検索期間：2010～2019年

区分 a に分類された文献とその理由

環境動態

1. Information on the study

Data point:	KCA 7.1.3.1.1
Report author	Albers, C. et al.
Report year	2019
Report title	Soil Domain and Liquid Manure Affect Pesticide Sorption in Macroporous Clay Till
Document No	Journal of Environmental Quality (2019), Vol. 48, No. 1, pp. 147
Guidelines followed in study	OECD 106
Deviations from current test guideline	1 mM $CaCl_2$ solution (standard: 10 mM solution), at 10°C (standard: 20 – 25°C); 4 concentrations (standard: 5), no explicit measurements of concentrations in the solid phase, i.e. no real mass balances available
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/ Supportive only (the study does not meet the validity criteria as required according the OECD 106 guideline)

2. Assessment and conclusion

<u>Assessment and conclusion by applicant</u>:

The study describes the sorption behavior of glyphosate to different soil domains from two agricultural soils in Denmark. The set-up of the experiment was based on the OECD 106 guideline but with some deviations: The study was conducted with 1 mM $CaCl_2$ solution (standard: 10 mM solution), at 10°C (standard: 20 – 25°C); with 4 concentrations (standard: 5), no concentrations in the solid phase were explicitly measured, i.e. no real mass balances available.
The study is therefore classified as reliable with restrictions (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.2.1.1
Report author	Ersilia Alexa, Renata Sumalan, Monica Negrea, Mihaela Bragea, Mariana-Atena Poiana, Isidora Radulov and Aurel Lazureanu
Report year	2010
Report title	Studies on the biodegradation capacity ^{14}C-labelled glyphosate in vine plantation soils
Document No	Journal of Food, Agriculture & Environment (2010) Vol.8 (3&4): 1193-1
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (Experimental conditions not sufficiently described to assess validity, relevant endpoint not reported (DT50))

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a degradation experiment with glyphosate on an European agricultural soil in the laboratory. Only the mineralization of the substance is reported. Further data like mass balances, residues in soil and a half-life are not reported .The validity of the study cannot be evaluated due to missing information.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.2.1.1
Report author	Abdul Jabbar Al-Rajab and Michel Schiavon
Report year	2010
Report title	Degradation of ^{14}C-glyphosate and aminomethylphosphonic acid (AMPA) in three agricultural soils
Document No	Journal of environmental sciences (China), (2010) Vol. 22, No. 9, pp. 1374-80
Guidelines followed in study	None
Deviations from current test guideline	Not applicable
GLP/Officially recognised testing facilities	No
Acceptability/Reliability:	No (no quantitative results of glyphosate & AMPA reported)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a soil degradation experiment with glyphosate in three agricultural soils from the EU. The study conditions are sufficiently described. However some deficiencies were identified: the test vessels were air-tight and did not allow for air exchange; no information whether the applied test solution was mixed with the soil; $^{14}CO_2$ was passively (and potentially not quantitatively) collected; soil moisture was too high (80% of soil retention capacity); for analytical method no LoD/LoQ provided; no radioactive material balance can be established; identification of glyphosate and AMPA was done only in aqueous extracts and no quantitative results are reported, thus not reliable quantification possible; no individual analytical results reported (mainly graphical plots); calculation method of DT50 not reported.
The study is therefore classified as not reliable (Category 3).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	No
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	Yes
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	
Report author	Abdul Jabbar, Al-Rajab, Othman M. Hakami
Report year	2014
Report title	BEHAVIOR OF THE NON-SELECTIVE HERBICIDE GLYPHOSATE IN AGRICULTURAL SOIL
Document No	American Journal of Environmental Science 10 (2): 94-101, 2014
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/Supportive only (some deviations from study guidelines, not all necessary data reported to derive comprehensive DT50 values, preferential flow in the soil column)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the dissipation and leaching behavior of glyphosate and its metabolite AMPA in three French soils. The soil dissipation experiments were conducted with 14C-labelled glyphosate and show few deviations from the relevant OECD guideline. However, no detailed values on the measurements per time point are reported for all soils.
The outdoor leaching experiments were conducted with 35-cm long undisturbed columns from the three different soils. 14C-labelled glyphosate was applied. Preferential flow was identified as the main reason for the fast detection of glyphosate in the leachate.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	Yes
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	(solvent, vehicle) where relevant.	
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	Yes
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	KCA 7.1.4.3
Report author	Aronsson, H; Stenberg, M; Ulen, B
Report year	2011
Report title	Leaching of N, P and glyphosate from two soils after herbicide treatment and incorporation of a ryegrass catch crop
Document No	Soil use and management (2011), Volume 27, Number 1, pp. 54-68
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (experiment not sufficiently described to evaluate the validity of the results)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a long-term leaching experiment in Sweden on agricultural soils with glyphosate. The method is not sufficiently described to evaluate the validity of the results. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	
Report author	Sohaib Aslam, Akhtar Iqbal, Marjolaine Deschamps, Sylvie Recous, Patricia Garniera and Pierre Benoita
Report year	2015
Report title	Effect of rainfall regimes and mulch decomposition on the dissipation and leaching of S-metolachlor and glyphosate: a soil column experiment
Document No	Pest Management Science 2015; 71: 278–291
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	Yes, conducted under GLP/Officially recognised testing facilities (INRA)
Acceptability/Reliability:	Yes/Supportive only (provided information does not allow final check for validity against current guidelines)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes two soil column leaching tests with glyphosate and S-metolachlor on French soils. Not enough information is available to check the validity against current guidelines.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a	

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	KCA 7.5 (water treatment)
Report author	Assalin Marcia R; De Moraes Sandra G; Queiroz Sonia C N; Ferracini Vera L; Duran Nelson
Report year	2010
Report title	Studies on degradation of glyphosate by several oxidative chemical processes: Ozonation, photolysis and heterogeneous photocatalysis
Document No	Journal of Environmental Science and Health Part B (2010) 45, 89–94
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No
Acceptability/Reliability:	Yes/Supportive only (results reported mainly as graphical plots)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The article describes the removal of glyphosate by ozonation and photocatalysis (Ti/UV) process in water. The results are mainly shown as graphical plots. Thus, not enough details were reported to evaluate the validity of the results. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	
Report author	Celia P.M. Bento, Dirk Goossens, Mahrooz Rezaei, Michel Riksen, Hans G.J. Mol, Coen J. Ritsema, Violette Geissen
Report year	2017
Report title	Glyphosate and AMPA distribution in wind-eroded sediment derived from loess soil
Document No	Environmental Pollution 220 (2017) 1079 -1089
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the glyphosate and AMPA distribution in wind-eroded sediment derived from a Belgian loess soil. The distribution of the substances as dust via air and their dissipation and formation behavior is evaluated. Correlations to different soil parameters are presented.
The study was therefore seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	KCA 7.1.2.1.1, KCA 7.1.2.1.2, KCA 7.1.3.1, KCA 7.1.4.2
Report author	Bergstrom, Lars; Borjesson, Elisabet; Stenstrom, John
Report year	2011
Report title	Laboratory and Lysimeter Studies of Glyphosate and Aminomethylphosphonic Acid in a Sand and a Clay Soil
Document No	Journal of environmental quality (2011), Vol 40, No 1, pp. 98-108
Guidelines followed in study	OECD 106 Guideline
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (Not all validity criteria of the studies were met)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a lysimeters experiment including derivation of sorption parameters and degradation data for glyphosate and AMPA in two Swedish agricultural soils. Chemical purity of the test substances is not reported, no mass balances or tabulated results per sample point are provided.

Lysimeter experiment: Not all required information is reported to check the validity of the study. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

Sorption experiment: The experiment was conducted according the OECD 106 guideline for glyphosate. Not all required information is provided to check the validity of the study (see above, additionally LoD not sensitive enough).
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

Degradation experiment: The soil degradation of glyphosate and AMPA was considered. Not all required information is provided to check the validity of the study (see above, additionally mass of soil < 50 g).
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
specified in EC Regulation (EU) No 283/2013	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	KCA 7.5
Report author	Birch H; Mikkelsen P S; Jensen J K; Lutzhoft H-C Holten
Report year	2011
Report title	Micropollutants in stormwater runoff and combined sewer overflow in the Copenhagen area, Denmark
Document No	Water science and technology (2011) Vol. 64, No. 2, pp. 485-93.
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted at officially recognised testing facilities (Eurofins Miljø A/S)
Acceptability/Reliability:	Yes/Supportive only (Catchments were classified as mainly non-agricultural)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a monitoring experiment considering storm water from diffierent catchments in the Copenhagen area. Glyphosate was measured in the study, but the catchments are classified as mainly non-agricultural.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	No
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Botta F. et al.
Report year	2012
Report title	Phyt'Eaux Cités: Application and validation of a programme to reduce surface water contamination with urban pesticides
Document No	Chemosphere 86 (2012) 166–176
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	Yes, conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (no agricultural area considered)

2. Assessment and conclusion

Assessment and conclusion by applicant:

The study describes monitoring data (surface water) for glyphosate among other pesticides for an urban area in France. No agricultural area is considered. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	regulatory endpoint, and/or is useful as supporting information	
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (water treatment)
Report author	Boucherie, C.; Lecarpentier, C.; Fauchon, N.; Djafer, M.; Heim, V.
Report year	2010
Report title	"Ozone" and "GAC filtration" synergy for removal of emerging micropollutants in a drinking water treatment plant?
Document No	Water Science and Technology: Water Supply (2010), Volume 10, Number 5, pp. 860-868
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted at officially recognised testing facilities (Veolia Water)
Acceptability/Reliability:	Yes/Supportive only (no breakdown products occurring during ozonation are reported)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the removal of glyphosate and AMPA among other substances from spiked drinking water with a combined ozonation – deozonation - filtration approach. Glyphosate and AMPA were reported to be removed resulting in non-detectable amounts. However, no information about potential break-down products are provided.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	documented	
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (Monitoring)
Report author	Bruchet, A. et al.
Report year	2011
Report title	Natural attenuation of priority and emerging contaminants during river bank filtration and artificial recharge
Document No	European Journal of Water Quality 42 (2011) 123-133
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted at an officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:

The study describes a monitoring experiment with glyphosate and AMPA among different other substances from Seine river and a drinking water production area downstream of the Paris urban area. The study is well described, the analytical methods used are sufficient.

The study was therefore seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5
Report author	Busetto, M et al.
Report year	2010
Report title	Survey of herbicide glyphosate and degradation product aminomethyl phosphonic acid in waterways of Monza-Brionza province
Document No	Il bolletino 2010/4
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Reliable

2. Assessment and conclusion

Assessment and conclusion by applicant:

The article describes the monitoring results for glyphosate and AMPA from the Lombardy region in Italy. The information relies on official monitoring data of the authorities.

The article is therefore classified as reliable (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	confidence intervals)	
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5 %), bulk density, water retention, microbial biomass (~1 % of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.4.3
Report author	Candela Lucila; Caballero Juan; Ronen Daniel
Report year	2010
Report title	Glyphosate transport through weathered granite soils under irrigated and non-irrigated conditions-Barcelona, Spain
Document No	The Science of the total environment, (2010), Vol. 408, No. 12, pp. 2509-16.
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (Experimental conditions not sufficiently described to evaluate validity of the results)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a leaching experiment with glyphosate in an agricultural area in Spain. Leaching over a period of several months in spring and in autumn was observed under irrigated and un-irrigated conditions. Glyphosate and AMPA were found in in deeper soil layers as expected from the calculations based on a tracer experiment. However, only assumptions for reasons of deeper leaching were provided, and based on the provided information (i.e. soil structure etc.) no profound explanation can be established. Duration of the study is in addition not long enough to evaluate the leaching behavior for a long-time perspective.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	A. Cassigneul, P. Benoit, V. Bergheaud, V. Dumeny, V. Etiévant, Y. Goubard, A.Maylin, E. Justes, L. Alletto
Report year	2016
Report title	Fate of glyphosate and degradates in cover crop residues and underlying soil: A laboratory study
Document No	Science of the Total Environment 545–546 (2016) 582–590
Guidelines followed in study	OECD 106 (2000)
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/Supportive only (Not all information reported to check validity of experiment against current guidelines, not all parameters reported to evaluate kinetic behavior)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the degradation and sorption of Glyphosate to soil considering cover crops. The study is well described and provides potential endpoints for degradation and sorption. However, the available information does not allow to check the validity against current guidelines, and not enough parameters are provided to evaluate the kinetic behavior.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	Yes
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Coupe, R. H.et al.
Report year	2012
Report title	Fate and transport of glyphosate and aminomethylphosphonic acid in surface waters of agricultural basins
Document No	Society of Chemical Industry (wileyonlinelibrary.com) DOI 10.1002/ps.2212
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/Supportive only (for French site; irregular, event-driven sampling)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study reports concentration measurements for glyphosate and AMPA residues in stream waters in USA and France. Specific analytical method were used and the limits of reporting were stated. For France, only runoff events with volumes greater than 8 m^3 were monitored between March and October.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media	

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	(concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	No
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	R. Dairon et al.
Report year	2017
Report title	Long-term impact of reduced tillage on water and pesticide flow in a drained context
Document No	Environ Sci Pollut Res (2017) 24:6866-6877
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (no guidelines followed, no final endpoint provided, no specific values for glyphosate are provided)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the different drainage behavior of glyphosate among other pesticides in a tilled and a non-tilled field from a long-term perspective in the EU. No specific information about glyphosate concentrations are provided and no endpoint specific for the exposure assessment are reported. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media	

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	(concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	SILWAN DAOUK, DOMINIQUE GRANDJEAN, NATHALIE CHEVRE, LUIZ F. DE ALENCASTRO and HANS-RUDOLF PFEIFER
Report year	2013
Report title	The herbicide glyphosate and its metabolite AMPA in the Lavaux vineyard area, western Switzerland: Proof of widespread export to surface waters. Part I: Method validation in different water matrices
Document No	Journal of Environmental Science and Health, Part B (2013) 48, 717–724
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:
The main focus of the study is the validation of an analytical method in different water matrices. The measured values for glyphosate and AMPA from natural sites can be used for monitoring purposes. They represent a vineyard area in Switzerland.
The study was therefore seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	SILWAN DAOUK, LUIZ F. DE ALENCASTRO and HANS-RUDOLF PFEIFER
Report year	2013
Report title	The herbicide glyphosate and its metabolite AMPA in the Lavaux vineyard area, western Switzerland: Proof of widespread export to surface waters. Part II: The role of infiltration and surface runoff
Document No	Journal of Environmental Science and Health, Part B (2013) 48, 725–736
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (not sufficient parameters reported to check validity of study)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study reports the mobility of glyphosate and AMPA in soil after application of the parent to a vineyard soil in Switzerland. The loss to surface waters via surface runoff and throughflows in soils with subsequent exfiltration to surface waters was considered. The reported parameters do not allow to finally check the validity of the study.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	No
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media	

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	(concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	N. Desmet, K. Touchant, P. Seuntjens, T. Tang, J. Bronders
Report year	2016
Report title	A hybrid monitoring and modelling approach to assess the contribution of sources of glyphosate and AMPA in large river catchments
Document No	Science of the Total Environment 573 (2016) 1580–1588
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (The portion of glyphosate originating from application in agricultural land use is not assessed)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study reports a hybrid monitoring and modelling approach to evaluate different sources of glyphosate and AMPA in the Meuse River in the Netherlands and their decay in the waterbody. Waste-water treatment plants and tributaries were considered as entry routes of the substances. The experiment does not consider or model explicitly the contribution of agricultural application of the substances.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Di Guardo, A and Finizio, A.
Report year	2016
Report title	A moni-modelling approach to manage groundwater risk to pesticide leaching at regional scale
Document No	Science of the Total Environment 545–546 (2016) 200–209
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Supportive only (modelling approach, no new data generated)

2 Assessment and conclusion

Assessment and conclusion by applicant:
The article presents an approach for combining groundwater monitoring data from national authorities with vulnerability modelling. No experimental or monitoring data were generated.
The article is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	regulatory endpoint, and/or is useful as supporting information	
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Di Guardo, A. and Finizio, A.
Report year	2018
Report title	A new methodology to identify surface water bodies at risk by using pesticide monitoring data: The glyphosate case study in Lombardy Region (Italy)
Document No	*Science of the Total Environment 610–611 (2018) 421–429*
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Supportive only (modelling approach, no new data generated)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The article presents an approach for combining surface water monitoring data from national authorities with GIS analysis to identify contamination levels and implement pesticide risk mitigation measures for surface water bodies No experimental or monitoring data were generated. The article is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	No
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.3.1.1
Report author	Jeanne Dollinger, Cecile Dages, Marc Voltz
Report year	2015
Report title	Glyphosate sorption to soils and sediments predicted by pedotransfer functions
Document No	Environ Chern Leu (20 15) 13:293-307
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/Supportive only (no new experimental data is presented)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The article estimates pedotransfer functions for the adsorption of glyphosate to soil based on based on review of existing literature data. No new experimental data is presented.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	No
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	information	
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	No
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.3.1.1
Report author	Dollinger, J. et al.
Report year	2018
Report title	Contrasting soil property patterns between ditch bed and neighbouring field profiles evidence the need of specific approaches when assessing water and pesticide fate in farmed landscapes
Document No	Geoderma 309 (2018) 50–59
Guidelines followed in study	OECD 106
Deviations from current test guideline	study not sufficiently described to check validity of the results
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (study not sufficiently described to check validity of the results)

2. Assessment and conclusion

Assessment and conclusion by applicant:

The study reports the properties of a soil from a ditch in an agricultural area in the south of France. Mainly, the hydraulic parameters of the different soil layers of the ditch and the surrounding banks are considered and modelled and tracer experiments with bromide are presented. Sorption experiments with glyphosate were conducted and Freundlich sorption coefficients for the different soil horizons are reported. However, not sufficient data to check validity of the experiment are reported (mass balances, chemical properties of test substance, solution agent, analytical information (method, LOD, LOQ), temperature, considered concentrations, stability of the test item). No actually measured concentrations in the field are reported.

The study is therefore classified as reliable with restrictions (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Gasperi, J.; Sebastian, C.; Ruban, V.; Delamain, M.; Percot, S.; Wiest, L.; Mirande, C.; Caupos, E.; Demare, D.; Kessoo, M.; Saad, M.; Schwartz, J.; Dubois, P.; Fratta, C.; Wolff, H.; Moilleron, R.; Chebbo, G.; Cren,
Report year	2014
Report title	Micropollutants in urban stormwater: occurrence, concentrations, and atmospheric contributions for a wide range of contaminants in three French sites
Document No	Environmental Science and Pollution Research (2014) 21:5267- 5281
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (no consideration of agricultural areas)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study reports the results from a monitoring exercise for micorpollutants in the stormwater of three French urban catchment areas. Among other substances, the concentration of glyphosate was considered and reported. The results provide a comprehensive overview on the occurrence of glyphosate in the stormwater of urban areas. However, the focus is not on agricultural area.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	(solvent, vehicle) where relevant.	
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.2.1.1
Report author	Ghafoor A.; Jarvis N J; Thierfelder T; Stenstrom J.
Report year	2011
Report title	Measurements and modeling of pesticide persistence in soil at the catchment scale
Document No	The Science of the total environment (2011) Vol. 409, No. 10, pp. 1900-8.
Guidelines followed in study	OECD 106 Guidance
Deviations from current test guideline	Not sufficient information provided to check validity
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (Not all information provided to check validity of the results, no results reported for adsorption experiment)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes degradation and sorption experiments with glyphosate among other substances on several Swedish agricultural soils. The analytical methods used in both experiments are not explained in detail, no LoD or LoQ are provided. For the sorption experiment, no results are provided. No mass balances and measurement per sample date are provided for both experiments. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes / No (for sorption)
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	KCA 7.1.4.1.1
Report author	Gjettermann, B; Styczen, M; Koch, C B; Hansen, S; Petersen, C T
Report year	2011
Report title	Evaluation of Sampling Strategies for Pesticides in a Macroporous Sandy Loam Soil
Document No	Soil & sediment contamination (2011), Vol 20, No 5-8, pp. 986-994
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (Not sufficient information available to check validity of the results, scope of the study is not on leaching of glyphosate itself but on evaluating the usage of a dye to improve sampling strategies)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a leaching experiment on soil columns with a dye and glyphosate and pendimethalin. Some important information about study conditions are missing: agricultural use of the soil, whether conditions (temp.), soil parameters, details on analytics and on substance identification
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.4.1.1
Report author	Gjettermann, B; Petersen, C T; Hansen, S; Koch, C Bender; Styczen, M
Report year	2011
Report title	Kinetics of Glyphosate Desorption from Mobilized Soil Particles
Document No	Soil Science Society of America journal (2011), Vol 75, No 2, pp. 434-443
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (Study not sufficiently described to check validity of results)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a leaching experiment with glyphosate in soil columns. The desorption of glyphosate from soil particles and its effect on interpretation of leaching experiments was in the focus of the study. Not all necessary information was reported to check the validity of the results (no mass balances, study set-up not clearly described, no sufficient information on soil properties and soil origin, test item not sufficiently described, Temperature not provided).
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	documented	
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	ANA MARIA GÓMEZ ORTIZ, ELENA OKADA, FRANCISCO BEDMAR, and JOSÉ LUIS COSTA
Report year	2017
Report title	SORPTION AND DESORPTION OF GLYPHOSATE IN MOLLISOLS AND ULTISOLS SOILS OF ARGENTINA
Document No	Environmental Toxicology and Chemistry, Vol. 36, No. 10, pp. 2587–2592, 2017
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/Supportive only (Soils were from outside EU (Argentinia))

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a adsorption / desorption experiment with glyphosate on three different agricultural soils from Argentina. The soils do not reflect current EU conditions. Furthermore, no labelled test item was used and no mass balances were provided.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (monitoring data)
Report author	Gregoire, C.; Payraudeau, S.; Domange, N. Editor(s): Chiron, S.
Report year	2010
Report title	Use and fate of 17 pesticides applied on a vineyard catchment
Document No	International Journal of Environmental Analytical Chemistry (2010), Volume 90, Number 3/6, pp. 406-420
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, analyses of samples conducted by officially recognised testing facility (Pasteur Institute of Lille (France))
Acceptability/Reliability:	Yes/ reliable

2. Assessment and conclusion

Assessment and conclusion by applicant:
The report describes a monitoring study in a French vineyard catchment where glyphosate and AMPA among other pesticides were measured in the outflow of the catchment. Information on pesticide application amounts are provided as well as mean and max values of the measured concentrations on a yearly basis.
The study was seen as reliable (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	Yes
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	reported data.	
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Hamann, E. et al.
Report year	2016
Report title	The fate of organic micropollutants during long-term/long-distance river bank filtration
Document No	Science of the Total Environment (2016), Vol.545-546, pp. 629
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Reliable

2. Assessment and conclusion

Assessment and conclusion by applicant:
The article describes a modelling approach to describe long-term/long-distance river bank filtration for 29 compounds including AMPA. There are no new experimental data generated but the modeling approach gives relevant and reliable information on the behavior of AMPA at drinking water abstraction points. The study is therefore classified reliable (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	No
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	regulatory endpoint, and/or is useful as supporting information	
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (monitoring data)
Report author	Hanke Irene; Wittmer Irene; Bischofberger Simone; Stamm Christian; Singer Heinz
Report year	2010
Report title	Relevance of urban glyphosate use for surface water quality
Document No	Chemosphere (2010), Vol. 81, No. 3, pp. 422-9.
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted by officially recognised testing facility (Eawag, Swiss Federal Institute of Aquatic Science and Technology)
Acceptability/Reliability:	Yes/ reliable

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a monitoring experiment in Switzerland covering a catchment with urban and agricultural land use. Glyphosate and its metabolite AMPA were analyzed. A comparison between the contribution of agricultural use and urban use to the overall load was conducted. Due to a specific definition of sub-catchment areas and their evaluation, a specific conclusion for the agricultural area can be given. Analytical approaches were sufficiently described.
The study is therefore considered as reliable (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	EU data requirement No.
Report author	Hedegaard, M. J. and Albrechtsen, H.-J.
Report year	2014
Report title	Microbial pesticide removal in rapid sand filters for drinking water treatment - Potential and kinetics
Document No	Water Research 48 (2014) 71-81
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/Supportive only (no detailed analytics, no detailed results for glyphosate reported)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The article describes experiments on the removal potential of glyphosate in rapid sand filters at Danish waterworks. The experiments are well described. However, no details on analytical methods are given. Further, sampling times and individual results are only reported for bentazone in graphical plots. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	endpoint, and/or is useful as supporting information	
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	No
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	CORINE J. HOUTMAN, ROB TEN BROEK, KEVIN DE JONG, BART PIETERSE, and JAN KROESBERGEN
Report year	2013
Report title	A Multicomponent Snapshot of Pharmaceuticals and Pesticides and in the River Meuse Basin
Document No	Environmental Toxicology and Chemistry, Vol. 32, No. 11, pp. 2449–2459
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the results of a monitoring exercise at the river Meuse in the Netherlands, where a couple of pharmaceuticals and pesticides were measured to evaluate the status of the Meuse. It is highlighted that glyphosate shows the highest concentration of pesticides among all. methods
The study was therefore seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (Monitoring Data)
Report author	Huntscha, S. et al.
Report year	2018
Report title	Seasonal Dynamics of Glyphosate and AMPA in Lake Greifensee: Rapid Microbial Degradation in the Epilimnion During Summer
Document No	Environ. Sci. Technol. 2018, 52, 4641-4649
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable

2. Assessment and conclusion

Assessment and conclusion by applicant:

The study describes the concentrations of glyphosate and AMPA in a lake in Switzerland representing a catchment with high portion of agricultural land use.

The study was seen as reliable (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes

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	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Imfeld G. et al.
Report year	2013
Report title	Transport and attenuation of dissolved glyphosate and AMPA in a stormwater wetland
Document No	Chemosphere 90 (2013) 1333–1339
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities (literature publication)
Acceptability/Reliability:	Yes/Supportive only (results of concentration measurements only presented as graphical plots)

2. Assessment and conclusion

Assessment and conclusion by applicant:

The article reports concentration measurements for glyphosate and AMPA residues in an artificial stormwater wetland in France receiving runoff from a vineyard catchment with respect to the hydrological and hydrochemical conditions. Specific analytical methods were used and the limits of quantification were stated. However, no individual results of concentration measurements are reported (only as graphical plots).

The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media	

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	(concentration)/ collected samples, stability of glyphosate in test media documented	Yes
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	No
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Jodeh S., Attallah M., Haddad M., Hadda T. B., Salghi R., Jodeh D., Warad I.
Report year	2014
Report title	Fate and Mobility of Glyphosate Leachate in Palestinian Soil Using Soil Column
Document No	Journal of Materials and Environmental Sciences (6) (2014) 2008-2016
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (Used soil does not reflect EU conditions (soil, climate))

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a column leaching study with non-labelled glyphosate and a Palestinian agricultural soil. Some essential information necessary for a validity of the study is not reported (e.g. mass balances)
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (water treatment)
Report author	Joensson et al.
Report year	2013
Report title	Removal and degradation of glyphosate in water treatment: a review
Document No	Journal of Water Supply: Research and Technology-AQUA/62.7/2013
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted at officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:

The study describes different methods used in drinking water treatment plants with regard to the degradation of glyphosate and AMPA.

The study was seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions.	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Ramdas G. Kanissery, Allana Welsh, and Gerald K. Sims
Report year	2015
Report title	Effect of Soil Aeration and Phosphate Addition on the Microbial Bioavailability of Carbon-14-Glyphosate
Document No	Journal of Environmental Quality (2015), Vol. 44, No. 1, pp. 137
Guidelines followed in study	USEPA guidelines for adsorption studies (USEPA, 2008)
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the data requirement Adsorption/Desorption of the parent Yes/Supportive only (slight differences to EU guidelines, no EU soils, insufficient reporting of results for kinetic evaluation accord. current guidelines) for the data requirement degradation in soil

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the sorption and degradation behavior of glyphosate in three different US soils under consideration of aerobic and anaerobic conditions and the addition of phosphates. The sorption experiment is well described according to the USEPA guidelines, sufficient parameter are reported.
The study was therefore seen as fully reliable to the data requirement Adsorption/Desorption of the parent (Category 1).
The degradation experiment was conducted in a microcosm with insufficient description of results for calculating degradation or dissipation endpoints according current guidelines.
The study is therefore classified as relevant to the data requirement degradation in soil but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	Yes
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including	

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	Yes
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Yes
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	Yes
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5
Report author	Karanasios, E. et al.
Report year	2018
Report title	Monitoring of glyphosate and AMPA in soil samples from two olive cultivation areas in Greece: aspects related to spray operators activities
Document No	Environ Monit Assess (2018) 190, 6, 1
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable

2. Assessment and conclusion

Assessment and conclusion by applicant:

The study reports monitoring data for glyphosate and AMPA in Greek agricultural soils.

The study was seen as reliable (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	Yes
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	Yes
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the	No

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	plots and confidence intervals)	
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	Yes

1. Information on the study

Data point:	KCA 7.5 (water treatment)
Report author	Kegel Schoonenberg F; Rietman B M; Verliefde A R D
Report year	2010
Report title	Reverse osmosis followed by activated carbon filtration for efficient removal of organic micropollutants from river bank filtrate
Document No	Water science and technology (2010) Vol. 61, No. 10, pp. 2603-10
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (substance properties and analytical methods are insufficiently described)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes the removal of glyphosate among other substances from drinking water by reverse osmosis followed by activated carbon filtration. The substance properties and analytical methods are insufficiently described. The examined method focus on conservative filtration methods, no degradation products or processes are described.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	No
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.1.4.3
Report author	Kjaer Jeanne; Ernsten Vibeke; Jacobsen Ole H; Hansen Nis; de Jonge Lis Wollesen; Olsen Preben
Report year	2011
Report title	Transport modes and pathways of the strongly sorbing pesticides glyphosate and pendimethalin through structured drained soils
Document No	Chemosphere, (2011) Vol. 84, No. 4, pp. 471-9
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted at officially recognised testing facilities (Geological Survey of Denmark and Greenland)
Acceptability/Reliability:	Yes/Supportive only (Substance properties not sufficiently described, no evaluation of the residues in soil layers after finalization of the study was conducted, duration of the study too short)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a leaching experiment with glyphosate and pendimethalin in a Danish agricultural soil over eight months. The substance properties are sufficiently reported. With regard to the data requirement, the study is too short for a comprehensive evaluation of the leaching behavior. In addition, no residues were determined in different soil layers after finalization of the study.
The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	No
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	Yes
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (monitoring data)
Report author	Lamprea, K; Ruban, V
Report year	2011
Report title	Pollutant concentrations and fluxes in both stormwater and wastewater at the outlet of two urban watersheds in Nantes (France)
Document No	Urban Water Journal (2011), Vol. 8, no. 4, pp. 219-231
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted at officially recognised testing facilities (IDAC and IANESCO-CHIMIE Laboratory)
Acceptability/Reliability:	Yes/Supportive only (Focus is on urban areas, no agricultural land use is reported)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a monitoring campaign in an urban area in the region of Nantes / France. Among others, glyphosate is measured. However, agricultural land use does not contribute significantly to the measured concentrations as the study area is described as an urban area. The study is therefore classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Mats Larsbo, Maria Sandin, Nick Jarvis, Ararso Etana, Jenny Kreuger
Report year	2016
Report title	Surface Runoff of Pesticides from a Clay Loam Field in Sweden
Document No	Journal of Environmental Quality 45:1367–1374
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a runoff experiment on a field site in Sweden with realistic cultivation conditions. The runoff of glyphosate and AMPA was measured over a period of 3 years.
The study was therefore seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	plots and confidence intervals)	
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	Yes
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Lefrancq Marie; Jadas-Hécart Alain; La Jeunesse Isabelle; Landry David; Payraudeau Sylvain
Report year	2017
Report title	High frequency monitoring of pesticides in runoff water to improve understanding of their transport and environmental impacts
Document No	Science of the Total Environment 587–588 (2017) 75–86
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study reports the results from a runoff experiment in a French vineyard with different pesticides with a high-frequency setup. Data on glyphosate and AMPA were measured and reported.
The study was therefore seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	No
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	No
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	No
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	information	
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	No
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	Unspecified
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Uncertain
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	
Report author	Lerch R.N.; Lin C.H.; Goyne, K.W.; Kremer, R.J. and S.H. Anderson
Report year	2017
Report title	Vegetative Buffer Strips for Reducing Herbicide Transport in Runoff: Effects of Buffer Width, Vegetation, and Season
Document No	Journal of the American Water Resources Association (JAWRA) 53(3):667-683.
Guidelines followed in study	None
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	No, not conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes/Supportive only (No EU agricultural conditions)

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a runoff experiment to evaluate the effectiveness of vegetative buffer strips in USA.
The study is classified as relevant to the data requirement but only as supplementary information (Category 2).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	yes
	10. Assessment of the statistical power of the assay is possible	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	with reported data.	
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	No
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	Yes
	17. Data on precipitation is recorded	No
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	No
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	No
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	No
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (water treatment)
Report author	Litz N T; Weigert A; Krause B; Heise S; Grutzmacher G
Report year	2011
Report title	Comparative studies on the retardation and reduction of glyphosate during subsurface passage
Document No	Water research (2011), Vol. 45, No. 10, pp. 3047-54
Guidelines followed in study	None (for filter experiments)
Deviations from current test guideline	None
GLP/Officially recognised testing facilities	Yes, conducted by officially recognised testing facilities (German UBA, German KompetenzZentrum Wasser)
Acceptability/Reliability:	Yes/ reliable

2. Assessment and conclusion

Assessment and conclusion by applicant:
The article describes experiments on subsurface passage of river water using so-called enclosures and semi-technical scale vertical slow sand filters (SSFs) to investigate the behavior of glyphosate and AMPA during bank filtration for drinking water supply. The filter experiments were supported by batch adsorption and degradation experiments with the filter material. The main filter experiments and the analytical methods are well described and reported with sufficient details. The article is therefore considered as reliable (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	Yes
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	10. Assessment of the statistical power of the assay is possible with reported data.	No
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	No
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	No
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	No
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No

1. Information on the study

Data point:	KCA 7.5 (monitoring data)
Report author	Maillard E; Payraudeau S; Faivre E; Gregoire C; Gangloff S; Imfeld G
Report year	2011
Report title	Removal of pesticide mixtures in a stormwater wetland collecting runoff from a vineyard catchment
Document No	The Science of the total environment (2011), Vol. 409, No. 11, pp. 2317-24
Guidelines followed in study	None
Deviations from current test guideline	No
GLP/Officially recognised testing facilities	Yes, conducted at officially recognised testing facilities (Pasteur Institute of Lille (France))
Acceptability/Reliability:	Yes/fully reliable for the respective data requirement

2. Assessment and conclusion

Assessment and conclusion by applicant:
The study describes a runoff experiment in a vineyard of the Alsatian area in France. The study is well described and documented.
The study was therefore seen as fully reliable to the data requirement (Category 1).

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
General criteria for reliability considered for all data requirements indicated by the corresponding EU data points as specified in EC Regulation (EU) No 283/2013	1. For guideline-compliant studies (GLP studies): OECD, OPPTS, ISO, and others. The validity/quality criteria listed in the corresponding guidelines met.	No
	2. Previous exposure to other chemicals is documented (where relevant).	No
	3. The test substance is dissolved in water or non-toxic solvent	Yes
	4. Glyphosate, when the test substance, is sufficiently documented - identity of the test material reported (i.e. purity, source, content, storage conditions)	No
	5. Only glyphosate is the tested substance (excluding mixture), and information on application of glyphosate is described	No
	6. The endpoint measured can be considered a consequence of glyphosate (or a glyphosate metabolite)	Yes
	7. Study design / test system is well described, including when relevant: concentration in exposure media (dose rates, volume applied, etc.), dilution/mixture of test item (solvent, vehicle) where relevant.	Yes
	8. Analytical verifications performed in test media (concentration)/ collected samples, stability of glyphosate in test media documented	No
	9. An endpoint can be derived. Findings do deliver a regulatory endpoint, and/or is useful as supporting information	Yes
	10. Assessment of the statistical power of the assay is possible with reported data.	Yes

E-Fate: Reliability criteria for the detailed assessment of full-text documents

Data requirements (indicated by the corresponding EU data point)	Criteria for "Reliable" articles	Criteria met? Yes / No / Uncertain
	11. If statistical methodology was applied for findings reported, then the data analysis applied is clearly reported (e.g., checking the plots and confidence intervals)	Yes
	12. Field locations relevant/comparable to European conditions. Soils not completely matching the OECD criteria but from Europe or to some extent representative for the European Agriculture.	Yes
	13. Characterization of soil: texture (sandy loam, silty loam, loam, loamy sand), pH (5.5-8.0), cation exchange capacity, organic carbon (0.5-2-5%), bulk density, water retention, microbial biomass (~1% of organic carbon)	Yes
	14. Other soils where information on characterization by the parameters: pH, texture, CEC, organic carbon, bulk density, water holding capacity, microbial biomass	Yes
	15. For tests including agricultural soils, they should not have been treated with test substance or similar substances for a minimum of 1 year	No
	16. For soil samples, sampling from A-horizon, top 20 cm layers; soils freshly from field preferred (storage max 3 months at 4 +/- 2°C).	NO
	17. Data on precipitation is recorded	Yes
	18. The temperature was in the range between 20-25°C and the moisture was reported	No
	19. The presence of glyphosate identified in samples collected from groundwater, soil, surface waters, sediments or air from European areas	Yes
	20. Analytical results present residues measurements which can be correlated with the existing residues definition of glyphosate	Yes
	21. Analytical methods clearly described and adequate Statement of specificity and sensitivity of the analytical methods is included	Yes
	22. Radiolabel characterization: purity, specific activity, location of label	No
	23. If degradation kinetics are included: expect to see data tables provided, model description. Statistical parameters for kinetic fit.	No
	24. Glyphosate monitoring data: description of matrix analysed, and analytical methods fully described as above.	Yes
	25. For environmental fate studies: clear description of application rate and relevance to approved uses.	No