

## TECHNICAL REPORT

# Administrative Guidance to applicants on the suitability check of applications for authorisation of food enzymes submitted under Regulation (EC) No 1332/2008<sup>1</sup>

European Food Safety Authority<sup>2,3</sup>

European Food Safety Authority (EFSA), Parma, Italy

### ABSTRACT

This document provides guidance to applicants submitting applications for the authorisation of food enzymes in the European Union within the scope of Regulation (EC) No 1332/2008 and according to a common authorisation procedure for food additives, food enzymes and food flavourings, established by Regulation (EC) No 1331/2008 and Regulation (EU) No 234/2011, as amended. It complements the European Commission (EC) “Practical guidance for applicants on the submission of applications on food additives, food enzymes and food flavourings” and focuses on the criteria applied for the suitability check of food enzymes applications, as assessed by the European Food Safety Authority (EFSA), according to Article 12(3) of Regulation (EU) No 234/2011. The suitability checklist, included as Appendix to this document, reflects the data requirements for applications on food enzymes, as outlined in the EFSA “Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids on the Submission of a Dossier on Food Enzymes” and in the EFSA “Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids on the Submission of a Dossier on Food Enzymes”. EFSA recommends applicants to use the suitability checklist during the preparation of a technical dossier on food enzymes, to ensure that the criteria for the suitability of the data for risk assessment are met. This EFSA administrative guidance also describes the lifecycle of an application for the authorisation of food enzymes, from the reception of an application to the adoption and publication of EFSA scientific opinion.

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### KEY WORDS

Application, suitability checklist, Food Enzyme, Regulation (EC) No 1332/2008, Regulation (EC) No 1331/2008, Regulation (EU) No 234/2011, EC practical guidance, CEF guidance on food enzymes, EFSA explanatory note, GMM guidance, CEF Panel.

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## SUMMARY

This document provides guidance to applicants submitting applications for the authorisation of food enzymes in the European Union within the scope of Regulation (EC) No 1332/2008 and according to a common authorisation procedure for food additives, food enzymes and food flavourings, established by Regulation (EC) No 1331/2008 and Regulation (EU) No 234/2011, as amended. It complements the European Commission (EC) “Practical guidance for applicants on the submission of applications on food additives, food enzymes and food flavourings”<sup>4</sup> and focuses on the criteria applied for the suitability check of food enzymes applications, as assessed by the European Food Safety Authority (EFSA), according to Article 12(3) of Regulation (EU) No 234/2011.

It consists of three chapters. Chapter 1 describes the Union procedure and associated timelines regarding the handling of applications on food enzymes, focusing on the phase of the suitability check performed by EFSA in line with Article 12(3) of Regulation (EU) No 234/2011. Chapter 2 provides information on the different possibilities to interact with EFSA staff during the registration, suitability check and risk assessment phases. Chapter 3 provides an overview of the guidance documents which are relevant for the preparation and evaluation of applications on food enzymes. A checklist is also included as Appendix to this document (herein referred to as ‘suitability checklist’), to be filled in by applicants and submitted together with the technical dossier. This suitability checklist reflects the data requirements for food enzymes applications, as outlined in the EFSA “Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids on the Submission of a Dossier on Food Enzymes”<sup>5</sup> and in the EFSA “Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids on the Submission of a Dossier on Food Enzymes”<sup>6</sup>. EFSA recommends applicants to use the suitability checklist during the preparation of a technical dossier on food enzymes to ensure that the criteria for the suitability of the data for risk assessment are met.

Like all EFSA guidance documents, this administrative guidance will be updated, if needed, in accordance with relevant changes of the legislation and/or guidance documents.

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<sup>4</sup> Practical guidance for applicants on the submission of applications on food additives, food enzymes and food flavourings available at: [http://ec.europa.eu/food/food/FAEF/docs/practical\\_guidance\\_en.pdf](http://ec.europa.eu/food/food/FAEF/docs/practical_guidance_en.pdf)

<sup>5</sup> Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes for Safety Evaluation, Guidance of the Scientific Committee/Scientific Panel, doi:10.2903/j.efsa.2009.1305, QN: EFSA-Q-2007-080, <http://www.efsa.europa.eu/it/efsajournal/pub/1305.htm>

<sup>6</sup> Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes, QN: EFSA-Q-2014-00183, <http://www.efsa.europa.eu/en/supporting/pub/579e.htm>

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## BACKGROUND AS PROVIDED BY EFSA

Regulation (EC) No 1332/2008 on food enzymes constitutes the legal basis for the authorisation and use of food enzymes in the European Union (EU). The procedural aspects concerning the authorisation and the evaluation procedure of food enzymes are laid down in Regulation (EC) No 1331/2008, which establishes a common authorisation procedure for food additives, food enzymes and food flavourings. The implementing measures for that are laid down in Regulation (EU) No 234/2011 as regards the content, drafting and presentation of applications submitted under each sectoral food law, arrangements for checking the validity of applications and the type of information that should be included in the opinion of the European Food Safety Authority.

Article 12 of Regulation (EU) No 234/2011 stipulates that “*where the application contains all the elements required, the Commission shall, where necessary, request the Authority to verify the suitability of the data for risk assessment in accordance with the scientific opinions on data requirements for the evaluation of substance applications and to prepare, if appropriate, an opinion. Within 30 working days following the receipt of the Commission’s request, the Authority shall inform the Commission by letter about the suitability of the data for risk assessment. If the data is considered suitable for risk assessment, the evaluation period shall begin from the date when the Authority’s letter is received by the Commission.*”

The European Food Safety Authority (EFSA) has issued scientific guidance documents to assist applicants in the preparation of the scientific data for the risk assessment of food enzymes. These are the “Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes”<sup>7</sup> (hereafter referred to as ‘CEF guidance on food enzymes’) and the “Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes”<sup>8</sup> (hereafter referred to as ‘EFSA explanatory note’). In case of food enzymes produced by genetically modified microorganisms, the EFSA “Guidance on the risk assessment of genetically modified microorganisms and their products intended for food and feed use”<sup>9</sup> details the data to be provided for the assessment of such products (hereafter referred to as ‘GMM guidance’). For specific scientific topics, these documents refer to other EFSA opinions and guidance documents which might also be of use for applicants when preparing an application on food enzymes.

To further assist applicants, the European Commission (EC) developed the “Practical guidance for applicants on the submission of applications on food additives, food enzymes and food flavourings”<sup>10</sup> to provide applicants with practical information which aims at facilitating the preparation and submission of applications on food additives, food enzymes and food flavourings for establishing or updating the Union lists falling under the sectoral food Regulations (hereafter referred to as ‘EC practical guidance’). It includes a checklist to verify whether the application falls within the scope of the appropriate sectoral food law, to ensure the completeness of the administrative information and whether it contains all the elements required by legislation.

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<sup>7</sup> Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes for Safety Evaluation, Guidance of the Scientific Committee/Scientific Panel, doi:10.2903/j.efsa.2009.1305, QN: EFSA-Q-2007-080, <http://www.efsa.europa.eu/it/efsajournal/pub/1305.htm>

<sup>8</sup> Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes, QN: EFSA-Q-2014-00183, <http://www.efsa.europa.eu/en/supporting/pub/579e.htm>

<sup>9</sup> Guidance on the risk assessment of genetically modified microorganisms and their products intended for food and feed use, Guidance of the Scientific Committee/Scientific Panel, EFSA Journal 2011;9(6):2193 [54 pp.]. doi:10.2903/j.efsa.2011.2193, QN: EFSA-Q-2009-00521, <http://www.efsa.europa.eu/en/efsajournal/pub/2193.htm>

<sup>10</sup> Practical guidance for applicants on the submission of applications on food additives, food enzymes and food flavourings available at: [http://ec.europa.eu/food/food/FAEF/docs/practical\\_guidance\\_en.pdf](http://ec.europa.eu/food/food/FAEF/docs/practical_guidance_en.pdf)

To complement these documents and to better support applicants on the submission of applications on food enzymes, EFSA has developed this “Administrative guidance document for the suitability check of applications for authorisation of food enzymes submitted under Regulation (EC) No 1332/2008” (hereafter referred to as ‘EFSA administrative guidance’).

## **TERMS OF REFERENCE AS PROVIDED BY EFSA**

EFSA is currently implementing a multi-annual project to develop a customer-oriented approach for regulated products<sup>11</sup> aiming at supporting applicants and other stakeholders during the whole life-cycle of the applications for regulated products. In this context, and following discussions during an EFSA Info Session on Applications – Technical meeting with stakeholders on Food enzymes held on 27 May 2014<sup>12</sup>, EFSA developed an “Administrative guidance document for the suitability check of applications for authorisation of food enzymes submitted under Regulation (EC) No 1332/2008”.

EFSA will update this document, if needed, in line with relevant changes of the legislation and/or guidance documents and according to the experience gained in the handling and assessment of applications on food enzymes. Therefore, applicants are advised to always consult the latest published version of this document available on the EFSA website.

## **SCOPE OF THE EFSA ADMINISTRATIVE GUIDANCE**

This EFSA administrative guidance applies to applications for food enzymes, falling under the scope of Regulation (EC) No 1332/2008.

For the purpose of this guidance and in line with the definition of the EC practical guidance "an applicant" shall mean any entity (e.g. food business operators, industry associations, consultancy companies, etc.), no matter whether situated within or outside the EU, which is interested in submitting an application.

This administrative guidance focuses on the criteria applied by EFSA during the suitability check of the data submitted for risk assessment of a food enzyme. It complements the EC practical guidance and provides more detailed information on the requirements regarding section 2.1.2.2 “Risk assessment data” of the EC practical guidance. The EFSA suitability checklist, as included in the Appendix to this document, reflects the data requirements for food enzymes applications, as outlined in the CEF guidance on food enzymes, the EFSA explanatory note and the GMM guidance. Both EC and EFSA checklists, as included respectively in the EC practical guidance and in this document, are complementary and should be used by applicants.

EFSA recommends applicants to use the checklist to verify that all information required for the suitability check is provided. The applicants are strongly encouraged to attach the completed suitability checklist upon submission of the applications on food enzymes.

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<sup>11</sup> EFSA REPRO Customer oriented approach mandate:  
<http://registerofquestions.efsa.europa.eu/roqFrontend/mandateLoader?mandate=M-2014-0106>

<sup>12</sup> Info Session on Applications - Technical meeting on Food Enzymes, Parma 27 May 2014,  
<http://www.efsa.europa.eu/it/events/event/140527.htm>

## GUIDANCE

### 1. Procedure for handling applications on food enzymes

The various steps and estimated timelines of the procedure for handling applications for authorisation of food enzymes, from their submission to the European Commission, reception and assessment by EFSA, until adoption of the scientific output by the CEF Panel is presented in Figure 1.

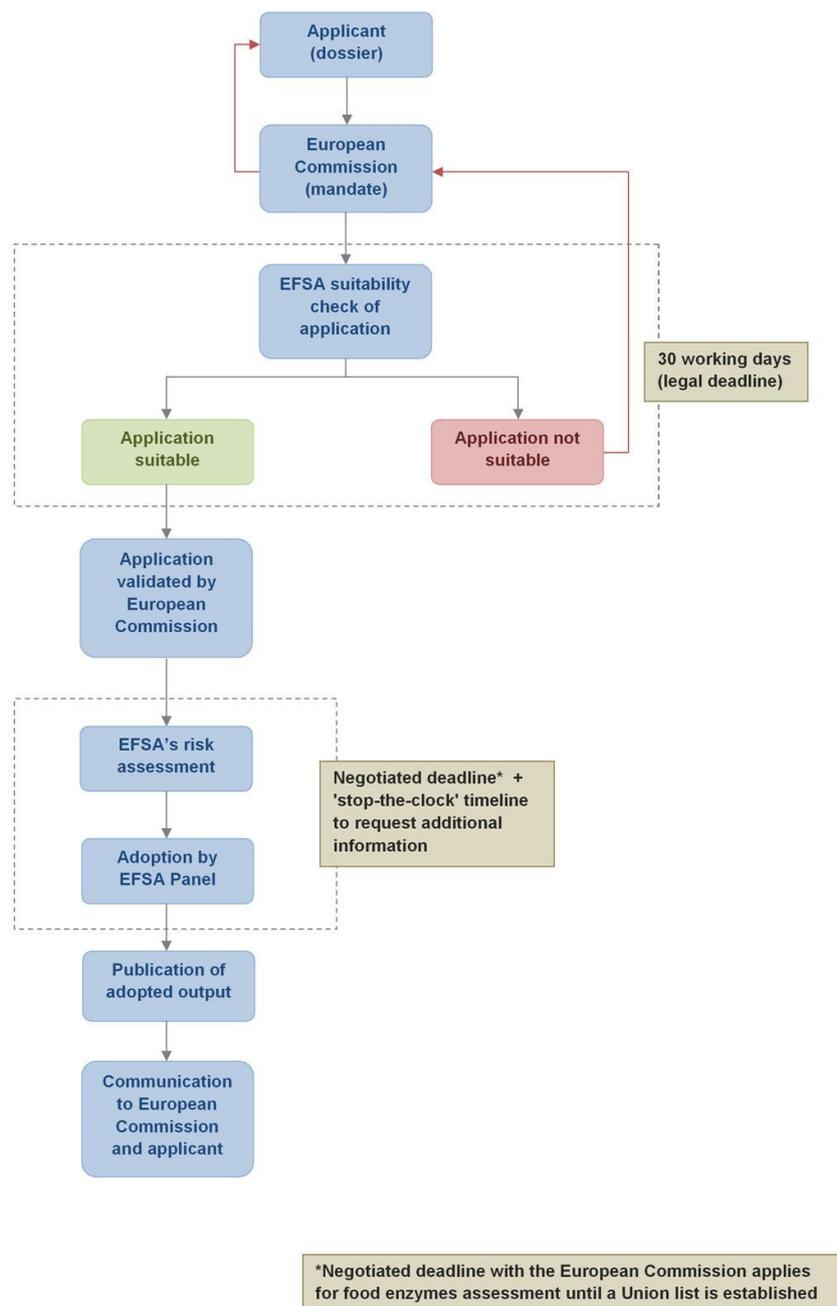


Figure 1: Overview of the steps in processing of applications on food enzymes submitted under Regulation (EC) 1332/2008.

### 1.1. Submission of the application and reception by EFSA

In accordance with Regulation (EC) No 1331/2008 and Regulation (EU) No 234/2011, the applicant submits all relevant information to the European Commission (EC) (please refer to the EC practical guidance, chapter 2.1). The EC shall request EFSA to verify the suitability of the data for risk assessment within 30 working days following the receipt of the Commission's request.

From reception of an application (mandate and technical dossier), EFSA will issue an acknowledgement of receipt letter to the EC, with the applicant in copy of the correspondence. At that moment, the application is registered in the EFSA Register of Questions<sup>13</sup> and receives a unique identification number (e.g. EFSA-Q-YYYY-XXXX referred to as 'EFSA Question number'). The status of the application is regularly updated in the Register of Questions database and can be monitored by the applicant.

### 1.2. Suitability check of data for risk assessment by EFSA

In line with Article 12(3) of Regulation (EU) No 234/2011, EFSA performs the suitability check of the data for risk assessment within 30 working days from the receipt date of the application (mandate and technical dossier). The EFSA Applications Desk (APDESK) unit, together with the Food Ingredients and Processing (FIP) unit, check the suitability of the data for risk assessment in accordance with the requirements of the Regulation (EU) No 234/2011, the CEF guidance on food enzymes, the EFSA explanatory note and if applicable, the GMM guidance. To streamline the submission process, an applicant is encouraged to fill in the suitability checklist, which reflects the requirements set out by the above EFSA guidance documents which are mandatory for the suitability check (see Appendix 1). As an outcome of this check, EFSA sends a letter on the suitability/non suitability of the data for risk assessment to the European Commission. The letter is then forwarded to the applicant.

The following scenarios are envisaged:

- If an application is fulfilling all the scientific requirements and principles stipulated in the suitability checklist, the application is declared *suitable for risk assessment* by EFSA and a suitability letter is sent to the EC and to the applicant.
- If during the suitability check EFSA identifies minor issues of administrative nature (e.g. missing electronic copies of cited publications), EFSA will directly contact the applicant, requesting to complete the application with the required information. This step will be performed within the 30 working days foreseen by EFSA to assess the suitability of the data for risk assessment.
- If the application does not fulfil all the requirements, the application is declared *non suitable for risk assessment* by EFSA and a non-suitability letter is sent to the EC and to the applicant. The EC is then responsible to interact directly with the applicant regarding the submission of the missing information, as highlighted in the EFSA non-suitability letter. If the applicant submits the missing information, the EC, after verifying the administrative acceptability of these data in line with the EC practical guidance, forwards them to EFSA for the suitability check. From the reception of the missing information, EFSA assesses their suitability for risk assessment within 30 working days and communicates the outcome of the suitability check of the missing information to the EC. The letter is forwarded to the applicant.

The request for missing information during the suitability check of a food enzyme application does not prevent further request for additional information by EFSA and/or the CEF Panel, after validation of an application during the risk assessment process. Requests for additional information might also be raised after validation for applications which were declared suitable by EFSA (see chapter 1.4 below).

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<sup>13</sup> EFSA Register of Questions database: <http://registerofquestions.efsa.europa.eu/rqFrontend>

### 1.3. Validation of application by the European Commission

Once an application fulfils all requirements, the application is declared *suitable for risk assessment* by EFSA. In line with Article 12(3) of Regulation (EU) No 234/2011, upon reception of the statement of suitability, the European Commission will declare the application valid and the risk assessment of the application by the CEF Panel will start from that day.

### 1.4. Risk assessment, adoption and publication by EFSA

The CEF Panel is supported by the Working Group (WG) on Food Enzymes to assess the application submitted to EFSA. Each valid application is tabled for discussion at the meeting of this working group and the outcomes of such discussions are summarised in the WG meeting minutes, published on the EFSA website (see chapter 3).

According to Article 17(4)(a) of Regulation (EC) No 1332/2008, the timeline to finalise the assessment of an application for food enzymes by EFSA is currently negotiated with the European Commission, until a Union list of food enzymes is established.

During the risk assessment phase by the WG on Food Enzymes and the CEF Panel, EFSA may request the applicant to submit additional information in line with Article 6 of Regulation (EC) 1331/2008. In that case the limit to deliver an opinion by EFSA shall be extended (“stop-the-clock procedure”). The deadline for providing the additional information is specified in the letter sent by EFSA to the applicant and is in line with the EFSA scientific report on “Indicative timelines for submitting additional or supplementary information to EFSA during the risk assessment process of regulated products”<sup>14</sup>.

After its adoption, the scientific opinion is checked for editorial review and confidentiality following the agreement between the European Commission and the applicant. The scientific opinion is commonly published within a timeframe of 15 working days from the date of its adoption by the CEF Panel.

## 2. Interaction with EFSA staff during preparation, submission, suitability check, risk assessment and adoption phases

If an applicant is seeking information during the preparation of an application for the authorisation of a food enzyme on aspects related to data for risk assessment, EFSA encourages the use of the APDESK web form<sup>15</sup> to submit any queries to EFSA. EFSA endeavours to reply within 15 working days of reception of the query.

If an applicant is seeking information on the status of an application already submitted to EFSA, the applicant may check this information in the EFSA Register of questions database<sup>16</sup>.

During the suitability check, applicants have the possibility to contact the staff in the APDESK unit. In each correspondence related to an application, the contact details of the EFSA staff following the specific application within the APDESK unit are clearly mentioned to allow direct interaction between EFSA staff and the applicant. Applicants can contact EFSA staff to request further clarifications following a non suitability letter. A telephone conference may be organised to further clarify the outcome of the suitability check.

<sup>14</sup> EFSA Scientific report on indicative timelines for submitting additional or supplementary information to EFSA during the risk assessment process of regulated products, Scientific Report of EFSA, EFSA Journal 2014;12(1):3553 [37pp.]. doi:10.2903/j.efsa.2014.3553, QN: EFSA-Q-2013-00975, <http://www.efsa.europa.eu/en/efsajournal/pub/3553.htm>

<sup>15</sup> Applications Helpdesk web form: <http://www.efsa.europa.eu/en/applicationshelpdesk/askaquestion.htm>

<sup>16</sup> EFSA Register of Questions database: <http://registerofquestions.efsa.europa.eu/rqFrontend>

During the risk assessment phase, applicants have the possibility to contact the staff of the FIP unit. In each correspondence related to an application, the contact details of the EFSA staff within the FIP unit are mentioned. EFSA staff can be contacted to request further clarifications following a stop-the-clock letter. A telephone conference may take place to further clarify the questions of the CEF Panel/WG on Food Enzymes. In addition, upon request from EFSA, applicants might be invited to speak at the Authority's working groups - either in person or via teleconference - to clarify outstanding issues about their applications. EFSA will decide if this is necessary after examining the written response from the applicant to the EFSA's initial request for information.

### 3. Guidance documents

The list of Regulatory framework, administrative and scientific technical guidance documents are described below and available on the EFSA website<sup>17</sup>.

#### ➤ Regulatory framework for food enzymes<sup>18</sup>

- Regulation (EC) No 1332/2008 of the European Parliament and of the Council of 16 December 2008 on food enzymes and amending Council Directive 83/417/EEC, Council Regulation (EC) No 1493/1999, Directive 2000/13/EC, Council Directive 2001/112/EC and Regulation (EC) No 258/97
- Commission Regulation (EU) No 1056/2012 of 12 November 2012 amending Regulation (EC) No 1332/2008 of the European Parliament and of the Council on food enzymes with regard to transitional measures
- Commission Regulation (EC) No 1331/2008 of the European Parliament and of the Council establishing a common authorisation procedure for food additives, food enzymes and food flavourings
- Commission Regulation (EU) No 234/2011 implements the common authorisation procedure and establishes the derogation from submitting toxicological data in some specific cases and the possibility of grouping food enzymes under one application under certain conditions
- Commission Implementing Regulation (EU) No 562/2012 of 27 June 2012 amending Commission Regulation (EU) No 234/2011 with regard to specific data required for risk assessment of food enzymes

#### ➤ Guidance documents for food enzymes

- Practical guidance for applicants on the submission of applications on food additives, food enzymes and food flavourings of the European Commission (Version 7 - updated 27 May 2014).<sup>19</sup>
- Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids on the Submission of a Dossier on Food Enzymes. The EFSA Journal (2009) 1305, 1-26.<sup>20</sup>

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<sup>17</sup> APDESK overview table on 'How to prepare and where to submit an application':  
<http://www.efsa.europa.eu/en/apdesk/docs/apdeskhow.pdf>

<sup>18</sup> EU legislation on food enzymes can be checked on the European Commission website:  
[http://ec.europa.eu/food/food/FAEF/enzymes/legislation\\_en.htm](http://ec.europa.eu/food/food/FAEF/enzymes/legislation_en.htm)

<sup>19</sup> Practical guidance for applicants on the submission of applications on food additives, food enzymes and food flavourings available at: [http://ec.europa.eu/food/food/FAEF/docs/practical\\_guidance\\_en.pdf](http://ec.europa.eu/food/food/FAEF/docs/practical_guidance_en.pdf)

- Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes. EFSA supporting publication 2014:EN-579. 22 pp.<sup>21</sup>
  - Guidance on the risk assessment of genetically modified microorganisms and their products intended for food and feed use. EFSA Journal (2011), 9(6):2193.<sup>22</sup>
- EFSA Scientific report
- Indicative timelines for submitting additional or supplementary information to EFSA during the risk assessment process of regulated products.<sup>23</sup>

## USEFUL LINKS

- EFSA journal:  
<http://www.efsa.europa.eu/en/publications/efsajournal.htm#>
- Minutes of EFSA enzymes Working Group:  
<http://www.efsa.europa.eu/en/fipwgs/documents/enzymeswg.pdf>
- Minutes of EFSA CEF Panel plenary meetings:  
<http://www.efsa.europa.eu/en/fip/fipmeetings.htm>
- APDESK section on food ingredients:  
<http://www.efsa.europa.eu/en/applicationshelpdesk/foodingredients.htm>
- Overview of regulation and guidance documents for food enzymes applications:  
<http://www.efsa.europa.eu/en/foodingredients/appworkflowfoodingredients.htm>
- Frequently Asked Questions on food enzymes:  
<http://www.efsa.europa.eu/en/foodingredients/faqfoodingredients.htm>
- Food enzymes topic: <http://www.efsa.europa.eu/en/topics/topic/foodenzymes.htm>
- Applicants can access the status of their application in the EFSA Register of Questions database:  
<http://registerofquestions.efsa.europa.eu/roqFrontend>.

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<sup>20</sup> Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes for Safety Evaluation, Guidance of the Scientific Committee/Scientific Panel, doi:10.2903/j.efsa.2009.1305, QN: EFSA-Q-2007-080, <http://www.efsa.europa.eu/it/efsajournal/pub/1305.htm>

<sup>21</sup> Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzymes, QN: EFSA-Q-2014-00183, <http://www.efsa.europa.eu/en/supporting/pub/579e.htm>

<sup>22</sup> Guidance on the risk assessment of genetically modified microorganisms and their products intended for food and feed use, Guidance of the Scientific Committee/Scientific Panel, EFSA Journal 2011;9(6):2193 [54 pp.]. doi:10.2903/j.efsa.2011.2193, QN: EFSA-Q-2009-00521, <http://www.efsa.europa.eu/en/efsajournal/pub/2193.htm>

<sup>23</sup> EFSA Scientific report on indicative timelines for submitting additional or supplementary information to EFSA during the risk assessment process of regulated products, Scientific Report of EFSA, EFSA Journal 2014;12(1):3553 [37 pp.]. doi:10.2903/j.efsa.2014.3553, QN: EFSA-Q-2013-00975, <http://www.efsa.europa.eu/en/efsajournal/pub/3553.htm>

## APPENDIX 1: SUITABILITY CHECKLIST

The suitability checklist, included in this Appendix 1, should be submitted using a common excel processing format (e.g. MS Excel). The suitability checklist can be downloaded as an excel file from the EFSA website where this guidance is published.

The suitability check will be used first by the applicants, then by EFSA to verify the completeness of the application and to ensure that all information required under the EFSA guidance documents for food enzymes are provided. The suitability checklist is a document prepared by EFSA to support the applicant in the building up of applications in relation to the authorisation of food enzyme according to Regulation (EC) No 1332/2008. The checklist does not substitute for the requirements of the EFSA CEF guidance on food enzymes nor of the GMM guidance.

It consists of three spreadsheets:

- the first spreadsheet relates to administrative information only;
- the second spreadsheet includes scientific information and the minimum requirements to be provided in line with the CEF guidance on food enzymes, following the numbering system of the EC practical guidance;
- the third spreadsheet includes scientific information in line with the GMM guidance for products classified as Category 2.

The applicant shall fill in the EFSA suitability checklist to indicate which information:

- *is provided*: the relevant section/subsection/paragraph is required by the relevant guidance documents and the information is provided by the applicant in the relevant section/subsection/paragraph of the technical dossier;
- *is not provided* (including justification): the relevant section/subsection/paragraph is required by the guidance documents, but the information is not provided by the applicant in the relevant section/subsection/paragraph of the technical dossier. Appropriate justification for the omission of that data shall be provided in the relevant section/subsection/paragraph;
- *is not relevant* (including justification): the relevant section/subsection/paragraph is not applicable, either because it is not required or due to the nature or use of the food enzyme. Appropriate justification shall be provided in the relevant section/subsection/paragraph.

The section dedicated to EFSA shall not be filled in by the applicant.

The applicants are strongly encouraged to submit the completed suitability checklist upon submission of their food enzyme application under Regulation (EC) No 1332/2008. EFSA will use the suitability checklist submitted by the applicant when performing its suitability check.

**Appendix 1: SUITABILITY CHECKLIST**

Appendix to: Administrative Guidance to applicants on the suitability check of applications for authorisation of food enzymes submitted under Regulation (EC) No 1332/2008.  
 EFSA supporting publication 2014-EN-638, 17 pp.  
 Available online: [www.efsa.europa.eu/publications](http://www.efsa.europa.eu/publications)

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## 1. ADMINISTRATIVE INFORMATION

<b>1. EFSA Question number:</b>	<b>FOR EFSA USE</b>
<b>2. EFSA Mandate number:</b>	
<b>3. Name of the food enzyme:</b>	to be filled in
<b>4. Name of the applicant:</b>	to be filled in
<b>5. Name of the manufacturer:</b>	to be filled in
<b>6. Contact person responsible for the dossier:</b>	to be filled in
<b>7. Date of receipt of the dossier from EFSA (Chrono-in date):</b>	<b>FOR EFSA USE</b>
<b>8. Date of receipt of the mandate from EFSA (if different from point 7.):</b>	

**EFSA OVERALL DECISION: <SUITABLE/NOT SUITABLE>**

<b>DATA SUITABLE FOR RISK ASSESSMENT</b>	<input type="checkbox"/>
<b>DATA NOT SUITABLE FOR RISK ASSESSMENT</b>	<input type="checkbox"/>
<b>Reasons for non-suitability/requesting missing information:</b>	<b>FOR EFSA USE</b>
<b>Missing information to be provided by applicant:</b>	
<b>Additional remarks:</b>	

<b>Confirmed by: FOR EFSA USE</b>	<b>Date: FOR EFSA USE</b>
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**Regulations:**

- [Regulation \(EC\) No 1331/2008](#)
- [Regulation \(EU\) No 234/2011](#)
- [Regulation \(EC\) No 1332/2008](#)
- [Regulation \(EU\) No 562/2012](#)

**Guidances:**

- Abbreviation: "CEF guidance on food enzymes"** [Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids \(CEF\) on the Submission of a Dossier on Food Enzymes for Safety Evaluation by the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids](#)
- Abbreviation: "EFSA Explanatory note"** [Explanatory Note for the Guidance of the Scientific Panel of Food Contact Material, Enzymes, Flavourings and Processing Aids \(CEF\) on the Submission of a Dossier on Food Enzymes](#)
- Abbreviation: "EFSA GMM guidance"** [Guidance on the risk assessment of genetically modified microorganisms and their products intended for food and feed use](#)
- No abbreviations** [Guidance for risk assessment of food and feed from genetically modified plants](#)
- No abbreviations** [Opinion of the Scientific Committee on a request from EFSA on the introduction of a Qualified Presumption of Safety \(QPS\) approach for assessment of selected microorganisms referred to EFSA](#)
- No abbreviations** [Scientific Opinion on the maintenance of the list of QPS biological agents intentionally added to food and feed](#)
- No abbreviations** [Opinion of the Panel on additives and products or substances used in animal feed \(FEEDAP\) on the updating of criteria used in the assessment of bacteria for resistance to antibiotics of human or veterinary importance](#)
- No abbreviations** [Scientific Opinion on the Potential Risks Arising from Nanoscience and Nanotechnologies on Food and Feed Safety](#)

## 2. EFSA SUITABILITY CHECKLIST FOR FOOD ENZYMES RISK ASSESSMENT

No.	Type of information / document	Information provided/Not provided/Not relevant	FOR EFSA USE
<b>3.2</b>	<b>Risk assessment data (as described by EFSA guidances)</b>		
<b>3.2.1</b>	<b>Technical data</b>		
<b>3.2.1.1</b>	<b>Identity of the Food Enzyme</b>		
<b>3.2.1.1.1</b>	<b>Name(s), synonyms, abbreviations and classification(s) (EC Number) of the enzyme protein</b>		
	Common Name(s) and/or Trade Name(s) (if applicable).		
	Enzyme Classification Number of Enzyme Commission of the International Union of Biochemistry and Molecular Biology (IUBMB) (if applicable).		
	Chemical Name(s) (if applicable).		
	Chemical Abstract Service (CAS) Registry Number (if available).		
	European Inventory of Existing Chemical Substances Number (EINECS) or European List of Notified Chemical Substances Number (ELINCS) (if available).		
<b>3.2.1.1.2</b>	<b>Chemical composition, properties and specifications</b>		
<b>3.2.1.1.2.1</b>	<b>Chemical composition</b>		
	Molecular mass of the food enzyme and subunit structure, and amino acid sequence (if available). Considering the current state of the art, it should be feasible to provide the amino acids sequence for food enzymes.		
	Chemical description of the food enzyme as tested including chemical purity and identity and percentage or concentration of chemical impurities originating from the source and/or the production process (e.g. metabolites such as mycotoxins, heavy metals, etc) and the methods of analysis. The methods should be standardised and/or validated, and provided in annexes. The rationale for the analysis of impurities should be provided in the light of the sources, the production and the downstream processes.		
	Information on whether the food enzyme is modified by post translational process or by technological procedures.		
	Information on whether the food enzyme is protein engineered, the nature of the modification and the rationale for the modification, e.g. enhancing pH or thermal stability.		
	Data on the batch-to-batch variability for the relevant parameters, including Certificates of Analysis (CoA) of the batches analysed. For the analysis of mycotoxins the limit of detection of the applied method should be provided (if applicable).		
	Data on the reproducibility for relevant parameters.		
	Any other useful information such as the concentration of the Total Organic Solids (TOS), as defined by JECFA (FAO/WHO, 2006).		
<b>3.2.1.1.2.2</b>	<b>Proposed chemical and microbiological specifications</b>		
	The proposed specifications should be submitted in a format modelled on recent EU or other internationally accepted specifications. Where the proposed specifications differ from any already existing JECFA or other internationally recognised specification, these specifications should be set out alongside the proposed new specification, and any differences pointed out. Other data which the applicant considers useful in describing the composition of a food enzyme should also be supplied.		
<b>3.2.1.1.2.3</b>	<b>Properties of the food enzyme</b>		
	The following should be provided: information on the principal enzymatic activity, specifying substrates, reaction products and required co-factors. Measurement of the activity should be based on a reference method using a standard substrate. Details of the activity should be given in enzyme activity units (U) per unit weight (specific activity) or by the SI unit (Katal (kat = mol • s <sup>-1</sup> )). The enzyme assay method and methods for determination of principal and side reactions, along with information on the stability of the food enzyme during food processing/storage should be provided. Determination methods for the food enzyme activities should be provided in annexes.		
	The following should be provided: the activity of the food enzyme under the conditions of the intended use and the influence of reaction conditions (e.g. the optimum pH and temperature, as well as inhibitors, activating compounds and co-factors).		
	The following should be provided: any subsidiary/side activities should be characterised, if possible and where appropriate. In particular those activities should be specified that might cause adverse effects (e.g. protease and phospholipase activities due to their action on the mucous membranes) and/or form toxic metabolites. Side/subsidiary activities are referring to any other activities of the enzymes present in the food enzyme, including activities that may be expressed under different conditions than those intended in the application. Whenever analytical data on side/subsidiary activities of the food enzyme were generated, the limit of detection of the applied method should be indicated.		
	Data on the stability of the food enzyme during storage and before use. Give practical examples with data for the intended preparations on the market and types and conditions of their storage. The data on the stability of the food enzyme as such would have to cover at least the recommended time of use under the specified conditions of use.		
<b>3.2.1.2</b>	<b>Source material and manufacturing process</b>		
<b>3.2.1.2.1</b>	<b>Source materials</b>		
<b>3.2.1.2.2</b>	<b>Production from animal sources</b>		
	Information should be provided on which animal tissue is used for production as well as history of previous consumption of the tissue in question, in particular on whether there is a documented history of use with absence of human health adverse effects. Information should also be provided as to whether the animal tissue is fit for human consumption or derives from a Cat. 3 Animal By-Product according to Regulation (EC) 1774/2002 as amended.		
	Information should be provided as to whether animal tissues used for the preparation of food enzymes comply with meat inspection requirements and are handled in accordance with good hygienic practice. If not, justification should be given.		

	Information should be provided on methods used to ensure the absence of any risk of infectivity (e.g. the agent of transmissible spongiform encephalopathies (TSEs), parasites or other zoonotic agents).		
	Data on non-infectivity should be supplied based on the classification of the tissues in terms of their infectious titre in natural diseases established by the WHO (WHO, 2003).		
3.2.1.2.3	<b>Production from plant and basidiomycete sources</b>		
	The part(s) of the plant or basidiomycete fruiting bodies/mycelia used for the production of the food enzyme should be specified. Provide data on strain identification (e.g. strain numbers) and cultivar identification.		
	Information should be provided on previous consumption, in particular on whether there is a documented history of safe use.		
	Relevant information should be provided on methods used for ensuring absence of substances that might cause adverse health effects to humans. For any residue of such substances remaining in the food enzyme, the name and amount should be specified in section 3.2.1.1.2.1 Chemical Composition and limits should be proposed in section 3.2.1.1.2.2 Proposed chemical and microbiological specifications.		
	If a genetically modified plant or fungus is used, information should be provided on the organism in accordance with the "Guidance for risk assessment of food and feed from genetically modified plants (EFSA 2011)".		
3.2.1.2.4	<b>Production from microbial sources</b>		
i.	Information about the strain used for food enzymes production.		
	The taxonomic identity of the strain must be provided.		
	Details of any documented history of use with absence of human health adverse effects including Qualified Presumption of Safety (QPS) (see "Opinion of the Scientific Committee on a request from EFSA on the introduction of a Qualified Presumption of Safety (QPS) approach for assessment of selected microorganisms referred to EFSA") status should be provided if available. If the strain / strain lineage is not QPS, demonstrate that the strain does not produce toxins. Mutants from a specific strain that has been thoroughly tested for safety, have to be re-tested if additional mutations are performed.		
ii.	If a genetically modified microorganism (GMM) is used, information should be provided in accordance with the guidance on the risk assessment of genetically modified microorganisms and their products intended for food and feed use (EFSA, 2011) (From the Guidance the presence of any factor(s) affecting stability of the producer strain should be highlighted).		Please refer to Table 1 – Category 2 of 'EFSA GMM guidance' (see separate sheet GMM checklist)
iii.	Monitoring of Production Strain The following information shall be provided:		
	Details of procedures for the control and monitoring of the microbial source selected for food enzyme production. This may include details on storage conditions of the strain, the industrial pre-culture and culture conditions and their effect on reproducibility between the different batches of food enzymes. Strain monitoring should be sufficient to demonstrate that the strain in use is the same as that described in the dossier.		
	Details of procedures for control and monitoring to ensure pure culture and optimum enzyme productivity conditions during fermentation. This may include details of the culture and process conditions designed to ensure the absence of toxins or secondary metabolites harmful to human health.		
	Details of procedures for the control of the hygienic conditions throughout recovery and treatments of the food enzyme.		
	Details of strain identification methods and results, sufficient to distinguish the production strain from other strains of the same species.		
iv.	Production Strain Pathogenicity, Toxicogenicity and Antimicrobial Resistance. If the relevant information is already provided in previous sections, please refer to those.		
	Information relating to pathogenicity and toxicogenicity of the source organism, as well as other properties with potential impact on human health, e.g. the production of antibiotics as well as the presence of natural and/or acquired antibiotic/antimicrobial (TH) resistance genes. Provide information e.g. which toxins are screened for, how often and provide the results of measurements.		
	Details of data related to the presence of acquired antimicrobial resistance genes in accordance with the "Opinion of the Panel on additives and products or substances used in animal feed (FEEDAP) on the updating of criteria used in the assessment of bacteria for resistance to antibiotics of human or veterinary importance".		
3.2.1.2.5	<b>Manufacturing process</b>		
	A flow chart diagram showing the most important steps in the process should accompany the description.		
i.	Description of key steps involved in the production process.		
	If the food enzyme is obtained from a microbial source, information on the fermentation process is required, e.g. on process parameters, fermentation media and chemical substances used throughout. Please provide information on the identity of the antifoam agents used during the fermentation process if applicable.		
	The purification procedure(s) used to obtain the food enzyme should be described including information on the techniques used to remove microbes from the food enzyme and information on other chemicals, materials and equipment.		
	Analytical data on a statistically relevant number of manufactured batches representative of the commercial food enzyme demonstrating that the food enzyme complies with the specification set out in 3.1.2.2.		
ii.	Description of operational limits including process controls and quality assurance procedures and how key parameters such as temperature are controlled during production.		
iii.	Information on the immobilisation procedure, if applicable (e.g. enzyme support materials and immobilisation agents. Information on potential leakage of carriers, immobilisation agents and active enzymes into the food should be provided).		
iv.	Other relevant information taking into account recent opinion of EFSA's Scientific Committee on "The potential risks arising from nanoscience and nanotechnologies on food and feed safety".		
3.2.1.3	<b>Reaction and fate in food</b>		
	Information should be provided on the fate of the food enzyme during food processing (see Section 3.1.2) and its behaviour in the food matrix. If relevant any data on intended and unintended reaction products resulting either from enzymatic or chemical reactions of the food enzyme with food constituents or from the degradation of the food enzyme during storage and processing of the foodstuff should be provided.		
	If for safety reasons certain food enzymes have to be inactivated experimental studies should be carried out and data from these studies presented to demonstrate the inactivation of both the principal and subsidiary/side enzymatic activities in the final food, if applicable.		

<b>3.2.1.4</b>	<b>Proposed conditions of use in food manufacturing and, where applicable, the proposed normal and maximum use levels</b>		
i.	Technological need/purpose and intended use of the food enzyme.		
ii.	Mode of action and reaction catalysed by the food enzyme Reactions should refer to the foods covered by the proposed conditions of use. Specific issues to be addressed: - matrix effects on activity in intended uses - side reactions depending on food		
iii.	Type of foodstuffs in which the food enzyme is intended to be used. All intended uses must be described. The food categorization system described in Annex III of Regulation 1565/200011 is not especially developed for food enzymes. However in order to assess consumer exposure and safety margin it is necessary to identify the types of foods / food processes (e.g. baking, brewing) in which the enzyme is intended to be used.		
iv.	Amount of food enzymes to be added to specific foods (recommended use levels and maximum use levels) Recommended use levels must be reported for all intended foods as identified in iii.		
v.	Conditions of its use in food processing Typical pH and temperature ranges and any cofactors needed according to the specified food processing should be provided.		
<b>3.2.1.5</b>	<b>Dietary exposure</b>		
	A conservative technique such as the "budget method" (Hansen, 1966, 1979; Douglass et al., 1997; European Commission, 1998; FAO/WHO, 2008) should be used to assess potential dietary exposure in a standard adult of 60 kg body weight consuming large amounts of the categories of foods and beverages for which use levels have been proposed, assuming that they always contain the food enzyme at its proposed upper use level. The exposure must be assessed considering all proposed uses and this would be especially relevant for exposure of high consumers. The food category system established in Commission Regulation (EU) No 1129/2011 amending Annex II of Regulation (EC) No 1333/2008 may not be useful for this purpose, because the functionality of food enzymes is substrate dependent and thus not directly linked to food categories.		
	In case the use of the food enzyme is proposed for products specifically designed for infants (0- 12 months) or young children (12-36 months) as defined in the Commission Directive 2006/141/EC, ad hoc conservative exposure estimates must be produced taking specifically into account these population groups.		
<b>3.2.1.6</b>	<b>Information on Existing Authorisations and Evaluations</b>		
<b>3.2.2</b>	<b>Toxicological data</b>		
<b>3.2.2.1</b>	<b>Toxicological Testing</b>		
	A decision on the need for toxicological testing on a food enzyme should be made on the basis of already available information, including the source of the enzyme, its composition and properties, any existing toxicological studies and any documented history of use of the enzyme in food as well as foreseen level of exposure. The default assumption is that toxicological testing is necessary. Exceptions are detailed below (s. section 3.2.2.1.1.3).		
<b>3.2.2.1.1</b>	<b>The toxicological Data Set</b>		
	The food enzyme sample tested toxicologically should be representative of the food enzyme to be authorised for use in food processing. The parameters used to demonstrate the equivalence of the batch that is toxicologically tested shall be the same as those used to describe the chemical composition, including Certificates of Analysis (CoA) of the batches analysed. For the analysis of mycotoxins the limit of detection of the applied method should be provided (if applicable). Please also provide information on the identity of the antifoam agents used during the fermentation process if applicable. If differences are observed between batches used in the toxicological testing and the batches used to describe the chemical composition, they need to be justified.		
<b>3.2.2.1.1.1</b>	<b>Assessment of genotoxicity</b>		
	This assessment should start with <i>in vitro</i> tests, covering both gene mutations and chromosomal effects (structural and numerical). Two <i>in vitro</i> tests would normally be required:		
i.	a test for induction of gene mutations in bacteria (Ames test; OECD guideline 471). For further details and requirements, please refer to the Appendix of the "Explanatory Note for the Guidance of the Scientific Panel of Food Contact Materials, Enzymes, Flavourings and Processing Aids (CEF) on the Submission of a Dossier on Food Enzyme". If this assay is not applicable, alternatively a test for induction of gene mutations in mammalian cells, preferably the mouse lymphoma tk assay with colony sizing (OECD guideline 476), could be performed.		
ii.	an <i>in vitro</i> assay for the detection of chromosomal aberration (OECD guideline 473) or the <i>in vitro</i> micronucleus assay (Draft OECD guideline 487) or the mouse lymphoma tk assay with colony sizing (OECD guideline 476). For further details and requirements, please refer to the "CEF Guidance on food enzymes".		
<b>3.2.2.1.1.2</b>	<b>Assessment of systemic toxicity (i.e. subchronic oral toxicity)</b>		
	A subchronic oral toxicity study as described in OECD guideline 408 (OECD, 2000a) should be performed. For further details and requirements, please refer to the "CEF Guidance on food enzymes".		
<b>3.2.2.1.1.3</b>	<b>When toxicological testing may not be needed</b>		
	The detailed justification for waiving the toxicological testing shall be provided in the dossier. The justification should be in line with the conditions laid down in Regulation (EU) No 562/2012 and/or the "CEF guidance on food enzymes", as follows:		
i.	A documented history on the safety of the source of the food enzyme, the composition and the properties of the food enzymes as well as its use in food, demonstrating no adverse effects on human health when consumed in a comparable way, supported by any existing toxicological studies. In such cases, a detailed rationale must be provided to EFSA for evaluation, e.g. edible parts of animals and (non GM) plants. Or		
ii.	Food enzymes produced by microorganisms that have been given a status of Qualified Presumption of Safety (QPS), if it can be demonstrated, supporting with experimental data, that there are no concerns related to any residues, impurities, degradation products or substances originating from the total production process (production, recovery and purification) (see "Opinion of the Scientific Committee on a request from EFSA on the introduction of a Qualified Presumption of Safety (QPS) approach for assessment of selected microorganisms referred to EFSA"). Please refer also to the EFSA annual review of the list of biological agents recommended for the QPS list published on an annual basis on the EFSA Journal. Or		
iii.	If a food enzyme from a specific strain has been thoroughly tested and the manufacturing process does not differ significantly for other food enzymes from the same strain, the full testing battery may be waived for these food enzymes. This will be decided on a case-by-case basis. Or		

iv.	Food enzyme obtained from QPS microorganisms where genetic modification is obtained through the use of the techniques/methods listed in Annex II, Part A, point 4 of Directive 2009/41/EC (i.e. "self-cloning consisting in the removal of nucleic acid sequences from a cell of an organism which may or may not be followed by reinsertion of all or part of that nucleic acid (or a synthetic equivalent), with or without prior enzymic or mechanical steps, into cells of the same species or into cells of phylogenetically closely related species which can exchange genetic material by natural physiological processes where the resulting microorganism is unlikely to cause disease to humans, animals or plants. Self-cloning may include the use of recombinant vectors with an extended history of safe use in the particular micro-organisms.") The applicant is requested to justify that the genetic modification can be considered as self-cloning, in line with the above definition. This will be assessed on a case-by-case basis. (source: Art 1(2) Regulation (EC) No 562/2012 and Annex II of Directive 2009/41/EC)		
3.2.2.1.1.4	<b>Data reporting</b>		
	The data reported for standard toxicological tests should follow the recommendations for data reporting given in the relevant OECD guidelines. For each study performed it should be stated, and supported by analytical data for the specification as defined in section 3.2.1.1.2.2, that the test material is representative of the food enzyme as described in the dossier. Any differences in the analytical data between the batches analysed under section 3.2.1.1.2.2 and batch used for the toxicological testing should be justified.		
3.2.2.1.1.5	<b>Review of toxicological and exposure data and conclusions</b>		
	For each toxicological study, the significant findings should be highlighted, together with the no-observed-effect level (NOEL) and/or the no-observed-adverse-effect level (NOAEL) if one has been determined, and any other relevant information. Where effects in animals are seen, the relationship between the dose giving rise to effects and likely dietary exposure from use of the food enzyme should be discussed to establish an appropriate margin of safety. The reasons for disregarding any findings should be carefully explained. Where relevant, the conclusions should include an interpretation of the significance of the findings.		
3.2.2.2	<b>Allergenicity</b>		
	The allergenicity of the source of the food enzyme should be considered and a search for amino acid sequence and/or structural similarities between the expressed protein and known allergens should be undertaken where possible. If other studies are available, which may have been conducted for other purposes, such as the assessment of safety at the workplace (e.g. sensitisation studies), they should be submitted. The approach used must be detailed: searches in data bases must be demonstrated. Search reports and programs used should be provided in annex.		
3.2.3	<b>Conclusion (on safety data and toxicological tests)</b>		
	An overall assessment of the safety data and toxicological tests including rationales for the inclusion or exclusion of specific tests, discussion of their adequacy and any uncertainties, e.g. differences in specification between the tested and commercialised product or structural similarities to known allergens should be provided. The overall evaluation of potential human risk should be made in the context of known or anticipated human exposure. A product-related conclusion based on the data in previous sections should be given.		
3.2.4	<b>Dossier bibliography</b>		
	In submitting a dossier, a full bibliography, including full copies of all references quoted which are essential to the safety evaluation, should be included. If the applicant considers that a reference is not essential to the safety evaluation, a full reference can be omitted, but in this case the applicant needs to justify the omission and still provide an abstract/summary to allow EFSA to evaluate the need for the full reference.		

### 3. EFSA GENETICALLY MODIFIED MICROORGANISMS (GMM) CHECKLIST

**Note: Please note, if the product falls into Category 3 products a more comprehensive risk assessment has to be carried out by the applicant, in accordance with requirements of the "Guidance on the risk assessment of genetically modified microorganisms and their products intended for food and feed use" (i.e. "EFSA GMM guidance"). In this case please refer to the guidance.**

Chapter Section of "EFSA GMM guidance"	Type of information	Category 2 (Complex products in which both GMMs and newly introduced genes are no longer present)	Information provided/Not provided/Not relevant	FOR EFSA USE
<b>III. B.1.1.</b>	<b>Characteristics of the recipient or parental microorganism</b>			
III. B.1.1.1.	Scientific name, taxonomy and other names. The taxonomic identification of recipient strain is mandatory.			
III. B.1.1.2.	Phenotypic and genetic markers.			
III. B.1.1.7.	Information on the genetic stability of the recipient microorganism.			
III. B.1.1.8.	Pathogenicity, ecological and physiological traits In particular, information relating to the presence of introduced genes that encode antimicrobial resistance should be provided.	Information not required if proposed Qualified Presumption of Safety (QPS) status is authorised		
III. B.1.1.9.	Description of its history of use.	Information not required if proposed Qualified Presumption of Safety (QPS) status is authorised		
III. B.1.1.10.	History of previous genetic modifications. In particular, genetic modifications made during the development of the recipient strain should be fully described (e.g. vectors used, including a map and a description of the different genetic elements; transformation tool used, method used for integration and selection).			
<b>III. B.1.2.</b>	<b>Characteristics of the origin of the inserted sequences (donor organism(s))</b>			
III. B.1.2.1.	DNA from defined donor organisms. When the inserted DNA is a combination of sequences from different origins, the pertinent information for each of the sequences should be provided.	Information not required in case of self-cloning with the same strain.		
III. B.1.2.2.	Synthetic DNA.			
III. B.1.2.3.	Nucleic acids directly extracted from environmental samples.			
<b>III. B.1.3.</b>	<b>Description of the genetic modification</b>			
III. B.1.3.1.	Characteristics of the vector:			
	i. the source and type (plasmid, phage, virus, transposon) of the vector used;			
	ii. a fully annotated sequence of the vector;			
	iii. a physical and genetic map detailing the position of all functional elements and other vector components, together with the restriction endonuclease sites selected for the generation of probes, and the position and nucleotide sequence of primers used in PCR analysis;			
	iv. a table identifying each component, properly annotated, such as coding and non-coding sequences, origin(s) of replication and transfer, regulatory elements, their size, origin and role, should accompany the map.			
III. B.1.3.2.	Information relating to the genetic modification.			
<b>III. B.1.4.</b>	<b>Information relating to the GMM and comparison of the GMM with an appropriate comparator</b>			
	The applicant is requested to deposit the GMM production strain, in a recognised culture collection and to provide the certificate of deposition and the deposition number. Justification should be provided by the applicant in case of any omission of information.			
III. B.1.4.1.	Description of genetic trait(s) or phenotypic characteristics and, in particular, any new traits and characteristics which may be expressed or no longer expressed.			
III. B.1.4.2.	Structure and amount of any vector and/or donor nucleic acid remaining in the GMM A genetic map(s) indicating the organisation of the genetic elements in the inserted DNA should be provided, and the copy number(s) of the recombinant DNA sequence(s) estimated. This should be analysed by using appropriate methods, e.g. Southern analysis.			
III. B.1.4.3.	Stability of the genetic traits in the GMM. The genotype and phenotype of a GMM should be stable over the intended period of production.			
III. B.1.4.5.	Description of identification and detection techniques.			
III. B.1.4.8.	Safety for humans and animals.			
<b>III. B.2.</b>	<b>Information relating to the product</b>			
<b>III. B.2.1.</b>	<b>Information relating to the production process</b>	Please refer to section 3.2.1.2.5 of the 'Food Enzyme suitability checklist'		
<b>III. B.2.2.</b>	<b>Information relating to the product preparation process</b>			
III. B.2.2.1.	Demonstration of the absence of the GMM in the product, always supported by experimental data.			
III. B.2.2.2.	Information on the inactivation of the GMM cells and evaluation of the presence of remaining physically intact cells.			
III. B.2.2.3.	Information on the possible presence of recombinant DNA, always supported by experimental data. Please note when the absence could not be confirmed, an environmental safety assessment has to be provided, in accordance with requirements of the "EFSA GMM guidance" (category 3 products). In this case please refer to the guidance.			
<b>III. B.4.1.</b>	<b>Evaluation of products belonging to categories 1 and 2</b>			