

DG's of the European Commission 1 to 4 representatives

☞ **Suppliers** (3 - 5 representatives):

Suppliers of alternative methods shall represent either one private company or a European association of lab ware.

☞ **Customers** (3 - 5 representatives):

The representatives of customers shall either come from private or public laboratories, or come from associations such as the CIAA (European Association for the food industry) or an European retail association, for instance.

☞ **MicroVal third parties** (3 - 5 representatives):

The representatives shall come from:

Certification bodies members of MicroVal	1 to 2 representatives
MicroVal Expert laboratories	1 to 2 representatives

4.1.5 Duration of the members' term of office

The members of the MGC and the chairman are appointed for a period of three years. The chairman is elected by the MGC members and is one of them.

4.1.6 Renewal of the MGC members' term of office

The members' term of office is renewable by tacit agreement. The chairman's term of office is renewable after approval of the MGC.

The MGC members shall approve the application of new members.

4.2 MicroVal Certification Bodies

4.2.1 Definition

MicroVal Certification Bodies are certification bodies (see 3.8) that are accepted by the MGC according to the procedure described in 4.3.1.

4.2.2 Responsibilities

A MicroVal Certification Body is responsible for:

- handling applications
- assessing the reports of the expert laboratories
- assessing the reports of the auditors
- taking certification decisions
- granting the MicroVal certification licenses
- administrative management of the certification process

All MicroVal Certification Bodies shall comply with the EN 45011 requirements.

All MicroVal Certification Bodies shall apply the same rules as defined in this document as well as EN-ISO 16140 "Microbiology of food and animal feeding stuffs - Protocol for the validation of alternative methods" and its interpretations as agreed by the MGC.

The granting of the certification falls under the legal responsibility of a MicroVal Certification Body.

4.2.3 Technical Committee

4.2.3.1 Definition

Each MicroVal Certification Body convenes a Technical Committee. The technical committee is an impartial structure formed by members who represent all the interests involved in the process of certification.

The procedure for the selection of the members is defined in Annex C.

Each technical committee should consist of:

- Representatives of users (at least 2 representatives)
- Representatives of technical bodies (at least 2 representatives)
- Representatives of manufacturers (at least 2 representatives)
- Representatives of public authorities (optional)

The number of representatives in each committee should be such that no single interest predominates.

In order to prevent conflict of interests during a meeting, the applicants of the certification have the possibility to exclude one or more of the representatives of the suppliers if they wish to do so.

4.2.3.2 Responsibilities

A technical committee expresses its opinion on:

- the certification of the methods (admission or not), based on the report of the Expert Laboratory and the report of the method reviewers (see 4.6)
- the continuation of the certification after the periodic reassessment,
- the general activity of the Certification Body, related to MicroVal (e.g.; the way to implement the MicroVal Rules, the communication, ...)

4.3 MCB Group and co-operation between the MicroVal Certification Bodies

The representatives of the accepted MicroVal Certification Bodies form the MCB Group. The Secretariat of the MCB Group is the same as that for the MicroVal General Committee.

The co-operation between certification bodies is ruled by a Multilateral Recognition Agreement (MRA) signed by each Certification Body.

The MCB Group gives its opinion to the MGC on:

- the acceptance or refusal of a new certification body (see 4.3.1)
- the exclusion of a MicroVal Certification Body or sanctions (see 4.3.2).

Before any acceptance or exclusion of a certification body, the MCB Group gives to the MGC a justified report stating its opinion. This report can reflect the unanimous opinion of the certification bodies or may contain any dissent opinion.

On the basis of such report, the MGC takes any opinion of its members into account and decides upon the acceptance or exclusion of any certification body on a majority basis.

Before any decision, in case of a exclusion or non-acceptance of a certification body, the MGC will ask for the observations of the certification body involved.

4.3.1 Acceptance of a new certification body

Principal steps are:

- administrative evaluation of the request by the Secretariat
- evaluation of the new certification body: examination of documentation
- proposal for acceptance or not by MCB group to the MGC
- Surveillance of the activity of the certification bodies

4.3.2 Surveillance of the activity of the certification bodies

Principal steps are:

- notification of any changes by the certification bodies to the Secretariat re-evaluation every 3 years, according to the following procedure :
 - ✓ selection of the evaluation team by the MCB group
 - ✓ evaluation of the certification body : examination of documentation, visit and follow up of the visit
 - ✓ justified proposal for maintain, exclusion or sanction, by MCB group to the MGC.

4.4 MicroVal Secretariat

The Secretariat is mandated by the MGC group in order to:

- do the administrative work outlined by the MGC, the expert committees and the MCB Group
- make registration of suppliers, selection of reviewers and updating of database and publication of information
- ensure promotion and representation of MicroVal
- operate according to the activity plans and yearly budgets decided by the MGC

The Secretariat is proposed by the MCB Group and is nominated by the MGC for a duration of 4 years.

4.5 Laboratories

4.5.1 Expert laboratory

The expert laboratory is in charge of the co-ordination and supervision of the studies within the certification procedure.

The expert laboratory shall have an accreditation according to the EN-ISO 17025 requirements for the reference methods in the field of the expertise claimed. The accreditation shall be granted by an organisation that is a full member of ILAC (International Laboratory Accreditation Cooperation). The field of expertise is described as the types of micro-organisms to be tested within the validation study according to EN-ISO 16140.

Sufficient experienced staff (managerial and technical) for the method validation study must be available. The organisation should not be involved in development and/or marketing of a proprietary method that they will be validating.

The expert laboratories staff shall have experience in:

- preparation and checks (stability and homogeneity) of samples containing sub lethally injured micro-organisms to be used in method comparison study and collaborative study.
- organisation of collaborative studies (preferably at international level).

- statistical analysis of the data using the procedures described in EN-ISO 16140 (when the expert laboratory does not have the statistical expertise in house, it must demonstrate the competence of external statisticians involved in the validation studies)
- writing scientific reports and/or publications.

Additionally, the expert laboratory should be able to show that it will be fully trained in the use of the alternative method, and that its staff is considered technically competent to operate the alternative method, before validation work begins.

Note: If not all of the areas of expertise are available at the moment of application it must be demonstrated how the organisation would become acquainted with this area of expertise.

The procedure for the selection of an expert laboratory is defined in Annex D. This annex is divided in 2 parts, D-1 for becoming an expert laboratory and D-2 for selecting an expert laboratory for a validation study.

A contract shall be signed between the expert laboratory and the Certification Body involved in the certification procedure. The clauses that must be integrated in this contract are described in Annex E.

4.5.2 Co-operative laboratory

If necessary, the expert laboratory may ask for the assistance of a co-operative laboratory. The co-operative laboratory shall comply with the same requirements as the expert laboratory (see 4.5.1). The work of the co-operative laboratory shall be clearly identified in the final report of the expert laboratory.

4.5.3 Collaborative laboratories

The collaborative laboratories participate in the interlaboratory study and are selected by the expert laboratory on the basis of their capability.

The collaborative laboratories must be representative of the users of the method. If they are not EN-ISO17025 accredited, the collaborative laboratories must at a minimum have written instructions and quality control data, for the calibration of equipment, report on error and temperature abuse during incubation. Written documentation is normally sufficient for the expert laboratory, but in addition it can visit the collaborative laboratory.

The number of laboratories, from 3 different countries, involved in the interlaboratory study must be in accordance with the EN-ISO 16140.

The MicroVal General Committee will only consider exceptions on a case-by-case basis.

4.6 Reviewers

4.6.1 Definition

Method reviewers are impartial people, qualified in accordance with specific procedures (see Annex F).

For each certification request, the MicroVal Certification Body chooses 1 method reviewer and the Secretariat chooses 1 method reviewer with statistical expertise.

The reviewers shall be paid by the MicroVal Certification Body.

4.6.2 Responsibilities

The method reviewers are responsible for:

- examining the protocol proposed by the expert laboratory for the 2 studies,

- monitoring of the 2 studies,
- reporting to the MicroVal Certification Body on the results of the 2 studies.

4.6.3 Auditors

The auditors are responsible for the audits (see 7, 10 and 11). The qualification of the auditors is defined in Annex F.

5 Specifications for the contents of the application file

The supplier shall send to the MicroVal Certification Body of his choice an application file containing the following information:

- a letter of commitment from the producer and the supplier if he is not the producer,
- general information about the producer including address(es), production site(s), contacts etc.
- the name(s) of the proposed expert laboratory and the proposed co-operative laboratory (if relevant).
- information about the alternative method:
 - method protocol
 - all technical and commercial documents which are normally supplied with the method
 - list of additional equipment or material needed to perform the method
 - if the method is a part of a complex analytical procedure; a description of the entire procedure
 - all stipulated documentation needed.
- the selected reference method
- the scope requested for the certification
- information about the quality system applied at the production site (copy of any valid certificate).

6 Requirements for the alternative method

The alternative methods used for testing shall be sent directly from the supplier to the expert laboratory. They shall be taken from 3 different production batches, if possible. If not possible, they shall be taken from the beginning, the middle and the end of one batch.

The expert laboratory shall perform:

- a method comparison study of the alternative method against the reference method
- an interlaboratory study of both methods

The 2 studies can be undertaken in parallel.

The certification body may specify specific practical requirements for the application of EN-ISO 16140.

If the method has already been validated and/or certified by another organization, specific rules shall be applied in order to take such results into account (see 14).

The duration and the flow chart of the certification process are described in annexes G and H.

7 Requirements for the initial audit of factory

7.1 Audit requirements

The specifications to be followed in the audit/inspection are contained in annex K. It is a specific document for alternative methods based on:

- EN- ISO13485 : Medical devices – Quality management systems – Requirements for regulatory purposes
- EN-ISO 9001 Quality Management Systems - Requirements

7.1.1 If the factory's activity is not registered against EN-ISO 9001 nor EN-ISO 13485 (or is registered against one of these standards but not involving the production line of the alternative method):

A complete audit must be carried out. The duration shall be 2 days on site. The audit shall meet the requirements of:

- EN-ISO 13485, and
- All the additional requirements defined in Annex K.

7.1.2 If the factory's activity is registered against EN-ISO 9001, involving the production line of the alternative method:

A part audit must be done. The duration shall be one day on site. The requirements for this audit are:

- All requirements defined in Annex K that come in addition to EN-ISO 9001 (=specific requirements defined in EN-ISO 13485 + additional MicroVal requirements)

7.1.3 If the factory's activity is registered against EN-ISO 13485 involving the production line of the alternative method

No initial audit has to be performed.

MicroVal requirements that come in addition to EN-ISO 13485 will only be checked during the four-yearly renewal audit. (See chapter 11).

7.2 Selection of the auditor

The auditor shall comply with the requirements of the standard EN-ISO 19011 *Guidelines for quality and/or environmental management system auditing*.

The MicroVal Certification Bodies shall update their own list of quality auditors.

The auditors shall also comply with the requirements defined in annex F3.

7.3 Organization of the audit

The audit has to be done in English or in the national language of the audited site if spoken by the auditor. The duration of the audit depends on the decision of the MCB, and is 0 to 2 days, depending on the size of the site(s) of production and on the existing quality assurance certifications.

The audit shall be conducted in conformity with EN-ISO 19011: *Guidelines for quality and/or environmental management systems auditing*.

For the audits mentioned in point 7.1.2 and 7.1.3 (i.e. when another certification body has already certified the company) the MicroVal Certification Body will check the accreditation of the quality assurance certification body, or its proficiency.

8 Certification decision

The certification decision is taken at the end of the certification process (a flow chart is given in Annex H).

The Technical Committee of the MicroVal Certification Body expresses its opinion on the certification decision (admission or refusal of the method).

The MicroVal Certification Body sends a summary of the reports to the Secretariat and proposes the certification decision. The Secretariat informs the MCB Group members about the proposal of the certification of the MicroVal Certification Body.

If the certification is not granted the manufacturer can appeal to the MicroVal General Committee within two weeks.

Certification is given for a period of four years, provided the criteria are met.

9 Information about the certification licenses

The certification of a method shall be proved by:

- *A certificate of conformity* (Annex N), signed by the MicroVal Certification Body. The certificate gives information (name of the method, name of the producer, date of the certification, reference method, field of application, restrictions and the performance data as defined in EN-ISO 16140). A more extensive summary document on the preliminary and collaborative studies could be requested by an interested party. (The scope of the extended summary will be defined later.)
- Information indicated on the packaging: this type of information can be conferred by a distinctive MicroVal sign or a logo that identifies the MicroVal Certification Scheme. The logo shall be registered.

In addition, the Secretariat shall give to users free information about the certified methods and the expiry date of the certificate. The Secretariat shall set up a list of certified methods.

In case of non-renewal of the certification for a method this will be published by the secretariat on the website of the MicroVal Organisation,

All information not presented in the certificate of conformity or in the list of certified methods, is confidential and can be used only with the agreement of the supplier, or by the supplier himself.

10 Requirements for the quality surveillance

After the certification is granted, a regular surveillance of the certified method is carried out if no EN-ISO 9001 is held.

10.1 Audit

After two years an auditor performs an audit on the production site.

10.2 Requirements for the audit of the factory

The specifications to be followed in the audit/inspection are contained in annex K.

it is a specific document for alternative methods based on :

- EN-ISO13485: *Medical devices – Quality management systems – Requirements for regulatory purposes*
- EN-ISO 9001: *Quality Management Systems - Requirements*

10.3 Audit schedule

	Certification	Additional requirements	Audits	Quality surveillance	Renewal after 4 years
1	ISO 13485	-	--	--	One day renewal audit
2	ISO 9001	Annex K	one day Initial audit	--	One day renewal audit
3	None	Annex K	two day Initial audit	one day audit after two years	One day renewal audit

11 Certificate renewal

11.1 Requirements for the renewal audit.

Every four years an auditor performs a renewal audit on the production site. The specifications to be followed in the audit are contained in annex K. It is a specific document for alternative methods based on :

- EN-ISO13485: *Medical devices – Quality management systems – Requirements for regulatory purposes*
- EN-ISO 9001: *Quality Management Systems - Requirements*

The duration of the renewal audit shall be one man-day.

11.2 Documentation

Every 4 years, the supplier shall present a complete and up to date documentation of the alternative method to the MicroVal Certification Body. Minimum requirements for the documents to be presented are included in Annex M.

A method reviewer or the Expert laboratory shall study the documentation and write a report for the MicroVal Certification Body.

The report shall state whether changes have occurred in:

- ✓ the alternative method itself
- ✓ the reference method (to which the alternative method has been compared)

✓ the European standard and the present Rules.

As a conclusion to the report, the reviewer shall state whether any part of the certification process should be completed. (See Annex M)

On the basis of this report, the MicroVal Certification Body can decide:

1. to renew the certification,
2. to repeat a part of the study,
3. the MCB should need the advice of the Technical Committee which can propose if case 1 or 2 applies.

MicroVal General Committee can shorten this period, if there is a specific problem. Based upon the outcome of the above a certification decision in line with chapter 8 shall be taken.

12 Modification in the production of the certified method

At any time, the supplier must inform the MicroVal Certification Body for any modification occurring in the production of the certified method.

The supplier has to inform the MicroVal Certification Body whether it is a minor or a major change. A major modification is any change of the product or production process that may affect the instructions for using the method and/or the methods performance.

The MicroVal Certification Body studies all the modifications. Then it can decide:

- not to intervene
- to repeat a part of the study,
- the Technical Committee can propose if case 1 or 2 applies.

The flow chart for two-yearly and renewal audits is described in annex J.

13 Requirements for product marking

1. The minimum information required for the labeling of the product and for the user manual is described in Annex L.
2. A copy of the entire certificate shall be included in the packaging.
3. -- In case a logo is registered, each product shall be marked with the logo in conformity with the graphic charter.
 - In such a case, the license number shall be added to the logo. This license number is given by the Secretariat.
 - The logo shall be on the outer packaging (not in individual components) and on the protocol. In case the equipment can be used for different analysis, the logo shall not appear on the equipment.
 - The logo can be used in advertising provided the scope of certification and the reference method are declared close to the logo.

14 Equivalencies with validation and certification results obtained outside the MicroVal Certification

The specific rules for accepting external results is defined in EN-ISO 16140 (Annex A – normative). The following points are considered in Annex A:

Were changes made to the alternative method since previous validation?

Was it compared to a standardized ISO/CEN reference method? If not, are the differences between the method used and the reference method important or are they minor?

Was standard EN-ISO 16140 used? If not, was the protocol used similar?

Was the expert laboratory accredited?

Were the participating laboratories competent?

When evaluating whether existing external data can be accepted and used in the MicroVal validation, the following point shall also be taken into account:

- does the procedure in which the results are obtained lead to a certification or not?
- are the technical characteristics of certification procedure consistent with the MicroVal Certification Scheme and Rules
- how long has the method /product been validated?
- which standard of quality assurance requirements and which control procedures (audits) are to be met?

Any general procedure concerning equivalency between MicroVal and tests results or certificates granted by another organization should be first approved by the MGC.

In case of specific needs such as taking into account part of the results already obtained in a previous study (eg : selectivity,...), the technical committee of the MCB shall be responsible.

15 Certification fees

As a clarification for the supplier, the fees to be paid include, as the case may be:

- ✓ **Application fee per alternative method**
This fee is determined for each method and covers the costs of the certification procedure, including the reviewers.
- ✓ **Quality audit fee**
This fee covers the costs of the initial audit of the factory, including travel costs (see 7 and 11).
- ✓ **Expert laboratory fee**
This fee covers the costs of the validation studies made by the laboratory. (comparative study and interlaboratory study)
- ✓ **Quality surveillance and renewal fees**
This fee is estimated for each method and covers the costs of the certification body, auditor, and travel costs
- ✓ **Review of modification to alternative method**
This fee depends on the importance of the modification (see 10.3)

✓ **Rights for the use of the MicroVal certification name (annual renewal fee)**

This fee, which should be paid every year, covers for each method the general costs linked to the use of the MicroVal name, including further development of the MicroVal Rules and Scheme, legal protection, promotion of the MicroVal certification, and cost of the general organization.

Before starting any certification process, a certification body shall give to the supplier an estimate of the certification fees.

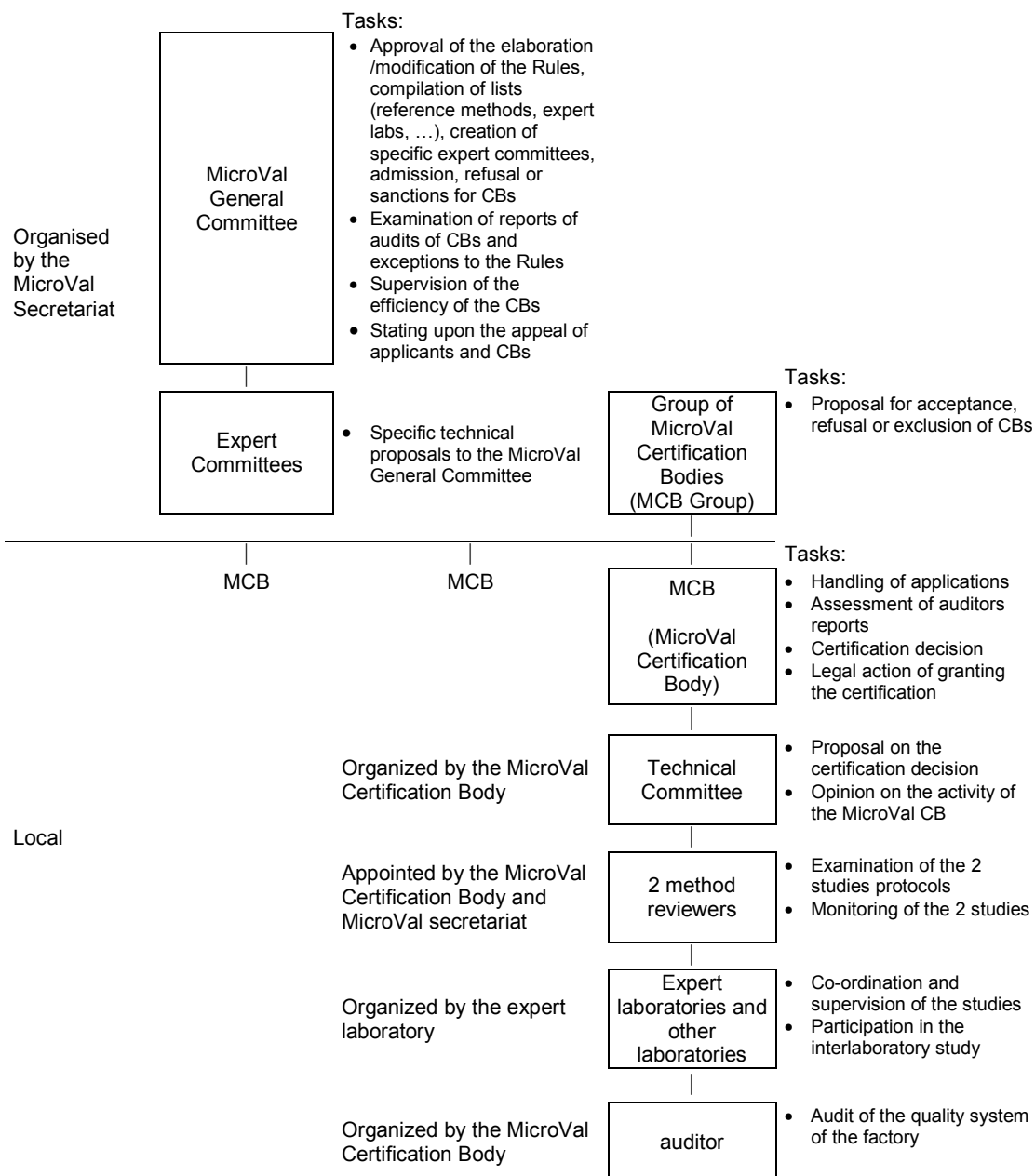
16 Process for Extension of Scope of MicroVal Certification

In case of requests for MicroVal certification that are not included or not fully compliant with the EN-ISO 16140 the following steps will be taken.

1. The request must be send to the MicroVal secretariat. This request should include an outline of the study and the deviations from EN-ISO 16140.
2. The MicroVal secretariat will include the request on the agenda for the next MicroVal Technical Committee (MVTC).
3. When the MVTC accepts the request the MicroVal secretariat will ask the MGC for approval.
4. After approval of the MGC the study can be started.

The final MicroVal certificate should include a statement on the deviations from EN-ISO 16140 and how these are addressed in the particular validation

Annex A MicroVal Organization Chart



Annex B Procedure for the elaboration of the list of reference methods

The selection of the reference methods is made by the MicroVal General Committee.

The MicroVal General Committee prepares a list of reference methods for the common pathogens and spoilage micro-organisms.

The order of priority of selection is :

- 1- a CEN method,
- 2- an ISO method,
- 3- a European official method.

EXCEPTIONS

1. If there is no ISO, CEN or European official method, the MicroVal General Committee, may ask an Expert Committee to make a selection from: nationally standardised methods, internationally accepted methods, and/or a method fully documented and recognised by experts.
2. It is possible for a given category of products to use a specific reference method (e.g.: for dairy products, the IDF methods). This reference method must be:
 - extensively used in the product sector
 - accepted by governments
 - agreed by the Expert committeeThe alternative method would only be certified for this category of products.
3. It is possible to consider a draft ISO reference method or a draft EN reference method once it has at least reached the ISO/DIS stage or the Enquiry stage. The manufacturer takes the risk of paying for complementary studies, if the final standard is significantly different from the draft.
4. It is not possible to take into account the data obtained with other reference methods. The only exception is when the 2 reference methods do not differ significantly. The Expert Committee will be consulted on a case by case basis, to judge if the 2 methods differ significantly or not.

For all of these the MicroVal Committee can consult Expert Committees on a case by case basis.

Annex C Procedure for the choice of members of Technical Committees and Expert Committees

The members of Expert Committees and Technical must read, speak and write English.

Additionally, they shall have:

1. A general scientific training in microbiology (at least 3 years in university or equivalent), and/or
2. A recent professional experience of minimum 2 years either in a company that produces or distributes test kits, or in a public department dealing with microbiology analysis.

This annex describes the additional requirements for the choice of the members.

C.1 Role and commitment of the Committee member

A Committee member through his expertise contributes to the functioning and credibility of MicroVal certification.

All committee members specifically commit themselves to:

- regular participation
- confidentiality
- the promotion of MicroVal certification.

In addition:

- the Committee Chairman undertakes to:

- represent the Committee for all actions in which its members wish to engage
- ensure special promotion of the MicroVal certification

- the representative of the manufacturers or distributors must:

- have a certified alternative method or have made a request in view of being certified within the year following the date of creation of the MicroVal certification,
- has a function at the decision-taking level of his company or be authorised by his company to take decisions in the committee

- the representative of the users/ must:

- give priority in his selection of methods to MicroVal certified methods and promote them
- have a function at the decision-taking level of his company or be authorised by his company to take decisions in the committee

- the representative of the technical bodies must:

- provide technical expertise

C.2 Duration of term of office

The members' term of office is three years, renewable by tacit agreement.

C.3 Striking off of a member or a deputy

The MicroVal Certification Body or the Secretariat reserves the right to terminate the term of office of a Committee member or deputy in the following cases:

- if confidentiality has not been observed,
- if absent at 3 consecutive Committee meetings without justification (member or deputy),
- in the case of
- non-compliance, in general, with the criteria defined in paragraph 1

Annex D Procedure for the selection of an expert laboratory

D.1 Becoming an expert laboratory.

To become an expert laboratory included in the MicroVal expert laboratory database an application form (MicroVal questionnaire for expert and collaborative microbiology laboratories) must be filled in. The questionnaire must be updated every 4 years. The expert laboratory has to fulfill the requirements described in 4.5. The evaluation of the application will be done by the Expert Committee that will give a recommendation for (dis)approval to the MicroVal General Committee (MGC). The MGC decides on the suitability of the applicant to become an expert laboratory in the area of expertise claimed.

D.2 Selection of an expert laboratory for a validation study

The laboratory must be selected from the database of laboratories, which is held by the Secretariat.

This selection is made by the supplier or by the MicroVal Certification Body, when the supplier requests MicroVal certification of a method.

The expert laboratory qualification is appraised by the MicroVal Certification Body for each separate request for MicroVal certification.

A specific contract is signed between expert laboratory and MicroVal Certification Body (see Annex E).

Information given in the database is:

- name of organization
- type of organization
- size
- R&D within the organization, if yes how many persons
- subdivision, if yes national/international
- R&D, if yes what type
- involvement of proficiency testing or ring testing
- accreditation or certification of the laboratory
- field of competence, reference methods used in the laboratory.

Annex E Elements for the contract between expert laboratories and certification bodies

The contract should contain the following elements:

- Certification as to the absence of conflict of interest, or disclosure to MicroVal or any potential or perceived conflict between the independent laboratory and the test kit producer
- A statement about the division of the work between the expert laboratory and the co-operative laboratory (if applicable).
- A requirement that the expert laboratory is accredited according to EN-ISO 17025 for the reference method involved in the study.
- A statement that the expert laboratory has experience of related methods in the same field of analysis as the reference method involved in the study.
- A statement that the expert laboratory will provide all personnel, facilities, equipment, and supplies, except as otherwise provided.
- A statement that the team leader is qualified in the area of the study.
- A statement about how the collaborative laboratories are selected by the expert laboratory.
- Time scales for completing the task
- Expert laboratory's fee and responsibility for costs of procured materials and services such as shipping and mailing fees
- Data reporting requirements
- Record keeping requirements
- Requirements for test kits, related supplies, test samples, etc.
- The expert laboratory must agree to use reasonable care in safeguarding, documenting and handling any property that the supplier entrusts to it. The materials shall remain the common property of the certification body and the supplier. Materials mean the study report and any data, information or documentation acquired by the expert laboratory during the study whether written or otherwise, including without limitation, notebooks, original data, other records, slides, samples, photographs, test materials and electronic data disks or tapes.
- Statement that the test kit and other specific supplies and/or equipment will be supplied by the applicant requesting MicroVal certification.
- Reference to any applicable documents required for the evaluation
- Right of inspection of the expert laboratory's facilities by the certification body, restricted to those facilities in use for the study and with previous notice by the certification body.
- Period of confidentiality. The manufacturer decides this on a case by case basis. Exceptions have to be formulated.

Model contract between MCB and Expert Lab

AGREEMENT REGARDING CO-OPERATION BETWEEN [Name MCB] AND [Name Expert Lab]

PARTIES

1. [] registered at [], and having its main office at, hereinafter referred to as: "MCB"

And

2. [] registered at [], hereinafter referred to as "Expert Laboratory".

CONSIDERING:

- That, the MicroVal General Committee (MGC) has established a Scheme for the certification of alternative methods for the microbiological analysis of food, animal feeding stuffs, beverages and food environmental samples;
- That the MCB, based on the acceptance of the MGC, is authorised to issue declarations of conformity with the MicroVal Certification Scheme, based on which suppliers or authorised representatives can use the MicroVal certification mark on and in relation to their products;
- That for obtaining and preserving a declaration of conformity validation of the alternative method is required;
- That the Expert Laboratory is prepared to perform validation activities for the MCB;

HEREBY AGREE AS FOLLOWS:

ARTICLE 1

- 1.1 The Expert laboratory declares itself prepared and willing to perform the validation activities as well as any related activities in the fields as described in the MicroVal Rules and Certification Scheme version xxx, with reference to EN ISO 16140.
- 1.2 The Expert laboratory declares that it is qualified for the performance of the validation activities in the fields as described in the MicroVal Rules and Certification Scheme version 6. Proof of which is added to this agreement as Annex 1 (acceptance as MicroVal Expert Lab and/or copy of accreditation certificate and written proof of qualification of the team leader)

ARTICLE 2

- 2.1 The Expert laboratory is responsible for the performance of the validation activities and the related activities of the organisation of the co-ordination of the interlaboratory study and will provide all personnel, facilities, equipment and supplies necessary.
- 2.2 The Expert Laboratory shall select co-operative laboratories for the interlaboratory study from the list of accepted Expert Laboratories as maintained by the MicroVal Secretariat and/or [other method?]
- 2.3 Within 6 weeks after acceptance of the request to act as Expert Laboratory, the Expert laboratory shall present a proposal for the validation study and the interlaboratory study. After acceptance of the proposal, both studies will be performed and reported to the MCB within a maximum of 6 months.
- 2.4 The Expert Laboratory shall inform the MCB in advance if any delay in the above agreed periods is to be expected.

- 2.5 The Expert laboratory shall keep an archive of records acquired from the validation study and the interlaboratory study for a period of at least to be defined- years. After this period destruction of records shall only be done in mutual consultation with the MCB.
- 2.6 The expert laboratory declares to use reasonable care in safeguarding, documenting and handling any property that the supplier entrusts to it. Materials shall remain the common property of the MCB and the supplier. Where by materials is meant: the study report and any data, information or documentation acquired by the expert laboratory during the study whether written or otherwise, including without limitation, notebooks, original data, other records, slides, samples, photographs, test materials and electronic data disks or tapes.
- 2.7 The Expert laboratory shall indemnify the MCB against any claims of producers and/or other principals and/or third parties arising from damages suffered by those parties as a result of not proper performance of its activities.

ARTICLE 3

The MCB decides, also based on the results of the validation studies, issued by the Expert laboratory, whether or not a declaration of conformity can be issued. This is described, in more detail in the MicroVal Rules and Certification Scheme as well as in the Quality Manual of the MCB

ARTICLE 4

The Expert laboratory shall inform the MCB if during the validation procedure or the related interlaboratory study changes occur in the status of accreditation of the Expert Laboratory or it's status as selected Expert Laboratory for the MicroVal Certification Scheme.

ARTICLE 5

The costs for performing the validation activities shall be paid for by the applicant, to be agreed upon in a separate agreement between the Expert laboratory and the applicant.

ARTICLE 6

- 6.1 The Expert laboratory declares not to have been involved in the design or development of the alternative method to be validated under this agreement.
- 6.2 The Expert Laboratory declares the absence of any conflict with the applicant
- 6.3 Parties shall keep secret data that are not public and to which Parties gain access when carrying out activities within the scope of this Agreement. Secrecy shall not apply to:
- Data that were already in the possession of Parties when Parties got access to these data;
 - Data that are or become public knowledge, without this being the result of any misconduct or gross negligence on the part of Parties;
 - Data that are legitimately obtained by Parties.

ARTICLE 7

- 7.1 This agreement concerns the validation of [specification alternative method] of [supplier] of which the details are supplied by the MCB to the Expert Laboratory as presented by the supplier upon application.
- 7.2 This Agreement takes effect as of [date].
- 7.3 Either Party, without any judicial intervention may immediately terminate this Agreement in writing, in case the other Party does not, not completely or not in time comply with any of the conditions,

however, not before the defaulting Party has been given the opportunity for [period] to meet its liabilities, in which case this Agreement will be continued.

ARTICLE 8

8.1 The competent court in [city, country], shall determine all disputes arising from or in connection with the present Agreement or from any further agreements resulting there from.

8.2 [national] Law is applicable to this Agreement.

Agreed in twofold between Parties and signed at and .

MicroVal Certification Body

THE EXPERT LABORATORY

Signature _____
Name _____
Position _____
Date _____

Signature _____
Name _____
Position _____
Date _____

Annex F Procedure for the choice of reviewers and auditors

F.1 Qualification guidelines for the method reviewers

The reviewer must read, speak and write English.

F1.1 Initial training

A general scientific training: at minimum 3 years of successful scientific training in microbiology - university (or equivalent) qualification.

F1.2 Professional experience

The reviewer shall have a minimum of 5 years of recent experience in a food microbiological laboratory. One of the method reviewers shall have statistical experience. The reviewer has to write his or her specific experience in microbiology.

F1.3 Training

The reviewer must have working knowledge of method comparison studies and interlaboratory studies. The reviewer must have working knowledge of with the reference method of the study.

F.2 Guidelines for qualification of auditors

The auditor should have the following qualifications:

- qualified as Lead Auditor for EN-ISO 9001 and/or EN-ISO13485 in accordance with EN-ISO 19011
- knowledge of the MicroVal Rules and Certification Scheme
- experience with alternative test methods (preferably in microbiology)
- education and/or working experience in chemistry or microbiology

F.3 Way of qualification of reviewers and auditors

The MicroVal secretariat shall qualify as many method reviewers as needed. An Expert committee will advice the MicroVal secretariat on the choice of the reviewers. A list will be forwarded to the MGC for final approval.

Each certification body shall qualify as many method reviewers as needed and as many auditors as needed for its activity.

1. The person interested in becoming a reviewer or an auditor must send a request in English to the MicroVal Certification Body or to the Secretariat of MicroVal, with a file containing all of the proofs of his or her experience (see F.1, F.2, or F.3).
2. The MicroVal Secretariat or the MicroVal Certification Body examines the file.
3. If the file is in conformity with the criteria of F.1, F.2 or F.3, the MicroVal Certification Body or the Secretariat organizes a meeting with the person. This meeting must be in English. This meeting is organized in order to evaluate the attitude of the future reviewer or auditor. It is also an informative meeting describing the work a reviewer or an auditor has to do.
4. The qualification is given for 2 years and can be renewed by the Secretariat or the certification body. The qualification can be withdrawn if there is any problem.

Annex G Time Table for MicroVal validation and certification

ACTION	WHO	ESTIMATED DURATION	ESTIMATED DEADLINE	Date expected:	Date realised:
selection of method reviewer, auditor (if necessary) and expert laboratory (if necessary)	*MCB				
selection of method reviewer	MV Secretariat				
propose protocols for the 2 studies	MV Expert Lab		D* dd-mm-year		
examination of the protocols*	2 *MR's *MV TC *MV Expert Lab	7 weeks	D + 7 weeks		
perform 1 preliminary study in compliance with method protocols and EN-ISO 16140 analysis of results preparation of study report	MV Expert Lab	10 weeks	D + 17 weeks		
reception of the expert laboratory's report	MCB	included	D + 17 weeks		
sending the report to the 2 method reviewers	MCB	included	D + 17 weeks		
examination of the preliminary report*	2 MR's MV TC MV Expert Lab	7 weeks	D + 24 weeks		
sending the report to the MCB	2 MR's	included	D + 24 weeks		
perform collaborative study in compliance with method protocols and EN-ISO 16140 analysis of results preparation of study report	MV Expert Lab	6 weeks	D + 30 weeks		
performing the audit	auditor	Within 36 weeks	D + 36 weeks max.		
examination of the collaborative report*	2 MR's MVTC Expert Lab	7 weeks	D + 37 weeks		
certification proposal	MVTC	1 week	D + 38 weeks		
information to the Secretariat	MCB	2 days	D + 38 weeks + 2 days		
legal Certification Decision	MCB	1 week	D + 39 weeks max.		

* D = the date of receipt draft protocol from the Expert laboratory and the start for monitoring time table

* MR = method reviewer

* MCB = MicroVal Certification Body

* MV TC = MicroVal Technical Committee

*

Studying Protocol/ Report preliminary report / Final reports

- 2 MR's – comments	2 weeks
- MV TC – check comments + documents **	1 week
- 2 MR's combine comments MR's and MV TC to Expert lab	1 week
- Expert lab incorporating comments	1 week

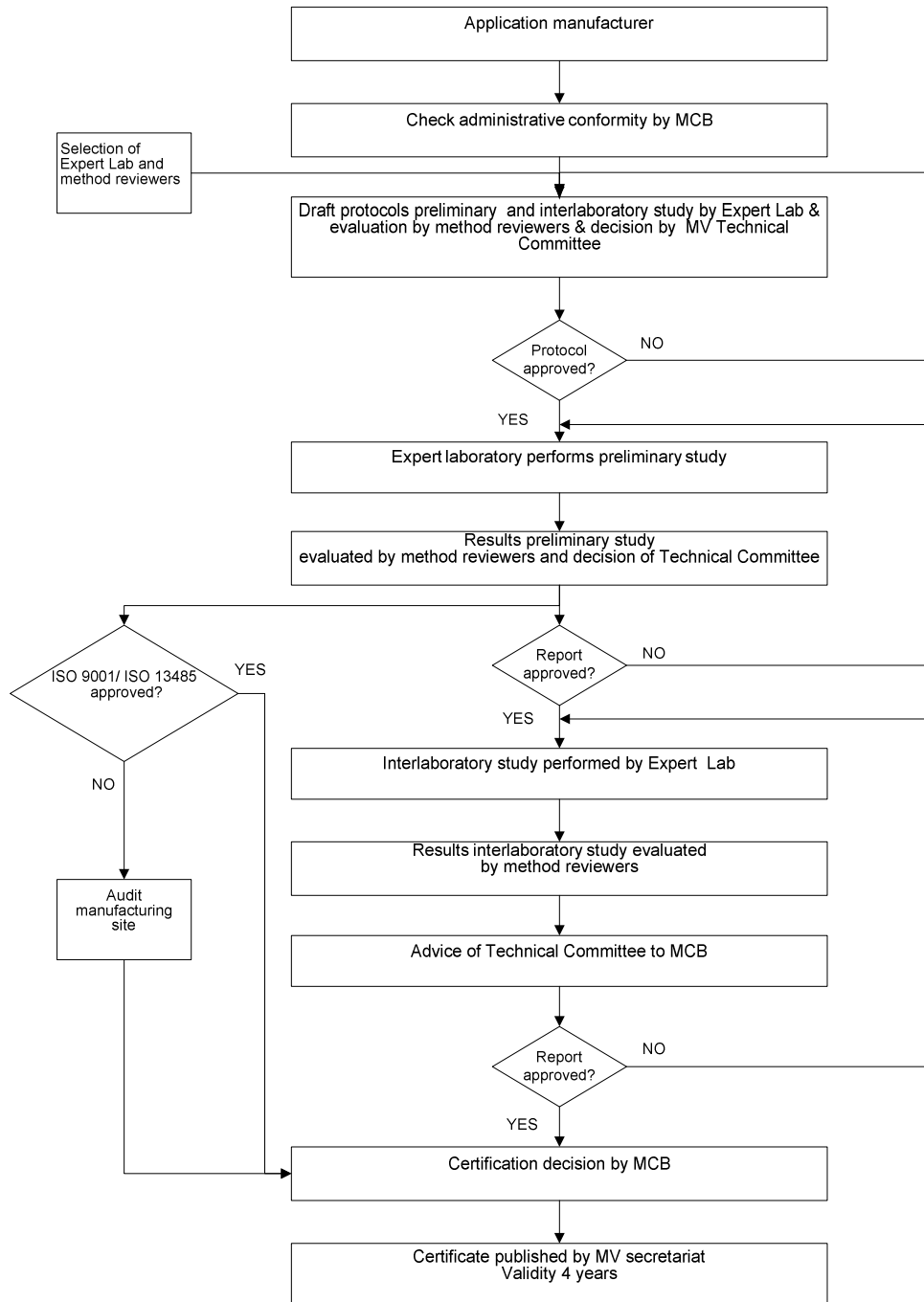
For final approval

- 2 MR's	1 week
- MV TC	1 week

Total *7 weeks*

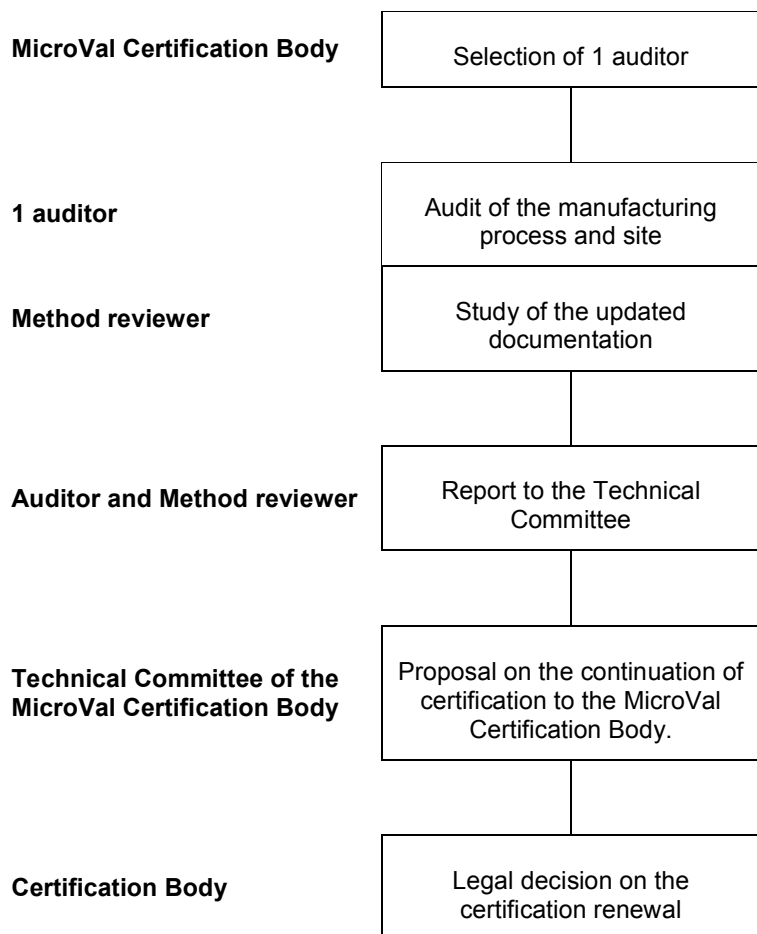
** For the MV TC it is possible to hold a meeting or give comments by correspondence. However, depending on the complexity of the alternative method it is advisable to have at least one meeting for one of the items: comments on the protocol, report preliminary report or final decision.

Annex H Flow chart of the certification process



Annex J Surveillance and renewal audits

Responsibility of



Annex K Quality systems - Alternative methods - Particular requirements for the application of EN-ISO 9001

This annex is based on EN ISO 13485 – Medical devices – Quality management systems – Requirements for regulatory purposes.

Clause	Title in standard EN-ISO 13485	Additional requirements for EN-ISO 9001 certification but no EN-ISO 13485	Additional requirements for MicroVal certification
4	Quality Management System requirements		
			<p>Definition:</p> <p>A "main raw material" is termed as being a specific material having a incidence direct influence on the method's suitability. (e.g. antibodies in the case of an immunological method, major ingredients in the case of a medium, etc.)</p> <p>An "associated raw material" is termed as being a material having an indirect influence on the method's suitability. (e.g. washing buffer solution, substrates for solid phase methods, etc.)</p>
4.1	General requirements		
4.2	Documentation requirements		
4.2.1	General requirements	For each type or model of test kits, the organization shall establish and maintain a file either containing or identifying documents defining product specifications and quality management system requirements (see 4.2.3). These documents shall define the complete manufacturing process and, if applicable, installation and servicing.	
4.2.2	Quality Manual		
4.2.3	Control of documents	The organisation shall ensure that changes to documents are reviewed and approved either by the original approving function or another designated function, which has access to pertinent background information upon which to base its decisions.	
4.2.4	Control of records	The organization shall retain the records for a period of time at least equivalent to the lifetime of the test kit as defined by the organization, but not less than two years from the date of product release by the organization or as specified by relevant regulatory requirements.	<p>The manufacturer shall keep all documentation related to quality registration during a period at least equivalent to the period of validity of the alternative method he has defined. This period cannot be inferior to a Validation cycle (starting from the date of granting MicroVal validation)</p> <p>The manufacturer shall set up and update quality records related to each batch of alternative methods corresponding to the traceability referred to in clause 2.3 and identifying the quantity produced and the quantity distributed. The batch registration shall be verified and authorized.</p>
5	Management Responsibility		
5.1	Management Commitment		
5.2	Customer focus		

5.3	Quality policy		
5.4	Planning		
5.4.1	Quality objectives		
5.4.2	Quality Management System planning		
5.5	Responsibility, authority and communication		
5.5.1	Responsibility and authority		
5.5.2	Management representative		
5.5.3	Communication		
5.6	Management review		
5.6.1	General		
5.6.2	Review input		
5.6.3	Review output		
6	Resource management		
6.1	Provision of resources		
6.2	Human resources		
6.2.1	General		
6.2.2	Competence, awareness and training		
6.3	Infrastructure	The organization shall establish documented requirements for maintenance activities, including their frequency, when such activities or lack thereof can effect product quality. Records of such maintenance shall be maintained (see 4.2.4.)	
6.4	Work environment	The following requirements shall apply. a) The organization shall establish documented requirements for health, cleanliness and clothing of personnel if contact between such personnel and the product or work environment could adversely affect the quality of the product (see 7.5.1.2.1). b) If work environment conditions can have an adverse effect on product quality, the organization shall establish documented requirements for the work environment conditions and documented procedures or work instructions to monitor and control these work environment conditions (see 7.5.1.2.1). c) The organization shall ensure that all personnel who are required to work temporarily under special environmental conditions within the work environment are appropriately trained or supervised by a trained person [see 6.2.2 b)]. d) If appropriate, special arrangements shall be established and documented for the control of contaminated or potentially contaminated product in order to prevent contamination of other product, the work environment or personnel (see 7.5.3.1).	

7	Product realization		
7.1	Planning of product realization	The organization shall establish documented requirements for risk management throughout product realization. Records arising from risk management shall be maintained (see 4.2.).	
7.2	Customer-related processes		
7.3	Design and development		
7.3.1	Design and development planning		
7.3.2	Design and development inputs	e) Output of risk management	
7.3.3	Design and development outputs		
7.3.4	Design and development review		
7.3.5	Design and development verification		
7.3.6	Design and development validation		
7.3.7	Control of design and development		<p>Procedures concerning the modifications</p> <p>The quality system shall incorporate the management of modifications of :</p> <ul style="list-style-type: none"> - the main raw materials, - the process, - the products. <p>Any modification having a direct effect on the suitability of the method shall be declared to MicroVal, whether a modification of protocol or of materials.</p> <p>The way to proceed with modifications is described in annex M.</p>
7.4	Purchasing		
7.4.1	Purchasing process	The organization shall establish documented procedures to ensure that purchased products conform to specified requirements.	
7.4.2	Purchasing information	To the extent required for traceability given in 7.5.3.2. the organization shall maintain relevant purchasing information, i.e. documents (see 4.2.3.) and records (see 4.2.4.).	

7.4.3	Verification of purchased products	Records of the verification shall be maintained.	<p>Procedures concerning the main raw materials The manufacturer shall define a specification for each main raw material. The manufacturer shall draw up a system of reference allowing him to specify the performance level of each main raw material with the aid of reproducibility tests.</p> <p>The frequency of the in-house inspections is :at least 1 inspection per batch received, if goods are stored, at least 1 inspection per batch or per aliquot of batches after storage and before manufacture</p> <p>The main raw materials may be identified by codes so as to conserve, vis-à-vis the auditor, the anonymity of the raw materials being used.</p> <p>Exceptions : if the main raw material stems from a manufacturer, the manufacturer may obtain guarantees from the latter, should the alternative method be proven technically impossible, the reproducibility tests will be carried out on the finished product.</p> <p>Procedures concerning the associated raw materials The manufacturer shall define a specification for each associated raw material, as well as procedures for monitoring these specifications.</p>
7.5	Production and service provision		
7.5.1	Control of production and service provision		
7.5.1.1	General requirements	<p>b) the availability of documented procedures, documented requirements, work instructions and reference materials and reference materials and reference measurement procedures as necessary.</p> <p>g) the implementation of defined operations for labelling and packaging.</p> <p>The organization shall establish and maintain a record (see 4.2.4.) for each batch of test kit that provides traceability to the extent specified in 7.5.3. and identifies the amount manufactured and amount approved for distribution. The batch record shall be verified and approved.</p>	
7.5.1.2	Control of production and service provision-Specific requirements		
7.5.1.2.1	Cleanliness of product and contamination control		
7.5.1.2.2	Installation activities		
7.5.1.2.3.	Service activities		
7.5.1.3	Particular requirements for sterile medical devices		
7.5.2	Validation of processes for production and service		

7.5.2.1	General requirements	The organization shall establish documented procedures for the validation of the application of computer software (and changes to such software and/or its application) for production and service provision that effect the ability of the product to conform to specified requirements. Such software applications shall be validated prior to initial use. Records of validation shall be maintained (see 4.2.4.).	
7.5.2.2	Particular requirements for sterile medical devices		
7.5.3	Identification and traceability		
7.5.3.1	Identification	The organization shall identify the product by suitable means throughout product realization, and shall establish documented procedures for such product identification. The organization shall establish documented procedures to ensure that medical devices returned to the organization are identified and distinguished from conforming product [see 6.4 d)].	
7.5.3.2	Traceability		
7.5.3.2.1	General	The organization shall establish documented procedures for traceability. Such procedures shall define the extent of product traceability	The manufacturer shall give a definition for the notion of batches for the main raw materials and for the products. The manufacturer shall ensure the traceability of the raw materials and products.
7.5.3.2.2	Particular requirements for active implantable medical devices and implantable medical devices	In defining the records required for traceability, the organization shall include records of all components, materials and work environment conditions, if these could cause test kit not to satisfy its specified requirements. The organization shall require that its agents or distributors maintain records of the distribution of the test kits to allow traceability and that such records are available for inspection. Records of the name and address of the shipping package consignee shall be maintained (see 4.2.4).	
7.5.3.3	Status identification	The identification of product status shall be maintained throughout production, storage, installation and servicing of the product to ensure that only product that has passed the required inspections and tests (or released under an authorized concession) is dispatched, used or installed.	
7.5.4	Customer property		
7.5.5	Preservation of products	The organization shall preserve the conformity of product during internal processing and delivery to the intended destination. This preservation shall include identification, handling, packaging, storage and protection. Preservation shall also apply to the constituent parts of a product.	The method used to calculate the period of validity for each type of product shall be documented.
7.6	Control of monitoring and measuring devices		
8	Measuring, analysis and improvement		
8.1	General		
8.2	Monitoring and measurement		

8.2.1	Customer satisfaction	The organization shall establish a documented procedure for a feedback system [see 7.2.3 c)] to provide early warning of quality problems and for input into the corrective and preventive action processes (see 8.5.2 and 8.5.3). If national or regional regulations require the organization to gain experience from the postproduction phase, the review of this experience shall form part of the feedback system (see 8.5.1).	
8.2.2	Internal audit		
8.2.3	Monitoring and measurement of processes		
8.2.4	Monitoring and measurement of product		
8.2.4.1	General requirements	Product release and service delivery shall not proceed until the planned arrangements (see 7.1) have been satisfactorily completed.	<p>Procedures concerning the possible detection of the signal (methods integrating a physical measurement)</p> <p>The 3 main phases of the detection are :</p> <ul style="list-style-type: none"> - the physical principle of detection, - the processing of the signal, - the processing of the information. <p>For each of these phases, the manufacturer shall document their performance level and define the monitoring operations.</p> <p><u>Procedures concerning the products</u></p> <p>The manufacturer shall draw up a system of reference for the in-house inspection of the suitability of each product and shall justify its relevance.</p> <p>The system of reference will incorporate at least :</p> <ul style="list-style-type: none"> - the detection limit, - the specificity, - the signal detection threshold, if required. <p>An in-house inspection frequency of 1 inspection per batch is desirable.</p>
8.2.4.2*	Particular requirements for active implantable devices		
8.3	Control of nonconforming products	The organization shall ensure that nonconforming product is accepted by concession only if regulatory requirements are met. Records of the identity of the person(s) authorizing the concession shall be maintained (see 4.2.4). If product needs to be reworked (one or more times), the organization shall document the rework process in a work instruction that has undergone the same authorization and approval procedure as the original work instruction. Prior to authorization and approval of the work instruction, a determination of any adverse effect of the rework upon product shall be made and documented (see 4.2.3 and 7.5.1).	
8.4	Analysis of data		
8.5	Improvement		

8.5.1	Continuous improvement	Records of all customer complaint investigations shall be maintained (see 4.2.4). If investigation determines that the activities outside the organization contributed to the customer complaint, relevant information shall be exchanged between the organizations involved (see 4.1). If any customer complaint is not followed by corrective and/or preventive action, the reason shall be authorized (see 5.5.1) and recorded (see 4.2.4). If national or regional regulations require notification of adverse events that meet specified reporting criteria, the organization shall establish documented procedures for such notification to regulatory authorities.	
8.5.2	Corrective action		
8.5.3	Preventive action		

Annex L Requirements for labelling

The MicroVal specific requirements for labelling the products and the requirements for the user manuals are based on 2 European standards for in "in vitro diagnostic reagents for professional use".

EN 375: Information supplied by the manufacturer with in vitro diagnostic reagents for professional use

EN-ISO 18113-3 In vitro diagnostic medical devices - Information supplied by the manufacturer (labelling) - Part 3: In vitro diagnostic instruments for professional use

Alternative methods. Requirements for labelling of alternative methods for professional use

L.1 Scope

This document specifies requirements for the labelling of alternative methods for professional use. If the alternative method is an instrument the requirements of EN-ISO 18113-3 "In vitro diagnostic medical devices - Information supplied by the manufacturer (labelling) - Part 3: In vitro diagnostic instruments for professional use" applies.

L.2 Definitions

For the purposes of this document, the following definitions apply:

L.2.1 Alternative method: see CHAPTER 3

L.2.2 Calibration¹⁾: The set of operations which establish, under specified conditions, the relationship between values indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values of a measurable quantity realised by a measurement standard.

L.2.3 Calibrator¹⁾: Reference material used for calibration.

L.2.4 Control material¹⁾: Material used for internal quality control or external quality assessment purposes.

L.2.5 Expiry date¹⁾: The date beyond which product performance cannot be assured, stated on the container in uncoded form and based on the stability (under these stated conditions) of the in-vitro diagnostic reagent.

L.2.6 External quality assessment¹⁾: Checking results of measurement produced at a certain site by comparing with the results obtained by other sites on the same material distributed by an external agency that also analyses the data statistically.

L.2.7 Immediate container¹⁾: A medium that protects the content(s) from contamination and/or physical damage.

Note:

Examples are a sealed vial, ampoule or bottle, a foiled pouch, or a sealed plastic bag containing e.g. culture media, micro-titration plates or coated tubes

- L.2.8 Internal quality control¹⁾:** Operational techniques and activities within a production site that are used to fulfil requirements for quality of services.
- L.2.9 Kit:** a set of components and instruction for use packaged together.
- L.2.10 Kit component:** an ingredient or another material intended to be part of a kit.
- L.2.11 Label¹⁾:** Any printed, written or graphic information placed on a container.
- L.2.12 Labelling¹⁾:** All printed, written, graphic or other information affixed to, or accompanying an alternative method including labels on any of its containers or wrappers and package inserts.
- L.2.13 Lot¹⁾:** A defined quantity of material, either bulk, intermediate or finished product which is uniform in character and quality as evidenced by compliance with production and quality assurance test requirements and which has been produced during a defined validated process of manufacture.
- L.2.14 Lot number:** A distinctive combination of numbers and/or letters which specially identify a lot and permit its manufacturing history to be traced.
- L.2.15 Manufacturing¹⁾:** The complete process of production from the acquisition of all materials through all processing stages and including final packaging.
- L.2.16 Outer container:** Material used in the packaging of the immediate container(s) of a product whereby the product consists of a single entity or an assembly of different or identical components.
- L.2.17 Package insert¹⁾:** Any printed or graphic material(s) accompanying an in vitro diagnostic reagent which is not attached and contains instructions for use.
- L.2.18 Professional use:** Use by personnel who have received special education and training with regard to laboratory procedures utilising alternative methods.
- L.2.19 Shelf life:** Period until expiry date.
- L.2.20 Sample:** Material, which is obtained in order to detect or to measure one or more quantities.
- L.2.21 Stability:** Ability of a product to retain its fitness for the intended use during the shelf life.
- L.2.22 Supplier:** Party that is responsible for the product, process or service.

Note:

The definition may apply to manufacturers, distributors, importers, assemblers, service organizations, etc.

L.3 Labels

L.3.1 Immediate container

The label for an immediate container shall provide the information given below (at least L.3.1.1 to L.3.1.4 and L.3.1.6 to L.3.1.8) in legible characters. If the available space is too small for this purpose or if such labelling would interfere with the reading of analytical results, the information may be reduced to the product name, supplier, lot number, expiry date and appropriate cautionary symbols as a minimum requirement, with the remaining information (L.3.1.5, L.3.1.6 and L.3.1.8) being given on an outer container (carton or overwrap) or in the instructions for use if more appropriate.

As a minimum requirement, this information on the immediate container shall be given in English; the following abbreviations may be used: "Exp." for expiry date and "Lot" for lot number. Individual immediate containers either as a separate accessory to a kit or not part of a kit shall be labelled according to L.3.2.

L.3.1.1 Product name

The name shall ensure proper identification to the user of the product. Additionally, in a kit each component shall be identified by name, letter, number, symbol, colour or graphics in the same manner as described in the instructions for use or on the outer container.

L.3.1.2 Supplier

The name of the supplier shall be given. Instead of the supplier's name an unequivocal logo is sufficient.

L.3.1.3 Lot number

A lot number shall be given.

L.3.1.4 Expiry date

An expiry date based upon the stated storage instructions shall be given. This may be day, month and year or month and year. In the latter case this means that the expiry date is the last day of the month indicated.

L.3.1.5 Contents

The content in terms of e.g. mass, volume and/or the number of measurements shall be given.

L.3.1.6 Intended use

A general statement shall be used.

L.3.1.7 Cautionary statements

If an alternative method is considered hazardous, the immediate container shall be labelled with the appropriate cautionary symbols and/or statements e.g. according to annex II of the EEC Directive 91/325/EEC.

L.3.1.8 Storage instructions (see 3.1.4)

The storage conditions necessary to protect the stability of the product in the unopened state shall be indicated. Recommended storage temperature intervals shall be given.

Examples are

2 °C to 8 °C	or	2..... 8 °C	or	graphical symbol according to ISO 7000-0632
-18 °C or below	or	< -18 °C	or	graphical symbol according to ISO 7000-0533
protect from freezing	or	do not freeze	or	graphical symbol according to ISO 7000-0027 in combination with the prohibition sign according to ISO 3864

If storage conditions for the opened or reconstituted product are different from those in the unopened state they shall also be given.

L.3.2 Outer container

The label for an outer container shall give the information specified in L.3.2.1 to L.3.2.8.

As a minimum requirement this information shall be given in English. However, packaging requirements concerning the language(s) of the countries in which the product is distributed shall be observed. Ideally multilingual outer container labels should be considered.

If an approval of the product is obligatory, the number or code of approval has to be given on the label of the outer container.

L.3.2.1 Product name

The product name (see L.3.1.1) shall be given. Where appropriate, the catalogue reference (product code) should also be given.

L.3.2.2 Supplier

The name and address of the supplier shall be given.

As a minimum requirement for EU member countries, name and address of the manufacturer or distributor in the EU shall be given.²⁾

L.3.2.3 Lot number

A lot number shall be given.

L.3.2.4 Expiry date

An expiry date based upon the stated storage instructions shall be given using the procedure of L.3.1.4. The label of the outer container shall give the expiry date of the component having the earliest expiry date. Abbreviations may be used.

L.3.2.5 Contents

The content on terms of e.g. mass, volume and/or the number of measurements shall be given.

The components of a kit shall be listed and briefly characterised (e.g. "buffer"). This can be completed in a package insert.

L.3.2.6 Intended use

The intended use may be given by means of the product name or the analytical method.

L.3.2.7 Cautionary statements

If an alternative method is considered hazardous the outer container shall be labelled with the appropriate cautionary symbols and/or statements e.g. according to annex II of the EEC Directive 91/325/EEC.

L.3.2.8 Storage instructions

The storage conditions necessary to protect the stability of the product in the unopened state shall be indicated. Recommended storage temperature intervals shall be given.

Examples are

2 °C to 8 °C	or	2..... 8 °C	or	graphical symbol according to ISO 7000-0632
-18 °C or below	or	< -18 °C	or	graphical symbol according to ISO 7000-0533
protect from freezing	or	do not freeze	or	graphical symbol according to ISO 7000-0027 in combination

with the prohibition sign
according to ISO 3864

Other conditions that can affect stability (e.g. light or humidity) shall be mentioned. Special attention has to be given to shipment conditions.

L.4 Instructions for use

Alternative methods shall be supplied with instructions for use. It is general practice to supply the instructions for use together with the package as a package insert. In special-cases instructions for use may be given on the outer container or in an operation manual. The information given shall be sufficient to ensure proper performance of the procedure and safe use. Version management of the instructions for use must be ensured, as well as reference to the correct version on the outer container (see L.3.2.5)

Languages shall be used in accordance with the requirements of the countries in which the product is distributed. Multilingual instructions for use are recommended.

L.4.1 Product name

The name of the ingredient(s), kit or reactions to be carried out with the reagent(s) shall be stated. The catalogue reference or product code should also be stated.

L.4.2 Supplier

The name and address of the supplier shall be given.

As a minimum requirement for EU member countries, name and address of the manufacturer or distributor in the EU shall be given.²⁾

L.4.3 Application and intended use

The field of application shall be described. The intended use may be given by means of the product name or the analytical method.

L.4.4 Composition of reagents

In a kit, each component shall be identified using designations identical with those on the immediate container (see L.3.1.1).

The general nature and amount of the active ingredient(s) of the alliterative methods or kit shall be given as well as information on ingredients influencing the reaction (e.g. stabilisers, inhibitors, type of organism, host system).

The use of units in accordance with ISO 1000 is recommended.

L.4.5 Additional materials

Any materials required but not provided should be listed, including required specifications e.g. purity, concentration, pH, requirements for absence of specific ingredients etc.

L.4.6 Methodology

L.4.6.1 Principle of the method

Information on the principle of the method indicating the type of reaction e.g. microbiological or immunochemical - and a description of the indicator or detection system shall be given.

L.4.6.2 Performance criteria and limitations of the method

To be defined later

L.4.6.3 Reagent preparation

All required aspects of reagent preparation including reconstitution, incubation and dilution shall be described.

L.4.6.4 Storage and shelf life of method after opening

The storage conditions and shelf life following the first opening of the immediate container, together with the storage conditions and stability of working reagents shall be given if different from those stated in sections L.3.1.4, L.3.1.8, L.3.2.4 and L.3.2.8.

L.4.6.5 Sample

The type of sample, conditions of collection, pre-treatment and, if necessary, storage conditions shall be given.

L.4.6.6 Procedure

A detailed procedure which can be clearly understood by the operator shall be provided.

If significant changes to former editions of the instructions for use are made, the change shall be clearly stated and highlighted.

L.4.6.7 Calculation of analytical results

The mathematical formula and if appropriate the name and version/ release date of the computer program upon which calculation of the analytical measurement results is made shall be given.

L.4.7 Internal Quality Control

Suitable control material should be listed, together with the imprecision, sensitivity and inaccuracy to be expected.

16.1.1 L.4.8 Reference intervals

Where appropriate and available reference intervals should be given for the analyse(s) being determined.

L.4.9 Precautions and warnings

If a hazard is associated with the product or its use, any special precautions and warnings shall be stated. Possible risks of misuse shall also be given. If appropriate, instructions for the safe disposal of materials used should be given.

L.4.10 Literature references

Literature references should be given if applicable (e.g. for publications of analytical results (see L.4.6.7) or for reference intervals).

L.4.11 Date of issue of instructions for use

The date of issue or of revision shall be given.

¹⁾ Provisional statement, subject to revision depending upon future EC Directives and/or European Standards

²⁾ National/local requirements should be followed.

Annex M Requirements related to the renewal of MicroVal Validation

The requester (supplier or distributor) owner of the MicroVal certificate shall choose a MicroVal Certification Body and an expert laboratory in the list. The MCB shall nominate one reviewer to study the laboratory report.

The expert laboratory shall make a presentation of the alternative method to the technical committee of the MCB, including items 1 to 6 described below.

The reviewer shall study the laboratory report before the presentation.

M.1 Calling to mind:

- date of first granting of MicroVal certificate and renewal dates
- principle of the alternative method
- technical protocol of the alternative method (described in a plan)
- reference method(s) to which the alternative method was compared
- updated technical sheet as well as all former technical sheets having been in force since the last MicroVal certificate, indicating the modifications.

The requester shall give these sheets to the expert laboratory.

- Particular characteristics of the alternative method (scope, restrictions for use,...)
- Main results obtained during the initial validation study and during the renewals or extensions/modifications studies.
- Assessment of all modifications having occurred in the alternative method.

The supplier shall give to the expert laboratory the detailed report of all modifications from the last validation or extension.

M.2 Bibliography:

A bibliography report shall contain:

- A list of publications related to the alternative method, published since the last validation certificate was granted.

These pieces of information shall be given by the requester and by the expert laboratory, which shall make a desk research. They can be completed by information coming from the reviewer.

- A report made out of these publications, drafted by the expert laboratory, with information of the method performances.
- A report on all external validations granted to the method (including date, name of organization granting the certificate, type of validation protocol, reference method used)

The requester shall give to the expert laboratory all study reports related to these external validations, for them to be available for the technical committee during the presentation.

M.3 Report on customer complaints

The requester shall give to the expert laboratory all pieces of information that reveal malfunctions and that caused modifications of the alternative method protocol or modification of the scope (e.g. exclusion of matrixes)

Audits will be conducted on the production site of the alternative method according to MicroVal Rules. A clause dealing with customer complaints shall be concerned by the audit.

Information related to the complaints recorded since the last validation procedure can be sent to the members of the technical committee in the form of a report, if the auditor and the MCB feel that these complaints may raise questions about the performances of the method.

Complaints recorded by MicroVal secretariat (directly or via MCB's) shall also be given to the expert laboratory, which shall include them in the report.

M.4 Report of modifications since the last validation procedure

- Modifications in the technical validation protocol (document explaining the procedures for conducting preliminary and interlaboratory studies)
- Modifications in the reference method used

M.5 Report of modifications to be made to the alternative method

The expert laboratory shall make a report on all modifications proposed to the alternative method and advise on the need to make complementary assays or not.

The new draft technical sheet shall be included in the report.

If the requester plans to ask for an validation extension (major modifications made either to the method or to its technical protocol or to the validation scope) the extension procedure applies in the same time.

M.6 A draft study protocol

If necessary (see conditions below), complementary assays shall be proposed by the expert laboratory in accordance with the Validation protocol.

Then the technical committee shall study this proposal and give one of the following advices:

IF NO MODIFICATION WAS MADE TO THE MICROVAL RULES NOR TO THE REFERENCE METHOD AND IF THE POSSIBLE MODIFICATIONS IN THE ALTERNATIVE METHOD DO NOT AFFECT ITS PERFORMANCES AND IF THE STUDY OF COMPLAINTS AND BIBLIOGRAPHY DO NOT AFFECT THE PERFORMANCES OF THE ALTERNATIVE METHOD:

☛ the technical committee should advise to renew the certificate for 4 years without any complementary study (the report presented must be comprehensive)

IF MODIFICATIONS HAVE BEEN MADE TO THE MICROVAL RULES:

☛ the technical committee advises to make a new* study so that all new requirements are met.

** MCB / MGC/ Technical Committee (to be defined later) is responsible to evaluate the importance of the modifications and to define the complementary assays to perform.*

IF MODIFICATIONS HAVE BEEN MADE TO THE REFERENCE METHOD:

☛ the technical committee advises to make a new* study (part or whole).

** MCB / MGC/ Technical Committee (to be defined later) is responsible to evaluate the importance of the modifications and to define the complementary assays to perform.*

IF MODIFICATIONS ARE TO BE MADE TO THE ALTERNATIVE METHOD:

a) If there is a major modification affecting the performances of the alternative method:

- modification of one of the main raw materials , or
- major modification of the protocol (including use of a PLC requiring a modification of the protocol)

☛ The technical committee shall ask for a complementary study, based on the proposal made by the expert laboratory

b) If there is a minor modification:

- modification to one of the associated raw materials, or
- minor modification of the protocol (including use of a PLC reproducing a validated protocol).

☛ The technical committee studies documentation and may advise to renew the validation certificate without any complementary assays.

If the technical committee feels that the modification is a major one (occurring on a main raw material and not on associated material for instance), advice shall be given according to case a).

If necessary, the technical committee can ask for more information to be studied at a next step.

c) If the alternative method includes software in order to have electronic study of results and if this software has been modified:

☛ the expert laboratory shall verify whether the results obtained during last validation procedure are modified or not when using the new version of the software. If results are modified, the technical committee shall ask for complementary assays, based on the proposal made by the expert laboratory.

IF CUSTOMER COMPLAINTS OR BIBLIOGRAPHY EXTRACTS SHOW THAT THE PERFORMANCES OF THE ALTERNATIVE METHOD MAY BE AFFECTED:

☛ the technical committee should ask for complementary assays or complementary documents, in order to prove that the performances of the method remain equal as regards MicroVal Validation requirements.

If one or more of the above mentioned cases are concerned, the technical committee should propose complementary assays (preliminary and interlaboratory studies) taking into account all the items.

When the renewal study is done, a synthetic report shall be drafted by the expert laboratory. It shall contain a résumé of the different items discussed and a résumé of the results of the studies made.

Annex N Certificate of compliance

CERTIFICATE OF COMPLIANCE

This certificate includes (number) pages

MICROVAL



HEREBY DECLARES THAT THE CERTIFICATION ASSESSMENT BY

[name of MCB / expert lab]

HAS DEMONSTRATED THAT THE PRODUCT

[Product and type]

MANUFACTURED BY: and/or SUPPLIED BY: and/or PRODUCED AT:

Specify relevant name and address details of the manufacturer or developer, production site of the test kit or method, name and address of the supplier or importer.

COMPLIES WITH

The MicroVal Rules and Certification Scheme version xxx
The validation has been performed in accordance with EN ISO 16410:2003

As demonstrated by Report number xxx

Certificate no.: xxx

Validation date: dd month yyyy
Surveillance date: dd month yyyy
Expiry date: dd month yyyy

[SIGNATURE MCB]

(Logo of the MCB / expert Lab)

ISSUED BY: *MicroVal Certification Body/ expert lab*
[place and country MCB]

N1. Qualitative

SPECIFY THE PRINCIPLE OF THE ALTERNATIVE METHOD

Specify the principle of the alternative method.

SCOPE

Specify for which product(s) this method or testkit can be used.

RESTRICTION OF USE

Specify if applicable

REFERENCE METHOD

Specify and describe which reference method has been used to validate the product and type.

NOTE (if necessary)

Indicate the recovery of previous results, where applicable.

RELATIVE ACCURACY, RELATIVE SENSITIVITY AND RELATIVE SPECIFICITY

Comparison of performances of the alternative method and the reference method.

The tests were performed in (year) on (number) product / strain samples, of which (number) were naturally contaminated, (number) artificially contaminated and (number) non-contaminated, belonging to the following principle food product categories; (name categories).

The samples were analyzed in single (or duplicate) with each of the two methods.

Table of Results

Cf table 1 standard EN/ISO 16140:2003

responses	Reference method positive (R+)	Reference method negative (R-)
Alternative method positive (A+)	Positive agreement (A+R+) PA =	Positive deviation (A+R-) PD =
Alternative method negative (A-)	Negative deviation (A-R+) ND =	Negative agreement (A-R-) NA =

CALCULATION OF THE RELEATIVE ACCURACY, RELATIVE SENSITIVITY AND RELATIVE SPECIFICITY

CF table 2 standard EN/ISO 16140:2003

matrices	PA	NA	ND	PD	SUM	Relative accuracy AC (%)	N+	Relative sensitivity SE (%)	N-	Relative Specificity SP (%)
					N	$100 \times \frac{PA}{(PA+NA)}$	PA+ND	$100 \times \frac{PA}{N+}$	NA+PD	$100 \times \frac{NA}{N-}$

Percentages obtained compared to the reference method are as follows:

- Relative accuracy (*indicate in %*)
- Relative specificity (*indicate in %*)
- Relative sensitivity (*indicate in %*)

Note: relative specificity below 100% results from a number of confirmed supplementary positives and not from false positives

Sensitivity was also recalculated taking into account all confirmed positives (including supplementary positives by alternative method):

Alternative method
 $(PA + PD) / (PA + PD + ND) =$

Reference method
 $(PA + ND) / (PA + PD + ND) =$

CONCLUSION

The performance of the alternative method appears (equivalent to) that of the reference method. Or any other relevant conclusion.

RELATIVE DETECTION LEVEL

A comparison of performances of the alternative method and the reference method.

The tests were performed in (*year*) on (*number*) combinations of product/strains as described below. These products represent the following principle food product categories: (*name categories*).

The samples have been analyzed (6) of times with each of the two methods, at the (5) levels of contamination. Namely: (*specify the ranges used in CFU/g*).

The results obtained are the following:

Type of product	strain	Relative detection level with confidence interval LOD ₅₀ ⁽¹⁾ (cfu/25 gr)	
		Reference method	Alternative method

(1) LOD₅₀ : estimation of level of contamination enabling positive detection in (%)% of cases. Hitchins, A. 2003. Proposed use of a 50% Limit of Detection Value in Defining Uncertainty Limits in the Validation of Presence-Absence Microbial Detection methods. <http://www.cfsan.fda.gov/~acrobat/bpmm-k.pdf> and Revealed calculations and formula LOD 50%.xls

CONCLUSION

(*Specify the relevant result of the comparison between the alternative and the reference method*)

The detection limit for the alternative method is between ... and ... cfu/25 g.
 The detection limit for the reference method is between ... and ... cfu/25 g.

SELECTIVITY (INCLUSIVITY/EXCLUSIVITY)

Report the expected and non-expected results of the target and non-target strains and discuss the differences.

INTERLABORATORY STUDY

Indicate details as date of conduction, number of participation collaborative laboratories, details about the samples, the levels of the samples, etc.

The inter-laboratory study was conducted in (month + year) involving (number) laboratories, from (number) countries. Samples of (food category) following contamination levels were analysed.

- Negative sample (L0)
- Low (L1)
- Medium (L2)

Describe for each laboratory the number of replicate samples for each level of contamination which were tested by both methods.

Obtained results

Contamination level	Nr of samples analysed	Nbr of samples evaluated *	Number of negative results		Number of positive results	
			Ref	Alt	Ref	Alt

L(0)						
L(1)						
L(2)						

* Explanation in case there is a deviation in number of samples analysed and number of samples evaluated.

CONCLUSION

Results of the interlaboratory study and method comparison study and how they relate to one another.

ACCORDANCE, CONCORDANCE AND CONCORDANCE ODDS RATIO

Accordance: percentage change of finding the same result (i.e. both negative or both positive) from two identical test portions analysed in the same laboratory, under repeatability conditions. The accordance is the average (mean) of the probabilities that two replicates give the same result for each laboratory.

Concordance: percentage chance of finding the same result for two identical samples analysed in two different laboratories (conditions of reproducibility). The concordance is the percentage of all pairings of duplicates giving the same result.

Concordance odds ratio (COR): defined by the following formula:

$$COR = \frac{\text{accordance} \times (100 - \text{concordance})}{\text{concordance} \times (100 - \text{accordance})}$$

The following table indicates values for the **alternative method**

Contamination level	Accordance (%)	Concordance (%)	COR
None			
Low			
Medium			
High			

The following table indicates values for the **reference method**

Contamination level	Accordance (%)	Concordance (%)	COR
None			
Low			
Medium			
High			

FINAL CONCLUSION

Relevant conclusion if alternative and reference method are compared, also naming all test-conditions. (*In the relevant case*) variability of the alternative method (accordance, concordance, concordance odds ratio) is equivalent (identical) to that of the reference method.

Please send any queries concerning the performance of the validated method to (name MCB).

On request, name MCB will send you a summary document on the preliminary and interlaboratory studies.

N2 Quantitative

SPECIFY THE PRINCIPLE OF THE ALTERNATIVE METHOD

Specify the principle of the alternative method

SCOPE

Specify for which product(s) this method or testkit can be used.

RESTRICTION OF USE

Specify if applicable

REFERENCE METHOD

Specify and describe which reference method has been used to validate the product and type.

NOTE (if necessary)

Indicate the recovery of previous results, where applicable.

LINEARITY AND RELATIVE ACCURACY

Comparison of performances of the alternative method and the reference method

LINEARITY STUDY

The tests were performed in (year) on (number) product / strain samples, of which (number) were naturally contaminated, (number) artificially contaminated and (number) non-contaminated, belonging to the following principle food product categories; (name categories).

The samples were analyzed in duplicate with each of the two methods, at the (number) naturally contamination levels within the ranges: specify the ranges used in CFU/g.

Table of Results:

Food category	Food product/strain pair	Regression line
		$y = \quad + \quad x$

ACCURACY STUDY

The tests were performed in (year) on (number) combinations of product/strains as described later. In total (number) samples were naturally contaminated, (number) contaminated organisms at levels below the limit of detection of the test ($< x \times \text{CFU/g}$ complete the detection level) and (number) samples were artificially contaminated. The products tested represent the following principle food product categories: (name categories).

The samples analyzed in duplicate with each of the two methods, at the (number) naturally contamination levels within the ranges: specify the ranges used in CFU/g.

Food category	Contamination range (in log CFU/g)

The equation of the regression line between the alternative method and the reference method for all categories is as follows:

$$Y = a x + b$$

$$Y = \log (N \text{ alternative method})$$

$$x = \log (N \text{ reference method})$$

Repeatability for the two methods and the bias between the two methods were determined according to the calculation method used for the collaborative study (ISO16140 6.3.5 and 6.3.6).

The limits of repeatability (in log) obtained for the alternative method and the reference method are as follows:

Alternative method: $r =$

Reference method: $r =$

Bias (in log) between the alternative method and reference method is as follows: $D =$

SELECTIVITY (INCLUSIVITY/EXCLUSIVITY)

Implementation of alternative method only.

(*number*) of strains (*name of type*) were detected out of (total number) tested. The study of (*number and name of type*) strains did not detect the presence of any cross-reaction or detect a reaction with the following strains (*name of strains*).

Report the expected and non-expected results of the target and non-target strains and discuss the differences.

Personnel training: (*Indicate what future steps are required for the correct application of the validated method*).

INTERLABORATORY STUDY

Indicate details as date of conduction, number of participation collaborative laboratories, details about the samples, the levels of the samples, etc.

The inter-laboratory study was conducted in (month + year) involving (*number*) laboratories, from (number) countries. Samples of (food category) were artificially contaminated with a strain of (name serotype) to provide samples with the following contamination levels

- Low (specify)
- Medium (specify)
- High (specify)

Uninoculated samples were used to provide a negative sample (0 CFU/ml). Each laboratory received duplicated blind-coded samples for each contamination level which were tested by both methods.

Obtained results

Contamination level	Nbr of samples analysed	Nbr of samples evaluated	Reference Method		Alternative Method		
			Repeatability r	Reproducibility R	Repeatability r	Reproducibility R	Bias
Low							
Medium							
High							

Room for explanation of results that were not taken into account for whatever reason.

The laboratories tested, using both methods, 8 replicate samples for each level of contamination, giving a total (*number*) analyses for the participating laboratories as a whole.

FINAL CONCLUSION

Relevant conclusion if alternative and reference method are compared also naming all test-conditions. (*In the relevant case*) variability of the alternative method (accordance, concordance, concordance odds ratio) is equivalent (identical) to that of the reference method.

Please send any queries concerning the performance of the validated method to (*name MCB*).

On request, name MCB will send you a summary document on the preliminary and interlaboratory studies.

Bibliography

- ISO 1000 SI units and recommendation for the use of their multiples and of certain other units
- ISO 3864 Grafical symbols - Safety colours and safety
- ISO 7000 Graphical symbols for use on equipment - index and synopsis
- Directive 91/325/EEC Commission Directive 91/325/EEC of 1 March 1991 adapting to technical progress for the twelfth time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (Official Journal of the European Communities No L 180 of 8 July 1991)