List of studies to be generated, still ongoing or available but not peer reviewed

| Data gap | Relevance in relation to representative use(s) | Study status | | | | | | |
|---|--|---|---|--|--|--|--|--|
| | | No confirmation that study available or on-going. | Study on-going and anticipated date of completion | Study available but not peer- reviewed | | | | |
| Identity of the active substance or formulation | | | | | | | | |
| See volume 4 of each source | Relevant for all uses | | | | | | | |
| Physical and chemical properties of the active substance and physical, chemical and technical properties of the formulation | | | | | | | | |
| None | | | | | | | | |
| Data on uses and efficacy | | | | | | | | |
| None | | | | | | | | |
| Data on handling, storage, transport, packaging and lab | elling | | | | | | | |
| None | | | | | | | | |
| Methods of analysis | | • | | | | | | |
| See volume 4 of each source concerning data gaps on significant impurities. | Relevant for all uses | | | | | | | |
| | Relevant for all uses | x | | | | | | |

| | Relevant for all uses | х | |
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| | Relevant for all uses | х | |
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| Multiresidue method for plant and food of animal origin | Relevant for all uses | x | |

| Plant matrices : Monitoring methods - A cross validation with incurred residue in plants to compare extraction with dichloromethane and without dichloromethane taking into account the ratio between solvent sample | Relevant for all uses | x | | | | |
|--|-----------------------|---|--|--|--|--|
| Animal matrices : Monitoring methods - A strong argumentation to demonstrate that pH does not affect the extraction efficiency | Relevant for all uses | x | | | | |
| Extraction efficiency of the analytical method for determination of residue in honey | Relevant for all uses | x | | | | |
| The demonstration of derivatisation efficiency for methods CA 4.1.2/119, CA 4.1.2/128 and CA 4.1.2/129 | Relevant for all uses | x | | | | |
| Toxicology and metabolism | | | | | | |
| Volume 1, section 2.6.1.1 short summary on toxicokinetic information. A public literature study is available in which 13 poisoning incidents with glyphosate-based herbicides in France (Zouaoui <i>et al.</i>, 2012) were analysed. This publication was evaluated during the previous assessment of glyphosate by RMS DE. However, it is not re-submitted by the applicant. The applicant is requested to submit this publication together with a summary and a relevance and reliability assessment of this publication. | Relevant for all uses | x | | | | |
| 2) Volume 1, section 2.6.2 acute toxicity The applicant is requested to justify why for the same batch different conclusions are drawn regarding the purity and the acceptability of acute toxicity studies. Study CA 5.2.1/020 acceptable Study CA 5.2.3/016 acceptable Study CA 5.2.4/012 supportive due to low purity Study CA 5.2.5/015 supportive due to low purity | Relevant for all uses | x | | | | |

| Study CA 5.2.6/016 acceptable | | | |
|---|-----------------------|---|--|
| 3) Volume 1, Section 2.6.2.10.1 During the previous assessment, it was noted that for formulations, Burger et al. (2009, refer to Volume 1 2.6.9) reported cases from Germany that might indicate respiratory irritation but these findings were considered to be likely due to POEA surfactants (tallowamines) present in the formulation. The RMS notes that this study was not re-submitted for the present evaluation. The applicant is requested to submit this publication together with a summary and a relevance and reliability assessment of this publication. | Relevant for all uses | X | |
| 4) Vol 3 CA B.6.2.3.13 (CA 5.2.3/013) In the study report two different lot numbers and purities are reported for the test substance. As no certificate of analysis was attached to the study report, the applicant is asked to further clarify which lot and purity has been used for the test | Relevant for all uses | X | |
| 5) Volume 3 CA B.6.3.2.6 and B.6.3.2.13 and Volume 1 sections 2.6.3.1.1, 2.6.8.2 and 2.6.10 Cellular alterations in the parotid gland were also reported in a NTP study in rats and mice (Chan and Mahler, 1992). However, this study was not submitted. The applicant is requested to submit this study with an OECD summary and an evaluation of the results in rats and mice including the mechanistic study on the salivary gland and including effects on toxicity to reproduction. | Relevant for all uses | х | |
| 6) Volume 3 CA B.6.3.2.24 (CA 5.3.2/033) Plasma phosphorus levels were lower in the male treated groups at week 52 but this was due, in part, to slightly higher individual control values. The RMS notes that the same pattern was observed during week 4, 13, 26 and 52. The applicant is requested to provide HCD on phosphorus levels in blood in order to determine whether this was indeed due to higher (individual) control values. | Relevant for all uses | X | |

| 7) Volume 3 CA B.6.3.2.26 (CA 5.3.2/036) Decreased phosphorus levels, although statistically significant in females at 3 and 12 months, did not appear to be related to compound administration since the values were within the normal range. The applicant is requested to provide HCD on phosphorus levels in blood in females | Relevant for all uses | X | |
|--|-----------------------|---|--|
| 8) Volume 3 CA B.6.4.2.1 (CA 5.4.2/001) This study was not included in the reference list. The applicant is requested to add this study to the reference list. | Relevant for all uses | x | |
| 9) Volume 3 CA B.6.4.2.2 (CA 5.4.2/002) This study was not included in the reference list. The applicant is requested to add this study to the reference list. | Relevant for all uses | x | |
| 10) Volume 3 CA B.6.4.2.10 (CA 5.4.2/010) AGG notes that a discrepancy was seen regarding the batch number and purity reported in the study report and in the certificate of analysis that is attached to the study report. The applicant is asked to clarify this. | Relevant for all uses | X | |
| 11) Volume 1, section 2.6.4.1 The applicant is requested to submit the following publication together with a summary and a relevance and reliability assessment: Alvarez-Moya et al., 2014, ASB2014-6902, Comet assay in human lymphocytes. | Relevant for all uses | X | |
| 12) Volume 1, section 2.6.4.1 and Volume 3, CA B.6.10 The applicant provided a justification for the 1 mM concentration threshold as a criterium for relevance of public literature publication. The RMS largely agrees with the justification, however, a reference should be provided for the study in which an oral dose of 1,430 mg/kg bw (given as a formulation of 71.7% w/w glyphosate) resulted in plasma levels of 38.1 µg/mL in the rat. If the study is not already included in the dossier, the study | Relevant for all uses | X | |

| should be submitted and evaluated. In addition, a further justification should be given on whether locally higher levels of glyphosate at cellular level could be reached (e.g. in intestinal epithelial cells and/or in the local lymphatic vessels of the intestinals). | | | |
|---|-----------------------|---|--|
| 13) Volume 3 CA B.6.5.5 (CA 5.5/005) | Relevant for all uses | x | |
| The applicant is asked to provide historical control data for the effect on mandibular lymph node lymphoma, if available. | | | |
| 14) Volume 3 CA B.6.5.18.13 (CA 5.5-038 Alavanja) | Relevant for all uses | x | |
| The provided reference (K-CA 5.5-038) only concerns a correspondence to the article by Alavanja et al. 2013. Although the full article is publicly available online and could be reviewed by the AGG, the applicant is requested to submit the full publication to complete the dossier. | | | |
| 15) Volume 1, section 2.6.5.1 – skin keratoacanthomas | Relevant for all uses | x | |
| The applicant is requested to provide a trend test for the incidences of skin keratoacanthomas for the Wood study. | | | |
| 16) Volume 1, section 2.6.5.1.2.2. summary of epidemiological studies | Relevant for all uses | X | |
| The applicant is still requested to submit the following missing study (together with a summary and a relevance and reliability assessment): | | | |
| Chang and Delzell, 2016 | | | |
| 17) Volume 1, section 2.6.7 neurotoxicity | Relevant for all uses | x | |
| During the previous assessment, several additional public literature studies were evaluated. These were not included in the evaluation of the applicant for the AIR-5 renewal. The applicant is requested to submit these publications together with an evaluation (including a relevance and reliability assessment) and an overall assessment. | | | |

| 18) Volume 3, CA B.6.8.1.1.5 skin sensitisation AMPA study 2 (CA 5.8.1/012) For challenge, the test material was selected at a concentration of 25%. The applicant is kindly asked to provide an argumentation why a higher concentration was not tested, also taking into account that higher concentrations were achieved in other studies (CA 5.8.1/011). | Relevant for all uses | X | |
|---|-----------------------|---|--|
| 19) Volume 3, CA B.6.8.1.1.8 genotoxicity <i>in vivo</i> – AMPA study 2 (CA 5.8.1/027) The applicant is kindly asked to provide more detailed information on the historical negative control data, for instance when data were generated. | Relevant for all uses | X | |
| 20) Volume 3, CA B.6.8.1.1.11 QSAR and read-across (submitted as CA 6.7.1/001) a) The applicant mentions that experimental genotoxicity data is available for N-methyl glyphosate (M09). The applicant is requested to submit the data as these were not included in the dossier. b) The applicant proposed a grouping approach for read-across for the other metabolites, however, this approach was not accepted by the RMS | Relevant for all uses | X | |
| 21) Volume 1, section 2.6.8.1.2 N-acetyl AMPA The applicant is requested to provide an <i>in vitro</i> micronucleus study to address aneugenicity for N-acetyl AMPA. | Relevant for all uses | х | |
| 22) Volume 1, section 2.6.8.1.3 N-acetyl glyphosate The applicant is requested to provide an <i>in vitro</i> micronucleus study to address aneugenicity for N-acetyl glyphosate | Relevant for all uses | x | |
| 23) Volume 3, CA B.6.8.3.2 <i>in vitro</i> estrogen receptor alpha transcriptional activation assay | Relevant for all uses | X | |

| The applicant is asked to provide support for the statement that minor deviations from the performance criteria do not affect the validity of these studies. The RMS considers that the deviation from the acceptance criteria for 17α -methyltestosterone may indicate a decreased sensitivity of the study for weak agonists. | | | |
|---|-----------------------|---|--|
| 24) Volume 1, section 2.6.9 Reports on medical surveillance on manufacturing plant personnelThe absence of occupational exposure data from the European plants in the current dossier needs a further clarification from the applicant. | Relevant for all uses | X | |
| 25) Volume 1, section 2.6.9 glyphosate in human breast milk The RMS noted that in Volume 3 section B.6.10 one additional study was reported investigating glyphosate in human breast milk samples (Abdel-Halim, 2019). The applicant reported that the reason for not submitting this study was that this study was considered supplementary due to several limitations. AGG disagrees and requests the applicant to submit this publications and to provide an assessment of the findings in order to evaluate the findings. | Relevant for all uses | X | |
| 26) Volume 3, CA B.6.10 literature search The RMS notes that the search terms used are focussed on the data requirements and some specific search term which are considered relevant for human health are missing. For example, a quick search by the RMS retrieved the following publications which were not found in the literature search by the applicant: 1) Rueda-Ruzafa, L., Cruz, F., Roman, P., Cardona, D. Gut microbiota and neurological effects of glyphosate. (2019) NeuroToxicology 2) Pu Y, Yang J, Chang L, Qu Y, Wang S, Zhang K, Xiong Z, Zhang J, Tan Y, Wang X, Fujita Y, Ishima T, Wang D, Hwang SH, Hammock BD, Hashimoto K. Maternal glyphosate exposure | Relevant for all uses | X | |

| causes autism-like behaviors in offspring through increased expression of soluble epoxide hydrolase. Proc Natl Acad Sci U S A. 2020 May 26;117(21):11753-11759. The applicant is requested to provide an additional literature search using endpoint specific search terms related to human health which are outside the data requirements such as autism, asthma, ADHD, coeliac disease, inflammatory bowel disease and obesity. The applicant is requested to submit all relevant publications obtained from this search including a summary and an evaluation of these publications (including a relevance and reliability assessment). | | | |
|--|-----------------------|---|--|
| 27) Volume 3, CA B.6.10 literature search general | Relevant for all uses | x | |
| The applicant is requested to submit a summary and an evaluation of the following Category B (supplementary) studies as AGG disagrees that the studies should be considered as supplementary only. An evaluation and conclusion of these studies should be provided by GRG. | | | |
| - No. 37 Tang <i>et al.</i> , 2020; Glyphosate exposure induces inflammatory responses in the small intestine and alters gut microbial composition in rats. | | | |
| - No 13 Donato <i>et al.</i> , 2020; Exposure to glyphosate and risk of non-Hodgkin lymphoma and multiple myeloma: an updated meta-analysis. | | | |
| 28) Volume 3 CA B.6.10 literature search Endocrine Disruption | Relevant for all uses | х | |
| To allow for a transparent evaluation of the possible endocrine disruption properties of glyphosate, the applicant is requested to (re-) submit the studies in the table below including detailed studies summaries and an evaluation. | | | |
| Author Year Title Source | | | |

| Abarikwu S. | 2015 | Combined effects of repeated | Toxicology |
|-----------------|------|---|------------------------------------|
| O. et al. | | Wipeout (glyphosate) and | methods (2015), |
| | | Ultrazin (atrazine) on | Vol. 25, No. 1, pp. |
| | | and sperm quality of Wistar | 70-80 |
| | | rats. | |
| Avila- | 2015 | Cancer and detrimental | Journal of |
| et al. | | Argentine agricultural | and Chemistry, |
| | | community environmentally | (2015) Vol. 15, No. |
| Avila | 2018 | exposed to glyphosate | 3, pp. 97-110. |
| Vazquez M. | 2018 | glyphosate and reproductive | Environmental |
| et al. | | health impacts in agricultural | Protection (2018), |
| | | population of Argentina. | Vol. 9, Number 3, pp. 241-253 |
| Bernieri T. et | 2019 | Occupational exposure to | Chemosphere, |
| al. | | pesticides and thyroid | (2019) pp. 425-429 |
| | | farmers. | |
| Clair E. et al. | 2012 | A glyphosate-based | Toxicology in vitro |
| | | herbicide induces necrosis | (2012), Vol. 26, No 2 pp 269-79 |
| | | testicular cells in vitro, and | 140. 2, pp. 209-79 |
| | | testosterone decrease at | |
| Parvez S. et | 2018 | lower levels. Glyphosate exposure in | Environmental |
| al. | 2010 | pregnancy and shortened | Health, (2018) Vol. |
| | | gestational length: a | 17, pp. 23 |
| | | cohort study | |
| Rappazzo K. | 2019 | Maternal residential | Birth defects |
| et al | | exposure to specific | research, (2019) |
| | | ingredients and birth defect | 312-323 |
| | | in a 2003-2005 North | |
| Owaghoriave | 2019 | Carolina birth cohort. | Environmental |
| F. et al. | 2017 | endogenic stress hormones, | science and |
| | | antioxidant, biochemical and | pollution research |
| | | metabolic disturbance in | (2019) Vol. 26, No. |
| | | albino rat exposed to roundup | 14, pp. 14502- |
| | | herbicide and its active | 14512 |
| | | ingreatent gryphosute. | |

| Kass L. et al. Perego M. C. et al. | 2020 | Relationship between agrochemical compounds and mammary gland development and breast cancer. Influence of a Roundup formulation on glyphosate effects on steroidogenesis and proliferation of bovine granulosa cells in vitro. | Molecular and cellular endocrinology, (2020) Vol. 508, Art. No. 110789 Chemosphere (2017), Vol. 188, pp. 274-279 | | |
|--|------|---|---|--|--|
| Ren X. et al. | 2018 | Effects of glyphosate on the ovarian function of pregnant mice the secretion of hormones and the sex ratio of their fetuses. | Environmental pollution (2018) Vol. 243 No. Pt B, pp. 833-841 | | |
| Sritana N. et al. | 2018 | Glyphosate induces growth of estrogen receptor alpha positive cholangiocarcinoma cells via non-genomic estrogen receptor/ERK1/2 signaling pathway. | Food and chemical toxicology (2018) Vol. 118, pp. 595- 607 | | |
| George A. et al. | 2018 | The effect of glyphosate on human sperm motility and sperm DNA fragmentation | International Journal of Environmental Research and Public Health (2018) Vol. 15, 1117 | | |
| Sakpa C. et al. | 2018 | Effects of glyphosate on sperm parameters and pregnancy success rate in Wistar rats. | Annals of Biomedical Sciences (2018), Volume 17, Number 2, pp. 156- 164 | | |
| Santos R. et al. | 2019 | Thyroid and reproductive hormones in relation to pesticide use in an agricultural population in Southern Brazil. | Environmental Research, (2019) pp. 221-231 | | |
| Stur E. <i>et al</i> . | 2019 | Glyphosate-based herbicides at low doses affect canonical pathways in estrogen positive and negative breast cancer cell lines. | PloS one (2019), Vol. 14, No. 7, pp. e0219610 | | |

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|---|---|---|--|---|
| Zhao H. et al. 2018 Effects of Glyphosate on Testosterone Synthesis in Male Rats. Asian Journal of Ecotoxicology, (2018) Vol. 13, No. 5, pp. 242-247 | | | | |
| 29) Volume 1, section 2.10 Endocrine disrupting properties; section on "Lines of evidence for adverse effects and endocrine activity related to EAS-modalities". | Relevant for all uses | x | | |
| It is noted that three additional studies from public literature are available, which were submitted at a later time point. These studies (B.6.8.3.17, B.6.8.3.18, B.6.8.3.19) were not included in appendix E by the applicant. The applicant is requested to add these studies to appendix E. | | | | |
| 30) Study summary for Abarikwu et al. (2015). Toxicology Mechanisms and Methods, 25 :1, 70-80. | Relevant for all uses | x | | |
| Residue data | | | | |
| Field rotational crop studies | The 'post-harvest, pre-sowing, pre-planting, pre-emergence outdoor use' & the inter-row use. | | x (only a limited field rotational crop study) | |
| Supervised residue trials with olives in NEU | The NEU use on olives. | х | | |
| One additional tunnel residue trial | Relevant for all uses | x | | |
| Environmental fate and behaviour | | - | | - |
| For field studies performed outside EU, provide a comparison of actual field sites properties instead of default root ecoregions of the trial soils | Relevant for all uses | x | | |
| For studies 1993 , 1993 and 1993 (field studies), the distance of the weather station from the sites (when not onsite) should be provided | Relevant for all uses | x | | |
| For study 2020, 1- provide kinetic fittings for AMPA for Egerkingen soil | Relevant for all uses | х | | |

| 2- explanations and examples of the data processing are required. | | | |
|---|-----------------------|---|--|
| 3- justification should be given on the use of MARS database instead of measured data at nearest station for Egerkingen site | | | |
| 4- clarify the differences observed between weather values presented in the studies 1992c and 1992c , 2020 for station Schallstadt-Mengen (Bad Krozingen site). | | | |
| 5- justify the use of data from "Löningen" site for normalization of data in Menslage soil in Example , 2020 study, instead of "Menslage-Borg" station mentioned in Example , 1992d. | | | |
| 6- for data processing and normalization, justify the use of different approaches for bulk density estimation and rationale behind the choice of a default data or a calculated value | | | |
| 7- Justify the rationale behind the estimation of organic matter in 30-100 cm horizon | | | |
| 8- justify the choice of the lower boundary condition (free drainage) for each site. | | | |
| For study | Relevant for all uses | x | |
| 1- provide further kinetic fittings for glyphosate for New York site | | | |
| 2-provide a decline fit for AMPA for Ohio site | | | |
| 3- explanations and examples of the data processing are required. | | | |
| 4- clarify the approach used for processing of the data at T0 and relevant bulk density used in California site (1993). | | | |
| 5- update kinetics for the four sites from 5, 1993, CA 7.1.2.2.1/006 and 1993, CA 7.1.2.2.1/005 considering replicate values. | | | |
| 6- provide a normalisation of data from sites Ohio (1993b) and Ontario (1993b) and Ontario (1993b), if reliable data can be obtained from available weather stations, and provide a kinetic assessment to derive modelling endpoints. | | | |
| 7- justify the choice of the lower boundary condition (free drainage) for each site. | | | |
| Field dissipation studies to determine the degradation rates of AMPA (and covering a sufficient range of soil pH) | Relevant for all uses | х | |

| Provide the literature article Dollinger et al. (2016) mentioned in the Dollinger et al. (2018) article | Relevant for all uses | x | |
|---|-----------------------|---|--|
| For study 2020, confirm that the LOQ is at least two orders of magnitude below the lowest nominal concentration tested. | Relevant for all uses | x | |
| For study 1993 , 1993, confirm that the LOQ is at least two orders of magnitude below the lowest nominal concentration tested. | Relevant for all uses | x | |
| For study (2005), update the kinetic analysis according to FOCUS guidance for light exposed systems with natural water. | Relevant for all uses | х | |
| For study (1992), update the kinetic analysis according to FOCUS guidance for light exposed systems and provide data on the equivalence between continuous artificial sunlight used in the study and natural sunlight conditions. | Relevant for all uses | x | |
| For study (2020), provide the amended report with information of the characterization of the unknown radioactivity. | Relevant for all uses | х | |
| For study 1993 (with amendment 1995) the low mass balance should be further justified | Relevant for all uses | X | |
| For study (2003), updated kinetic evaluation should be provided using the HPLC analysis results. | Relevant for all uses | x | |
| Further address quantitatively or qualitatively metabolite 1-oxo- AMPA, quantified in sediment in 2002. Unless it is shown that the trigger is not exceeded or the ecotoxicological risk can be addressed qualitatively, PECsed calculations should be provided for 1-oxo-AMPA, based on default conservative substance properties in the absence of data. | Relevant for all uses | x | |
| Update PECgw and PECsw/PECsed for glyphosate and metabolites, considering the application schemes initially proposed, the endpoints agreed during the peer review and using all relevant models. | Relevant for all uses | x | |
| Monitoring data for groundwater: provide additional information on the measured concentration above the trigger of 0.1μ g/L for glyphosate. Additional assessment is required to confirm the | Not applicable | | |

| exceedances are not related to long-term contamination in some locations and/or could not be attributed to particular context. | | | | |
|---|---|------------------|--|--|
| Monitoring data for groundwater: provide further information on the outlier exclusion procedure in 2020, CA7.5/002, and provide details of the values excluded. | Not applicable | | | |
| Monitoring data for surface water: provide further information on the outlier exclusion procedure in 2020, CA7.5/002, and provide details of the data excluded. This is to confirm which maximum concentration should be retained for both ghlyphosate and AMPA in surface water, within the data set of 2020 CA7.5/002 and 2020, 2016, CA7.5/010 | Not applicable | | | |
| Monitoring data for drinking water: clarify the definition of drinking water considered in the monitoring data collection of drinking water, at least from the aggregated data that may be clearer on the origin of the water types taken as supply for drinking water. | Not applicable | | | |
| Ecotoxicology | | | | |
| Full-text article and Study summary for Bolis <i>et al.</i> (2020), Environmental Pollution, Vol. 263, No. Part_B, pp. 114395 | Relevant for all uses | х | | |
| Full tout article and Study summary for Fraites at al. (2020) | | | | |
| Human and Experimental Toxicology, Vol. 39, No. 5, pp. 596- 604 | Relevant for all uses | x | | |
| Full-text article and Study summary for Freitas <i>et al.</i> (2020), Human and Experimental Toxicology, Vol. 39, No. 5, pp. 596- 604 Full-text article and Study summary for Moutinho <i>et al.</i> (2020), Ecotoxicology, 29, pages 1043–1051 | Relevant for all uses Relevant for all uses | x x | | |
| Full-text article and Study summary for Freitas <i>et al.</i> (2020), Human and Experimental Toxicology, Vol. 39, No. 5, pp. 596-604 Full-text article and Study summary for Moutinho <i>et al.</i> (2020), Ecotoxicology, 29, pages 1043–1051 Further information to support non-relevance for Imre <i>et al.</i> (2020), Novenyvdelem, Vol. 56, No. 1, pp. 1-9. ISSN: 0133-0829. | Relevant for all uses Relevant for all uses Relevant for all uses | x x x | | |
| Full-text article and Study summary for Freitas <i>et al.</i> (2020), Human and Experimental Toxicology, Vol. 39, No. 5, pp. 596-604 Full-text article and Study summary for Moutinho <i>et al.</i> (2020), Ecotoxicology, 29, pages 1043–1051 Further information to support non-relevance for Imre <i>et al.</i> (2020), Novenyvdelem, Vol. 56, No. 1, pp. 1-9. ISSN: 0133-0829. Full-text article and Study summary for Riaño <i>et al.</i> (2020), Chemosphere, Vol. 250, pp. 126287 | Relevant for all uses Relevant for all uses Relevant for all uses Relevant for all uses | x x x x | | |

| Full-text article and Study summary for Szabo <i>et al.</i> (2019), AGROFOR International Journal, Vol. 4, No. 3, pp. 76-82. | Relevant for all uses | х | |
|--|-----------------------|---|--|
| Full-text article and Study summary for Ujhegyi <i>et al.</i> (2020), Ecological Indicators, Vol. 113, 106175 | Relevant for all uses | Х | |
| Study summary for Mestre et al. (2020) Chemosphere, (2020) Vol. 252, Art. No. 126433 | Relevant for all uses | Х | |
| Study summary for Odetti et al. (2020) Ecotoxicology and environmental safety, (2020) Vol. 193, Art. No. 110312 | Relevant for all uses | Х | |
| Ruuskanen <i>et al.</i> (2020), Environmental science & technology (2020), Vol. 54, No. 2, pp. 1128-1135: Request biological raw data, at least for food consumption and body weight; Rewrite the study summary to clearly reflect the differences between the 2 experiments, i.e., the short term food preference and the long term dietary exposure. | Relevant for all uses | x | |
| Further consideration on potential impact of the effects observed in Ruuskanen et al. (2020) on avian populations. | | | |
| Study summary for Ruuskanen <i>et al.</i> (2020), Scientific reports, Vol. 10, No. 1, pp. 6349 | Relevant for all uses | X | |
| Further information related to the kinetic evaluation of the available residue decline data used for the higher tier risk assessment for wild mammals | Relevant for all uses | Х | |
| Further consideration on possible risk for amphibians and reptiles. | Relevant for all uses | Х | |
| Provide a statistical power analysis as presented in appendix 5 of the OECD 210 (2013) guideline to confirm the robustness of the NOEC for the ELS study on fish with AMPA (, 2011, CA 8.2.2.1/004) | Relevant for all uses | X | |
| Provide toxicity tests on <i>Lemna</i> and emergent macrophytes with an exposure via overspray with the active substance and the formulation. | Relevant for all uses | x | |

| Provide a toxicity test on sediment dwelling organisms for glyphosate, AMPA and 1-oxo-AMPA. | Relevant for all uses | Х | |
|--|-----------------------|---|--|
| In relation with e-fate data gap, provide further information to assess the risk assessment for metabolite 1-oxo-AMPA for sediment dwelling organisms. | Relevant for all uses | Х | |
| Provide calculation of 96h-ECx values, NOEC and LOEC for the toxicity study on <i>Anabaena flos-aquae</i> with glyphosate (1997, CA 8.2.6.2/002) | Relevant for all uses | Х | |
| Provide calculation of 72h-ECx values NOEC and LOEC based on yield and growth rate for the toxicity study on <i>Navicula</i> <i>pelliculosa</i> (1987, CA 8.2.6.2/005) | Relevant for all uses | Х | |
| Provide calculation of growth rate ECx values based on dry weight for the test on Lemna minor with glyphosate (2000), 2002, CA 8.2.7/001) | Relevant for all uses | Х | |
| Provide a toxicity test on rooted macrophytes for glyphosate | Relevant for all uses | x | |
| Explain the differences in toxicity between the studies for the dossier and the public literature and to further investigate herbicide effects of glyphosate to phytoplankton, algae and macrophytes (data gap). | Relevant for all uses | х | |
| Provide an english certified translation of the article of Yanhui et al., 2015 (CA 8.2.7/013) related to toxicity of glyphosate to <i>Spirodela polyrhiza</i> | Relevant for all uses | Х | |
| Provide a new toxicity test on alga with the representative formulation MON52276. | Relevant for all uses | х | |
| Provide 7d ECx (EC10, EC20 and EC50) based on growth rates for dry weight parameter for the study of 10.2.1/005), 2002 (CP 10.2.1/005) | Relevant for all uses | X | |

| Provide a statistical reanalysis (NOEC, LC10/20) and information on the extent of lethargy of the study of , 2000 (CA 8.2.2.1/002) | Relevant for all uses | х | |
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| In relation with the request to update PECsw/PECsed for glyphosate and metabolites, considering the endpoints agreed during the peer review, provide an updated risk assessment for: -Aquatic organisms -Bees (surface water and puddle). | Relevant for all uses | X | |
| In relation to the data gap set for rotational crops in the residue section, provide further consideration of the relevance of metabolites for bees | Relevant for all uses | х | |
| Provide EC10/EC20 estimates for the chronic toxicity test on earthworms with AMPA (2003, CA 8.4.1/003) | Relevant for all uses | x | |
| Provide clarification for the study on effect on Soil Microbial Nitrogen Transformations with glyphosate of 2014 (CA 8.5/001) regarding the lack of measurments at day 7. | Relevant for all uses | х | |
| Provide calculation of soil nitrogen transformation rate expressed in mg nitrate/kg dry weight soil/day between each measurement day for the study on effects on the Activity of Soil Microflora of AMPA (, 2010, CA 8.5/004) | Relevant for all uses | X | |
| Provide clarification for the study on effect on Soil Microbial Activity, Carbon and Nitrogen Transformations of MON 52276 (2010), 2012, CP 10.5/001) regarding the lack of measurments at day 7 in all treatments including control. | Relevant for all uses | X | |
| Provide ECx estimates based on phytotoxicity for the vegetative vigour study with glyphosate (1994, CA 8.6.2/001) | Relevant for all uses | х | |
| Provide further information to investigate the effects on soil microorganisms. Indeed, in view of the literature data, a shift in the community structures of soil micro-organisms could not be | Relevant for all uses | x | |

| excluded as glyphosate could be used as a source of P, C or N by soil micro-organisms. | | | |
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| Study summary and a detailed assessment of reliability for the paper of Abalaka M. E. et al.2015. Advance in Agriculture and Biology (2015), Vol. 4, No. 3, pp. 106-113 | Relevant for all uses | X | |
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| Study summary and a detailed assessment of reliability for the paper of Abraham J. et al.2018. Entomologia Experimentalis et Applicata (2018), Vol. 166, No. 8, pp. 695-702 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Achiorno C. L. et al2018. Environmental pollution (2018), Vol. 242, No. Pt B, pp. 1427-1435 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Aguilar-Dorantes K. et al2015. American fern journal (2015), Vol. 105, No. 3, pp. 131 | Relevant for all uses | x | |
| Study summary and a detailed assessment of reliability for the paper of Ahemad M. et al.2012. Annals of microbiology (2012), Vol. 62, No. 4, pp. 1531-1540 | Relevant for all uses | X | |
| Study summary and a detailed assessment of reliability for the paper of Akcha F. et al.2012. Aquatic toxicology (2012), Vol. 106-107, pp.104-13 | Relevant for all uses | X | |
| Study summary and a detailed assessment of reliability for the paper of Albajes R. et al.2011. Biological Control (2011), Vol. 59, No. 1, pp.30-36 | Relevant for all uses | x | |

| Study summary and a detailed assessment of reliability for the paper of Al-Daikh E. B. et al.2016. Advance in Agriculture and Biology (2016), Vol. 5, No. 1, pp. 14-19 | Relevant for all uses | Х | |
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| Study summary and a detailed assessment of reliability for the paper of Allegrini M. et al2015. The Science of the total environment (2015), Vol. 533, pp. 60-8 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Allegrini M. et al2019. PloS one (2019), Vol. 14, No. 10, pp. e0223600 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Allegrini M. et al. 2017. Soil biology & biochemistry (2017), Vol. 105, pp. 206-215 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Allison J. E. et al.2013. Ecotoxicology ((2013), Vol. 22, No. 8, pp. 1289 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Amid C. et al.2018. Environmental science and pollution research international (2018), Vol. 25, No. 14, pp. 13360-13372 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Antunes S. C. et al. 2010, Journal of hazardous materials (2010), Vol. 184, No. 1-3, pp. 215-25 | Relevant for all uses | Х | |
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| Study summary and a detailed assessment of reliability for the paper of Banaee M. et al.2019, Comparative biochemistry and physiology. Toxicology & pharmacology (2019), Vol. 222,pp. 145-155 | Relevant for all uses | х | |

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| Study summary and a detailed assessment of reliability for the paper of Barriuso J. et al2011. Microbes and environments (2011), Vol. 26, No. 4, pp. 332 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Bortoli P. V. et al.2012. Ecologia Austral (2012), Vol. 22, No. 1, pp. 33 | Relevant for all uses | Х | |
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| Study summary and a detailed assessment of reliability for the paper of Boufleuer E. M. S. et al. 2016. Acta Iguazu (2016), Vol. 5, No. 5, pp. 25-33 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Buch A. C. et al. 2013. Applied soil ecology (2013), Vol. 69, pp. 32-38 | Relevant for all uses | х | |

| Study summary and a detailed assessment of reliability for the paper of Carmo E. L. et al. 2010. BioControl (2010), Vol. 55, No. 4, pp. 455-464 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Carvalho L. B. et al. 2016. Planta Daninha (2016), Vol. 34, No. 4, pp. 815 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Cavusoglu K. et al. 2011. Tarim Bilimleri Dergisi (2011), Vol. 17, No. 2, pp. 131 | Relevant for all uses | X | |
| Study summary and a detailed assessment of reliability for the paper of Claassens A. et al. 2019. Plant and Soil (2019), Vol. 438, No. 1/2, pp. 393 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Zanuncio C. J. et al. 2018. Ecotoxicology and environmental safety (2018), Vol. 147, pp. 245-250 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Condrosari P. et al. 2018. International Journal of ChemTech Research (2018), Vol. 11, No. 5, pp. 240-248 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Cuhra M. et al. 2013. Ecotoxicology (2013), Vol. 22, No. 2, pp. 251-62 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Currie Z. et al. 2015. Environmental toxicology and chemistry (2015), Vol. 34, No. 5, pp. 1178-84 | Relevant for all uses | x | |

| Study summary and a detailed assessment of reliability for the paper of Dabney B. L. et al. 2018. Harmful algae (2018), Vol. 80, pp. 130 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Damgaard C. et al. 2014. Journal of environmental science and health. Part. B, Pesticides, food contaminants, and agricultural wastes (2014), Vol. 49, No. 12, pp. 897 | Relevant for all uses | X | |
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| Study summary and a detailed assessment of reliability for the paper of Demetrio P. M. et al. 2014. Bulletin of environmental contamination and toxicology (2014), Vol. 93, No. 3, pp. 268 | Relevant for all uses | X | |
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| Study summary and a detailed assessment of reliability for the paper of De Stefano L. G. et al. 2018. Ecological indicators (2018), Vol. 85, pp. 575-584 | Relevant for all uses | Х | |
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| Study summary and a detailed assessment of reliability for the paper of Emmanuel L. D.A. et al. 2015. International Journal of Tea Science (2015), Vol. 11, No.3/4, pp. 16 | Relevant for all uses | Х | |
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| Study summary and a detailed assessment of reliability for the paper of Fagundez G. A. et al. 2016. Spanish Journal of Agricultural Research (2016),Vol. 14, No. 1, p. e0301 | Relevant for all uses | Х | |
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| Study summary and a detailed assessment of reliability for the paper of Felline S. et al. 2019. Environmental pollution (2019), Vol. 254, No. Pt A, pp. 112977 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Ferreira E. A. et al. 2015. Semina: Ciencias Agrarias (2015), Vol. 36, No. 2, pp. 645-655 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Frontera J. L. et al. 2014. Open Environmental Sciences (2014), Vol. 8, pp. 49-53 | Relevant for all uses | Х | |
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| Summary and an assessment of relevance and reliability for the paper of Ge HuiLin et al., 2014. China Environmental Science (2014), Vol. 34, No. 9, pp. 2413-2419 | Relevant for all uses | х | |
| Summary and an assessment of relevance and reliability of the paper of Gomes M. P. et al. 2017. Environmental pollution (2017), Vol. 220, No. Pt A, pp. 452-459 | Relevant for all uses | X | |
| Summary and an assessment of relevance and reliability of the paper of Gutierrez M. F. et al 2017. Chemosphere (2017), Vol. 171, pp. 644-653 | Relevant for all uses | X | |
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| Study summary and a detailed assessment of reliability for the paper of Herbert L. T. et al. 2014. The Journal of experimental biology (2014), Vol. 217, No. Pt 19, pp. 3457-64 | Relevant for all uses | X | |
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| Study summary and a detailed assessment of reliability for the paper of Jaskulski D. et al. 2011. Progress in Plant Protection (2011), Vol. 51, No. 2, pp. 927-931 | Relevant for all uses | Х | |
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| Summary and assessment of relevance and reliability of the paper of Li Y. et al. 2019. Toxin Reviews (2019), Ahead of Print, https://doi.org/10.1080/15569543.2019.1621903 | Relevant for all uses | X | |
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| Study summary and a detailed assessment of reliability for the paper of Mottier A. et al. 2015. Marine pollution bulletin (2015), Vol. 95, No. 2, pp. 665-77 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Nwani C. D. et al. 2013. JAPS, Journal of Animal and Plant Sciences (2013), Vol. 23, No. 3, pp. 888-892 | Relevant for all uses | Х | |
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| Study summary and a detailed assessment of reliability for the paper of Olszyk D. et al. 2010. Integrated environmental assessment and management (2010), Vol. 6, No. 4, pp. 725-34 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Pala A. 2019. Environmental science and pollution research international (2019), Vol. 26, No. 36, pp.36869-36877 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Pfleeger T. et al. 2010. Environmental Toxicology and Chemistry (2010), Vol. 30, No. 2, pp. 455-468 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Rondon Neto R.M. et al. 2011. Revista Brasileira de Herbicidas (2011), Vol. 10, No. 2, 103 p | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Santric L. et al. 2016 Pesticidi i Fitomedicina (2016), Vol. 31, No. 3/4, pp. 121-128 | Relevant for all uses | х | |

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| Study summary and a detailed assessment of reliability for the paper of Sikorski L. et al. 2019. Aquatic Toxicology (2019), Vol. 209, pp.70-80 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Siddhapara M. R. et al. 2012. Journal of Biological Control (2012), Vol. 26, No. 3, pp. 251 | Relevant for all uses | х | |

| Study summary and a detailed assessment of reliability for the paper of Sihtmaee M. et al. 2013. Applied soil ecology (2013), Vol. 72, pp. 215 | Relevant for all uses | X | |
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| Study summary and a detailed assessment of reliability for the paper of Smedbol E. et al. 2017. Aquatic toxicology (2017), Vol. 192, pp. 265-273 | Relevant for all uses | х | |
| Study summary and a detailed assessment of reliability for the paper of Song H. 2010 (Toxic action of acetamiprid, glyphosate and their combined pollution on Hydra magnipapillata) Anhui Nongye Kexue (2010), Vol. 38, No. 20, pp. 10811 | Relevant for all uses | х | |
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| Study summary and a detailed assessment of reliability for the paper of Sun KF. et al. 2013 (Ecological risks assessment of organophosphorus pesticides based on response of Scenedesmus | Relevant for all uses | x | |

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| Study summary and a detailed assessment of reliability for the paper of Tang Y. et al. 2014. Advanced Materials Research (2014), Vol. 838-841, pp. 2417-2426 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Tapkir S. D. et al. 2019. Ecotoxicology (2019), Vol. 28, No. 2, pp. 189-200 | Relevant for all uses | Х | |
| Study summary and a detailed assessment of reliability for the paper of Tome H. V. V. et al. 2020. Environmental pollution (2020), Vol. 256, pp. 113420 | Relevant for all uses | X | |
| Study summary and a detailed assessment of reliability for the paper of Topal A. et al. 2015. Ecotoxicology and environmental safety (2015), Vol. 111, pp. 206-14 | Relevant for all uses | X | |
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