Call for technical data on the permitted food additives glutamic acid (E 620), monosodium glutamate (E 621), monopotassium glutamate (E 622), calcium diglutamate (E 623), monoammonium glutamate (E 624) and magnesium diglutamate (E 625)

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Background

According to Article 32 of Regulation (EC) No 1333/2008[1], food additives permitted in the EU before 20 January 2009 should be subject to a new risk assessment by the European Food Safety Authority (EFSA). The programme for the re-evaluation of these permitted food additives has been set up by Commission Regulation (EU) No 257/2010[2].

So far EFSA has not identified a major safety concern (such as a proven carcinogenic or genotoxic activity) for any of the re-evaluated food additives. In fact, in most cases EFSA confirms the safety of those food additives at their currently reported uses and use levels. However, for some additives EFSA has identified issues that require a follow-up. Additional specific data are needed to address those issues.

The additives whose safety re-evaluation by EFSA was hindered by limited data availability, but which are not expected to pose an immediate food safety concern, are not going to be immediately removed from the Union list of permitted additives, or their uses and/or use levels revised. Instead, business operators are requested to indicate to the Commission their interest in the continuity of approval of the additive(s) under re-evaluation and in providing, by a certain deadline, the data needed by EFSA to complete its risk assessment. In general, new toxicological studies will be needed to generate these missing data.

Once EFSA has assessed the new data, the current authorisation of the additive(s) may be revised, if needed.

If business operators do not provide the requested data (by the predefined deadline) the present authorisation will be revised based on EFSA's current scientific opinion and the additive(s) may be removed from the Union list of permitted additives. The same applies if the new data submitted is not sufficient for EFSA to conclude the risk assessment, since there will be no successive requests for additional data.

Food additives for which EFSA has identified concerns in terms of exposure or specifications will be subject to the same follow-up approach, but EFSA's assessment of the new data may not always be needed.

The Commission will undertake that the time assigned for addressing issues identified by EFSA is as short as possible and dependent on the time needed to generate and assess the required new data.

[1] OJ L 354, 31.12.2008, p. 16.
[2] OJ L 80, 26.3.2010, p. 19.

EFSA's Scientific Opinion on the re-evaluation of glutamic acid (E 620), monosodium glutamate (E 621), monopotassium glutamate (E 622), calcium diglutamate (E 623), monoammonium glutamate (E 624) and magnesium diglutamate (E 625) as food additives

The EFSA's Panel on Food Additives and Nutrient Sources added to Food (ANS) delivered a scientific opinion re-evaluating the safety of glutamic acid (E 620), monosodium glutamate (E 621), monopotassium glutamate (E 622), calcium diglutamate (E 623), monoammonium glutamate (E 624) and magnesium diglutamate (E 625) when used as food additives[3].

Glutamate is absorbed in the intestine and it is presystemically metabolised in the gut wall. No adverse effects were observed in the available short-term, subchronic, chronic, reproductive and developmental studies. The only effect observed was increased kidney weight and increased spleen weight; however, the increase in organ weight was not accompanied by adverse histopathological findings and, therefore, the increase in organ weight was not considered as an adverse effect.

The Panel considered that glutamic acid–glutamates (E 620–625) did not raise concern with regard to genotoxicity.

From a neurodevelopmental toxicity study, a no observed adverse effect level (NOAEL) of 3,200 mg monosodium glutamate/kg body weight (bw) per day could be identified.

The Panel assessed the suitability of human data to be used for the derivation of a health-based guidance value. Although effects on humans were identified human data were not suitable due to the lack of dose–response data from which a dose without effect could be identified.

Based on the NOAEL of 3,200 mg monosodium glutamate/kg bw per day from the neurodevelopmental toxicity study and applying the default uncertainty factor of 100, the Panel derived a group acceptable daily intake (ADI) of 30 mg/kg bw per day, expressed as glutamic acid, for glutamic acid and glutamates (E 620–625).

The Panel noted that the exposure to glutamic acid-glutamates (E 620–625) exceeded not only the proposed ADI, but also doses associated with adverse effects in humans for some population groups. Therefore, the Panel recommended that the European Commission considers revising the maximum permitted levels, in particular, in food categories contributing the most to the overall exposure to glutamic acid and its salts.

The Panel recommended that the European Commission considers revising the current limits for toxic elements arsenic and/or lead in the EU specifications for E 620–625 in order to ensure that they will not be a significant source of exposure to those toxic elements in food.

Overall purpose of this call for data

To give the opportunity to food business operators and other stakeholders to submit the technical data needed to address issues identified by EFSA in the re-evaluation of the safety of glutamic acid (E 620), monosodium glutamate (E 621), monopotassium glutamate (E 622), calcium diglutamate (E 623), monoammonium glutamate (E 624) and magnesium diglutamate (E 625) as food additives.

In order to address the exceedance of the ADI established by EFSA for the group of food additives glutamic acid-glutamates (E 620–625), more detailed data on actual current uses and use levels of E 620–625, and their technological justification, are needed. There is also a need to better characterise the contribution of the naturally present free glutamic acid/glutamate in foods to the exposure to glutamic acid/glutamate from all dietary sources. Therefore, data on the levels of free glutamic acid/glutamate naturally present in food are also needed. For a better estimation of the exposure to glutamic acid/glutamate from all sources, additional information is also needed on the use of glutamic acid as a nutrient in certain foods, in accordance with Regulation (EU) No 609/2013.

As for the specifications, data on the lowest achievable limits for the impurities of toxic elements in E 620–625 are needed.

[3] https://www.efsa.europa.eu/en/efsajournal/pub/4910

Technical data required

The data required to address the issues identified by EFSA in the re-evaluation of the safety of glutamic acid (E 620), monosodium glutamate (E 621), monopotassium glutamate (E 622), calcium diglutamate (E 623), monoammonium glutamate (E 624) and magnesium diglutamate (E 625) as food additives are the following:

1. **Detailed data on uses/use levels of the group of food additives E 620-625 in the food categories in which these food additives are authorised**

For each of the 67 food categories set out in Annex II, Part D of Regulation (EC) No 1333/2008 in which the intentional addition of E 620-625 is currently authorised, food business operators are requested to provide:

- data on normal and maximum use levels of E 620-625 in each food category, expressed as glutamic acid. The food additives in the group E 620-625 glutamic acid-glutamates may be used individually or in combination; if used in combination, the level of E 620-625 provided should be applicable to the sum of the individual use levels of E 620, E 621, E 622, E 623, E 624 and E 625. A numerical maximum level needs to be provided (the *quantum satis* principle should not be applied for these food additives). For dried and/or concentrated foods which need to be reconstituted, the level provided shall apply to the food as reconstituted according to the instructions on the label taking into account the minimum dilution factor. Normal and maximum use levels should be provided both as added amount of E 620-625 as well as total amount of glutamic acid/glutamate in the food as marketed, available from all sources. This means that the natural presence of free glutamic acid/glutamate in the food needs to be characterised and taken into account when reporting normal and maximum use levels of E 620-625/glutamic acid/glutamate in the food available from all sources. The data on natural occurrence of glutamic acid/glutamate that needs to be generated to comply with this request should also be submitted (see part 4 of section "Technical data required" concerning required analytical data).
- information on whether the reported use and use levels concern all different foodstuffs belonging to a food category or only certain foodstuffs (to potentially allow the definition of appropriate restrictions/exceptions of use in Annex II, Part E of Regulation (EC) No 1333/2008).
- It should be noted that the request for numerical use levels (and technological justification for the levels; see part 2 below) also applies to the two food categories in which E 620-625 are currently authorised at *quantum satis* (FC 12.1.2 salt substitutes and FC 12.2.2 seasonings and condiments).

Data on use levels of E 620-625 in the relevant 67 food categories should be reported using the attached template developed for this purpose (MS Excel® file "Data on use of E 620-625 as food additives.xls"), following the instructions provided in the template.

If no data are provided for a food category in which the intentional addition of E 620-625 as food additives is currently authorised, it will be considered that there is no interest that the use of E 620-625 as food additives remains authorised in that food category. Consequently, the authorisation for the use of E 620-625 as food additives in that food category will be withdrawn.

Therefore, if an interested party has information that E 620-625 are not used in one or several food categories in which they are currently authorised, this information should also be provided. Such information will be of course cross-checked with information sent by all interested parties replying to the call.

2. Detailed data on function and technological need of the food additives E 620-625

For each of the 67 food categories set out in Annex II, Part D of Regulation (EC) No 1333/2008 in which the intentional addition of E 620-625 is currently authorised, food business operators are requested to provide:

- data on function and technological need for the use levels of E 620-625 proposed for a food category, or in more specific foodstuffs belonging to a food category.
- an explanation of why the intended function cannot be reasonably achieved by other economically and technologically practical means
- data on the advantages and benefits for the consumer according to the requirements laid down in Article 6(2) of Regulation (EC) No 1333/2008
- information on why the use would not mislead the consumer

Data on function and technological need of the food additives E 620-625 in the relevant 67 food categories should be reported using the attached template developed for this purpose (MS Word® file "Template for submission of additional detailed information in support of requested uses and use levels of E 620-625.doc"), following the instructions provided in the template.

If no data are provided for a food category in which the intentional addition of E 620-625 as food additives is currently authorised, it will be considered that there is neither a technological need nor a justification for the authorisation of the use of E 620-625 as food additives in that food category. Consequently, the authorisation for the use of E 620-625 as food additives in that food category will be withdrawn.

Therefore, if an interested party has information that E 620-625 are not used in one or several food categories in which they are authorised, this information should also be provided. Such information will be of course cross-checked with information sent by all interested parties replying to the call.

3. Detailed data on uses/use levels of glutamic acid as a nutrient

Glutamic acid may directly be added as a nutrient to food for special medical purposes and food for total diet replacement for weight control, in accordance with the Annex to Regulation (EU) No 609/2013.

In order to estimate the exposure to glutamic acid-glutamate for those consuming those foods, business operators are requested to provide information on uses (representative examples of foods to which glutamic acid is added as a nutrient) and the corresponding use levels (amount of glutamic acid added as a nutrient in those foods).

4. Data on natural levels of free glutamic acid-glutamate in foods (concentration/analytical data)

Food business operators, national food authorities, research institutions, academia and other stakeholders are requested to submit analytical data on concentration levels of free glutamic acid-glutamate in foods to which these substances have not been intentionally added as food additives or as a nutrient (natural presence of free glutamic acid-glutamate). Those data will be used to generate an estimate of the exposure to glutamic acid-glutamate through the diet from natural sources.

Therefore, analytical data are requested covering all food categories listed in Annex II, Part D of Regulation (EC) No 1333/2008. However, since the objective is to quantify the natural presence of free glutamic acid-glutamate in foods, analytical data should derive from foods to which glutamic acid/glutamates (E 620-625) have not been intentionally added as food additives or glutamic acid was added as a nutrient. Data from foods belonging to food categories in which the intentional addition of E 620-625 is not authorised are particularly important, since those foods are not covered

by the data requested in part 1 of this section of the call. It should be noted that the method used for the preparation of the food samples to be analysed should not lead to a breakdown of the protein present in the food into amino acids, since otherwise this would invalidate the results.

Data are to be transmitted using the EFSA web interface 'Data Collection Framework' (DCF) (https://dcf.efsa.europa.eu/dcf-war). Please be aware that the data collection for the submission of analytical results will be open in the DCF from 15 May 2019 to 1 October 2019, in line with the opening of the data collection on chemical contaminants. In order to receive access to the DCF web interface,or in case of questions on the use of DCF/compilation of data for submission to the DCF, please contact: data.collection@efsa.europa.eu.

For information on data reporting requirements,please consult the guidance on harmonised chemical reporting in SSD2 (Standard Sample Description version 2) available at https://doi.org/10.5281/zenodo.2543211. For those data providers who will manually compile data, EFSA templates are available to support manual data entry. The templates are structured in accordance with the guidance on harmonised chemical reporting in SSD2 and can be downloaded from https://doi.org/10.5281/zenodo.1180710.

Should you need any support in compiling and/or submitting data, please contact: data.collection@efsa.europa.eu for assistance.

5. Specific data on foods/characteristic food ingredients rich in free glutamic acid-glutamate such as yeast extract, soy sauce and protein hydrolysates

Food business operators are requested to submit information on foods/characteristic food ingredients rich in free glutamic acid-glutamate, with a long history of consumption/use. Data are requested in particular for foods/characteristic food ingredients, in whose production an intentional hydrolysis of the endogenous protein plays an essential role, such as yeast extract, soy sauce and protein hydrolysates. The following data are requested:

- A chemical/compositional characterisation of those foods/characteristic food ingredients, in particular with respect to their content of free glutamic acid-glutamate (concentration data expressed as average, maximum and minimum levels, and standard distribution);
- When used as characteristic ingredients of food, information about the compound foods in which they are used (with indication of the food category set out in Annex D of Regulation (EC) No 1333/2008 they belong to) and the amount of those ingredients used in the manufacture of such foods (normal and maximum amounts).

6. Data on the lowest achievable limits for the impurities of toxic elements in E 620, E 621, E 622, E 623, E 624 and E 625

The current maximum limits for lead and arsenic set in the EU specifications for glutamic acid (E 620), monosodium glutamate (E 621), monopotassium glutamate (E 622), calcium diglutamate (E 623), monoammonium glutamate (E 624) and magnesium diglutamate (E 625) are too high and therefore should be revised to ensure that food additives will not be a significant source of exposure to those toxic elements in food.

Manufacturers of glutamic acid-glutamates (E 620-625) are requested to provide:

- analytical data on current levels of lead (for E 620, E 621, E 622, E 623, E 624 and E 625) and arsenic (for E 620) in commercial samples of these food additives
- the lowest technologically achievable level for lead, mercury and arsenic in order to adequately define their maximum limits in the specifications

The information should be supported by data from at least five different batches independently produced and the analyses should be performed with appropriate analytical methods. Specific data on the methods of analysis used should be provided. These include but are not limited to

e.g the principle of the method, the scope of the method (i.e. the range of sample types that the method is used for), the concentration units used to express the analytical result(s), validation of the method (in particular limit of detection (LOD) and limit of quantification (LOQ)). Such methods should employ state of the art techniques.

Procedure of the call for data

It should be noted that this call concerns only technical data. Therefore, the 2-step procedure used in previous calls for scientific and technical data is not followed, since such procedure is considered to be more appropriate for calls for data requesting scientific data (e.g. toxicological data which require that new toxicological studies are performed). Therefore, the deadline of this call is the final deadline for submission of the requested technical data.

Business operators are requested to submit to the Commission **by 13 January 2020** the above-requested data, following the instructions and the templates provided (whenever a template was made available).

In order to streamline the data collection exercise, business operators are invited to liaise with the relevant food business operator associations for the data submission. In particular, data providers shall ensure that the same data are not sent several times to the European Commission (for example, they should not be sent by both the business operator and also by the association to which the business operator belongs to).

Any questions about this call for data should be sent to the email address Sante-E2-Additives@ec.europa.eu.

Submission of the requested data

Business operators and other stakeholders are requested to submit the above-indicated data[4] in one paper and two electronic copies (standard physical medium such as CD, DVD or USB flash drive), except for the MS Excel® files of which only electronic versions are requested. Common electronic formats should be used (e.g. MS Office®, Adobe Acrobat Reader®) allowing content copying and printing (no content copy protection). The text of the files should be searchable using the search facilities of standard software packages. The submission should include a cover letter stating clearly in the subject line the food additive(s) to which it refers, and describing the data submitted. The cover letter should provide the contact details of the data submitter.

All data shall be submitted by registered post to the following contact address:

Bruno Gautrais, Head of Unit E2
European Commission
Directorate-General for Health and Food Safety
Directorate E – Food and feed safety, Innovation
Unit E2 – Food Processing Technologies and Novel Foods
B-1049 Brussels

The Commission will acknowledge the receipt of data in response to this call.

Confidential data

[4] This excludes the concentration/analytical data which were submitted using the EFSA web interface 'Data Collection Framework' (DCF)

Business operators have the right to request a confidential treatment of certain information. They shall indicate which data they wish to be treated as confidential and give verifiable justification for each part for which a confidential treatment is required following the provisions on confidentiality as laid down in Article 12 of Regulation (EC) No 1331/2008[5]. Furthermore, the business operator shall provide the Commission with two versions of the dossier, namely the complete dossier and a second version of the complete dossier without confidential information.

Possibility for EFSA to use the data for the safety assessment of the same or other substance under the same or other legal or regulatory frameworks

In line with Union policy objectives on animal welfare and testing on vertebrates, EFSA aims to avoid the duplication of testing on vertebrates, and to achieve an optimal use of the relevant financial and human resources by the private sector. Therefore, in anticipation of cases where EFSA may be interested in using or reusing relevant information or data (i.e. technical, toxicological data) for the evaluation of the same substance under a different legal or regulatory framework from the one mentioned above, or for the evaluation of another substance under the same or different legal framework as above, please indicate explicitly in writing, whether by participating in the voluntary submission of relevant data or information, you also give EFSA the permission to use and/or reuse these data for other EFSA safety assessments, and/or for a data sharing exercise with third parties or other international bodies.

[5] OJ L 354, 31.12.2008, p. 1.