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Public Consultation on EFSA's draft Guidance on Communication of Uncertainty in Scientific Assessments

Fields marked with * are mandatory.

Welcome

Thank you for your interest in EFSA's work.

By participating in this Public Consultation you will help us to improve how we communicate uncertainty in scientific assessments. Please use this electronic template to chose the sections of the Guidance document upon which you would like to comment. You will also be able to submit general comments at the end of the questionnaire.

Please note that comments will not be considered if they:

- are submitted after the closing date of the public consultation
- are presented in any form other than what is provided for in the instructions and template
- are not related to the contents of the document
- contain complaints against institutions, personal accusations, irrelevant or

offensive statements or material
- are related to policy or risk management aspects, which is out of the scope of EFSA's activity.

EFSA will assess all comments from interested parties which are submitted in line with the criteria above. The comments will be further considered by the relevant EFSA Panel and taken into consideration if found to be relevant. All comments submitted will be published. Comments submitted by individuals in a personal capacity will be presented anonymously. Comments submitted formally on behalf of an organisation will appear with the name of the organisation.

Please read the privacy statement before proceeding.

EFSA_Privacy_statement_for_the_Public_consultation_on_the_draft_Guidance_on_Communication_of_Uncertainties.pdf

General information about yourself

*Full name (first and last name)

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*What is your professional background? (please specify below)

Please select one answer only.

- ○ Communications professional
- ○ EFSA Panel/WG/Network
- ○ EFSA staff
- ○ EU institution
- ○ International organisation
- ○ National authority
- ○ NGO
- ○ Press/media
- ○ Private capacity - citizen
- ○ Private sector (e.g. industry, consultancy, etc.)
- ○ University/public research institute
- ◉ Other (please specify below)

Please specify:

50 character(s) maximum

European Chemical Society

* In which country do you mainly work?

If you work for the EU Institutions/Agencies, please select 'European'.

Belgium

Submit comments

Please follow the link below to download EFSA's draft Guidance document under public consultation. By selecting the sections you want to comment on, the respective subsections and boxes for comments will unfold. You are also invited to submit general comments for each section. At the end of this survey you will also be asked to comment on the Guidance document as a whole.

http://www.efsa.europa.eu/en/consultations/call/180504 (http://www.efsa.europa.eu/en/consultations/call/180504)

* Please select the sections you would like to comment.

You will be able to navigate throughout all the document as these sections will unfold in the respective sub-Sections.

- [x] 1. Introduction
- [x] 2. Expressions of uncertainty
- [x] 3. Guidance on communicating uncertainty
- [x] 4. Evidence sources
- [x] 5. Further research needs
- [x] References
- [x] Glossary
- [ ] Appendix A – Literature search strategy
- [ ] Appendix B – Summary table mapping evidence found in the literature with the guidance
- [ ] Appendix C – EFSA studies design overview
- [ ] I don't want to comment on specific sections. Please re-direct me to the general comments.

1. Introduction

Please select the sub-sections you would like to comment on.

- [ ] 1.1. Background

- [ ] 1.2. Terms of Reference as provided by the requestor - not for comment
- [ ] 1.3. Interpretation of the Terms of Reference
- [ ] 1.4. Scope and audience for this guidance and how to use it
- [ ] 1.5. Risk communication at EFSA
- [ ] 1.5.1. EFSA's risk communication role and strategies
- [ ] 1.5.2. EFSA's target audiences
- [x] 1.6. Uncertainty communication
- [ ] 1.6.1. EFSA's context
- [ ] 1.6.2. International context
- [x] General comments on Section 1. Introduction

1.6. Uncertainty communication

5,000 character(s) maximum

When communicating uncertainty, it is very important to make a clear distinction between (measurement) uncertainty associated with the scientific process and uncertainty due to other sources, such as due to lack of action by the government. (see: "Frewer et al. (2002) found that uncertainty associated with the scientific process was more readily accepted than uncertainty due to lack of action by the government.")

General comments on Section 1. Introduction

5,000 character(s) maximum

Adding a list of typical sources of uncertainty in the Introduction, such as listed in the Appendix C.1 (Focus Group Study by Etienne et all, 2018), would help in better understanding what uncertainty in this case is about.

2. Expressions of uncertainty

5,000 character(s) maximum

When it comes to (analytical, physical) measurements, evaluation and expression of measurement uncertainty is rather well in place by now, including terminology, which is defined in the international vocabulary (see proposed additional references). In this respect, terminology used in this Chapter needs to be better communicated and aligned with internationally agreed one e.g. "A graph showing the probabilities of different values for an uncertain quantity that has a single true value (e.g. the average exposure for a population)." - we can only have just an (more or less good/certain) estimate of true value and any quantity is "uncertain" in this respect.

3. Guidance on communicating uncertainty

Please select the sub-sections you would like to comment on.

- [ ] 3.1. General guidance
- [ ] 3.2. Specific guidance

- [ ] Table 3. Template for identifying messages with associated uncertainty expressions, and specific guidance for their communication
- [ ] Box 1. Guidance for communicating assessments using standardised procedures
- [ ] Box 2. Guidance for communicating a description of a source of uncertainty
- [ ] Box 3. Guidance for communicating qualitative descriptions of the direction and/or magnitude of uncertainty
- [ ] Box 4. Guidance for communicating inconclusive assessments
- [ ] Box 5. Guidance for communicating unqualified conclusions (no expression of uncertainty)
- [ ] Box 6: Guidance for communicating a precise probability
- [ ] Box 7. Guidance for communicating an approximate probability
- [ ] Box 8. Guidance for communicating a probability distribution
- [ ] Box 9. Guidance for communicating a two-dimensional probability distribution
- [x] General comments on Section 3. Guidance on communicating uncertainty

General comments on Section 3. Guidance for communicating uncertainty

5,000 character(s) maximum

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Table 4 provides an important piece of information for correct understanding
of communicated messages.
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4. Evidence sources

Please select the sub-sections you would like to comment on.

- [x] 4.1. Scientific literature
- [ ] 4.1.1. Scope of literature search
- [ ] 4.1.2. Relevance of the literature included
- [ ] 4.1.3. General findings
- [ ] 4.1.4. Expressions of uncertainty studied in accordance with the EFSA Uncertainty GD
- [ ] 4.1.4.1. Ranges
- [ ] 4.1.4.2. Probability distributions
- [ ] 4.1.4.3. Expression of expert judgement using ordinal scales
- [ ] 4.1.4.4. Qualitative expressions of uncertainty
- [ ] 4.1.4.5. Visualisation
- [ ] 4.1.5. Implications of the scientific literature for the guidance
- [ ] 4.1.5.1. Ranges
- [ ] 4.1.5.2. Probability distributions
- [ ] 4.1.5.3. Expression of expert judgement using ordinal scales
- [ ] 4.1.5.4. Qualitative expressions of uncertainty
- [ ] 4.1.5.5. Visualisation (other than probability distributions)
- [ ] 4.2. EFSA research studies
- [ ] 4.2.1. Usefulness of uncertainty information
- [ ] 4.2.2. Positive vs negative framing
- [ ] 4.2.3. Confidence in EFSA
- [ ] 4.2.4. Professional background

- [ ] 4.2.5. Culture and language
- [ ] 4.2.6. Messages for expressing uncertainty
- [ ] 4.2.6.1. Qualitative descriptions of sources of uncertainty
- [ ] 4.2.6.2. Qualitative expression of probability
- [ ] 4.2.6.3. A precise probability
- [ ] 4.2.6.4. An approximate probability
- [ ] 4.3. Implications of the grey literature for the guidance
- [ ] 4.4. EFSA examples used to further develop the recommendations
- [ ] General comments on Section 4. Evidence sources

4.1. Scientific literature

5,000 character(s) maximum

For measurement uncertainty, below references shall be considered:
1) International Vocabulary of Metrology (VIM) - Basic and General Concepts and Associated Terms, 3rd edition, 2008, https://www.bipm.org/utils/common/documents/jcgm/JCGM_200_2012.pdf
2) Analytical measurement: Measurement Uncertainty and Statistics, https://publications.europa.eu/en/publication-detail/-/publication/92427620-73a5-4719-862b-1cccc1559f91/language-en/format-PDF/source-72007094
3) Estimation of measurement uncertainty in chemical analysis, https://sisu.ut.ee/measurement/uncertainty
4) Quantifying uncertainty in analytical measurement, https://www.eurachem.org/index.php/publications/guides/quam

5. Further research needs

5,000 character(s) maximum

Further scientific research is needed and shall be supported, in chemistry, measurements and other sciences relevant for uncertainty evaluation and communication for EFSA purposes.
For further consideration (uncertainty concept, legislation in food area), see Majcen, N., Skubic, I. & De Bièvre, P. Accred Qual Assur (2004) 9: 106. https://doi.org/10.1007/s00769-003-0723-8

References

5,000 character(s) maximum

Please see above recommendations.

Glossary

5,000 character(s) maximum

VIM (please see above) to be considered.

General comments

1. Would you like to add general comments on this Guidance?

5,000 character(s) maximum

The Guidance clearly describes proposed approach for communication of uncertainty in EFSA scientific assessments, appropriately distinguishing three different levels. It shall be however noted that "EFSA uncertainty" has some specifics compared to uncertainty when reporting measurement results. This distinction/inconsistency is not made explicitly clear in this Guidelines, while it would be worth mentioning it.

2. Would you like to submit additional data to support your comments?

You're almost done: just two extra questions

While developing this Guidance document we only found a few studies about 'hedging words'. Maybe you can help us find some more...?

3. Do you know any studies comparing people's understanding of the uncertainty about a quantitative estimate when communicated either by hedging words (e.g. 'about 10') or as a numeric range (e.g. 'between 8 and 12')?

4. Do you know any studies on which hedging words (e.g. about, approximately) lead to the least variable interpretations of uncertainty among the participants?

Thank you!

Contact

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