Reference List of all relevant peer-reviewed publications from the open literature that were submitted for the Renewal of Approval (AIR5) of Glyphosate in 2020

Fate and Behaviour in the Environment

The following table lists the relevant publications from the open literature that were selected for inclusion in the renewal dossier as per Article 8.5 of Regulation (EC) No 1107/2009.

A literature search for glyphosate and its metabolites[1] was conducted according to the requirements stated in the EFSA Guidance document EFSA Journal 2011;9(2):2092 "*Submission of scientific peer-reviewed open literature for the approval of pesticide active substances under Regulation (EC) 1107/2009"*. In addition, a recommendation by the Assessment Group on Glyphosate (AGG) on how to present the literature search in the dossier has been followed.

The objective of the literature search was to identify and assess scientific peer-reviewed open literature published within the 10 years prior to the dossier submission date for relevance in the risk assessment of glyphosate and its metabolites regarding toxicity, ecotoxicity, environmental and consumer risk as specified in Article 8.5 of Regulation (EC) No 1107/2009.

The publications were legally obtained by the Glyphosate Renewal Group from the public literature respecting in full all copyrights and are included in Document K.

[1] (aminomethyl)phosphonic acid (AMPA), N-acetyl-AMPA, N-acetyl-glyphosate, (hydroxymethyl)phosphonic acid (HMPA), N-methyl-AMPA, N-glyceryl-AMPA, N-malonyl-AMPA, methylphosphonic acid and N-methylglyphosate.

Section 5 - Fate and Behaviour in the Environment

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.1.1, KCA 7.1.2	la Cecilia D. et al.	2018	Analysis of glyphosate degradation in a soil microcosm	Environmental pollution (2018), Vol. 233, pp. 201
KCA 7.1.1, KCA 7.1.2	Li H. et al.	2016	Degradation and Isotope Source Tracking of Glyphosate and Aminomethylphosphonic Acid.	Journal of agricultural and food chemistry (2016), Vol. 64, No. 3, pp. 529
KCA 7.1.1.1	Sun M. et al.	2019	Degradation of glyphosate and bioavailability of phosphorus derived from glyphosate in a soil-water system	Water research (2019), Vol. 163, pp. 114840
KCA 7.1.1.1	la Cecilia D. et al.	2018	Glyphosate dispersion, degradation, and aquifer contamination in vineyards and wheat fields in the Po Valley, Italy.	Water research (2018), Vol. 146, pp. 37
KCA 7.1.1.1, KCA 7.1.2.1.1	Muskus A. M. et al.	2019	Effect of temperature, pH and total organic carbon variations on microbial turnover of (13)C3(15)N-glyphosate in agricultural soil.	The Science of the total environment (2019), Vol. 658, pp. 697
KCA 7.1.2.1.1	Alexa E. et al.	2010	Studies on the biodegradation capacity of C-14-labelled glyphosate in vine plantation soils.	Journal of Food Agriculture & Environment (2010), Vol. 8, No. 3-4, Part 2, pp. 1193
KCA 7.1.2.1.1	Al-Rajab A. J. et al.	2010	Degradation of 14C-glyphosate and aminomethylphosphonic acid (AMPA) in three agricultural soils.	Journal of environmental sciences (China), (2010) Vol. 22, No. 9, pp. 1374
KCA 7.1.2.1.1	Nghia Nguyen Khoi et al.	2013	Soil properties governing biodegradation of the herbicide glyphosate in agricultural soils.	Proceedings of the 24th Asian-Pacific Weed Science Society Conference (2013), pp. 312
KCA 7.1.2.1.1	Norgaard T. et al.	2015	Can Simple Soil Parameters Explain Field-Scale Variations in Glyphosate-, Bromoxyniloctanoate-, Diflufenican-, and Bentazone Mineralization?	Water, air, and soil pollution (2015), Vol. 226, No. 8, pp. 262
KCA 7.1.2.1.1	Alexa E. et al.	2010	Research on the weed control degree and glyphosate soil biodegradation in apple plantations (Pioneer variety).	Analele Universitatii din Oradea, Fascicula Biologie (2010), Vol. 17, No. 1, pp. 5
KCA 7.1.2.1.1	Nguyen N. K. et al.	2018	Large variation in glyphosate mineralization in 21 different agricultural soils explained by soil properties.	The Science of the total environment (2018), Vol. 627, pp. 544
KCA 7.1.2.1.1	Sagliker H. A.	2018	Carbon mineralisation in orange grove soils treated with different doses of glyphosate-amine salt	Journal of Environmental Protection and Ecology (2018), Vol. 19, No. 3, pp. 1102
KCA 7.1.2.1.1	Tush D. et al.	2018	Dissipation of polyoxyethylene tallow amine (POEA) and glyphosate in an agricultural field and their co-occurrence on streambed sediments.	The Science of the total environment (2018), Vol. 636, pp. 212
KCA 7.1.2.1.1, KCA 7.1.2.1.4	Bento C. P. M. et al.	2016	Persistence of glyphosate and aminomethylphosphonic acid in loess soil under different combinations of temperature, soil moisture and light/darkness.	The Science of the total environment (2016), Vol. 572, pp. 301

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.1.2.1.1, KCA 7.1.2.1.3, KCA 7.1.3.1.1	Kanissery R. G. et al.	2015	Effect of soil aeration and phosphate addition on the microbial bioavailability of carbon-14-glyphosate.	Journal of environmental quality (2015), Vol. 44, No. 1, pp. 137
KCA 7.1.2.1.1, KCA 7.1.3.1	Ghafoor A. et al.	2011	Measurements and modeling of pesticide persistence in soil at the catchment scale.	The Science of the total environment, (2011), Vol. 409, No. 10, pp. 1900
KCA 7.1.2.1.1, KCA 7.1.3.1.1	Cassigneul A. et al.	2016	Fate of glyphosate and degradates in cover crop residues and underlying soil: A laboratory study.	The Science of the total environment (2016), Vol. 545-546, pp. 582
KCA 7.1.2.1.1, KCA 7.1.3.1.1	Rampoldi E. A. et al.	2014	Carbon-14-glyphosate behavior in relationship to pedoclimatic conditions and crop sequence.	Journal of environmental quality, (2014), Vol. 43, No. 2, pp. 558
KCA 7.1.2.1.1, KCA 7.1.3.1.1	Zhelezova A. et al.	2017	Effect of Biochar Amendment and Ageing on Adsorption and Degradation of Two Herbicides.	Water, air, and soil pollution (2017) Vol. 228, No. 6, pp. 216
KCA 7.1.2.1.1, KCA 7.1.3.1.1, KCA 7.1.4.2	Bergstrom L. et al.	2011	Laboratory and Lysimeter Studies of Glyphosate and Aminomethylphosphonic Acid in a Sand and a Clay Soil	Journal of environmental quality (2011), Vol. 40, No. 1, pp. 98
KCA 7.1.2.1.1, KCA 7.1.4.1.1	Al-Rajab A. J. et al.	2014	Behavior of the non-selective herbicide glyphosate in agricultural soil.	American Journal of Environmental Sciences (2014), Vol. 10, No. 2, pp. 94
KCA 7.1.2.1.2	Kuhn R. et al.	2017	Identification of the Complete Photodegradation Pathway of Ethylenediaminetetra(methylenephosphonic acid) in Aqueous Solution	Clean: Soil, Air, Water (2017), Vol. 45, No. 5, pp. 1
KCA 7.1.2.1.2, KCA 7.1.3.1.2, KCA 7.2.1.3	Grandcoin A. et al.	2017	AminoMethylPhosphonic acid (AMPA) in natural waters: Its sources, behavior and environmental fate.	Water research (2017), Vol. 117, pp. 187
KCA 7.1.2.2.1	Passeport E. et al.	2014	Dynamics and mitigation of six pesticides in a "Wet" forest buffer zone.	Environmental science and pollution research international (2014), Vol. 21, No. 7, pp. 4883
KCA 7.1.2.2.1	Todorovic G. et al.	2014	Influence of soil tillage and erosion on the dispersion of glyphosate and aminomethylphosphonic acid in agricultural soils	International agrophysics (2014), Vol. 28, No. 1, pp. 93
KCA 7.1.2.2.1	Rampazzo N. et al.	2013	Adsorption of glyphosate and aminomethylphosphonic acid in soils.	International Agrophysics (2013), Vol. 27, No. 2, pp. 203
KCA 7.1.3	Ololade I. A. et al.	2014	Sorption of Glyphosate on Soil Components: The Roles of Metal Oxides and Organic Materials	Soil & sediment contamination (2014), Vol. 23, No. 5, pp. 571
KCA 7.1.3.1.1	Albers C. et al.	2019	Soil Domain and Liquid Manure Affect Pesticide Sorption in Macroporous Clay Till.	Journal of environmental quality, (2019) Vol. 48, No. 1, pp. 147
KCA 7.1.3.1.1	Dollinger J. et al.	2018	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	Geoderma (2018), Vol. 309, pp. 50

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.1.3.1.1	Dollinger J. et al.	2015	Glyphosate sorption to soils and sediments predicted by pedotransfer functions	Environmental chemistry letters (2015), Vol. 13, No. 3, pp. 293
KCA 7.1.3.1.1	Gomez Ortiz A. M. et al.	2017	Sorption and desorption of glyphosate in Mollisols and Ultisols soils of Argentina.	Environmental toxicology and chemistry (2017), Vol. 36, No. 10, pp. 2587
KCA 7.1.3.1.1	Jodeh S. et al.	2014	Fate and mobility of glyphosate leachate in palestinian soil using soil column	Journal of Materials and Environmental Science (2014) Vol. 5, No. 6, pp. 2008
KCA 7.1.3.1.1	Munira S. et al.	2016	Phosphate fertilizer impacts on glyphosate sorption by soil.	Chemosphere (2016), Vol. 153, pp. 471
KCA 7.1.3.1.1	Munira S. et al.	2017	Sorption and desorption of glyphosate, MCPA and tetracycline and their mixtures in soil as influenced by phosphate.	Journal of environmental science and health. Part. B, Pesticides, food contaminants, and agricultural wastes (2017), Vol. 52, No. 12, pp. 887
KCA 7.1.3.1.1	Munira S. et al.	2017	Phosphate and glyphosate sorption in soils following long-term phosphate applications	Geoderma (2017), Vol. 313, pp 146
KCA 7.1.3.1.1	Ahmed A. A. et al.	2018	Unravelling the nature of glyphosate binding to goethite surfaces by ab initio molecular dynamics simulations.	Physical chemistry chemical physics (2018), Vol. 20, No. 3, pp. 1531
KCA 7.1.3.1.1	Arroyave J. M. et al.	2016	Effect of humic acid on the adsorption/desorption behavior of glyphosate on goethite. Isotherms and kinetics.	Chemosphere (2016), Vol. 145, pp. 34
KCA 7.1.3.1.1	De Geronimo E. et al.	2018	Glyphosate sorption to soils of Argentina. Estimation of affinity coefficient by pedotransfer function	Geoderma (2018), Vol. 322, pp. 140
KCA 7.1.3.1.1	Dollinger J. et al.	2016	Variability of glyphosate and diuron sorption capacities of ditch beds determined using new indicator-based methods.	The Science of the total environment (2016), Vol. 573, pp. 716
KCA 7.1.3.1.1	Dollinger J. et al.	2017	Using fluorescent dyes as proxies to study herbicide removal by sorption in buffer zones.	Environmental science and pollution research international (2017), Vol. 24, No. 12, pp. 11752
KCA 7.1.3.1.1	Geng C. et al.	2015	Modeling the release of organic contaminants during compost decomposition in soil.	Chemosphere (2015), Vol. 119, pp. 423
KCA 7.1.3.1.1	Ghafoor A. et al.	2013	Modelling pesticide sorption in the surface and subsurface soils of an agricultural catchment.	Pest management science (2013), Vol. 69, No. 8, pp. 919
KCA 7.1.3.1.1	Gros P. et al.	2017	Glyphosate binding in soil as revealed by sorption experiments and quantum-chemical modeling.	The Science of the total environment (2017), Vol. 586, pp. 527
KCA 7.1.3.1.1	Ozbay B. et al.	2018	Sorption and desorption behaviours of 2,4-D and glyphosate in calcareous soil from Antalya, Turkey	Water and environment journal (2018), Vol. 32, No. 1, pp. 141
KCA 7.1.3.1.1	Padilla J. T. et al.	2019	Interactions among Glyphosate and Phosphate in Soils: Laboratory Retention and Transport Studies.	Journal of environmental quality (2019), Vol. 48, No. 1, pp. 156

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.1.3.1.1	Pandey P. et al.	2019	Assessing Glyphosate and Fluridone Concentrations in Water Column and Sediment Leachate.	Frontiers in Environmental Science (2019), Vol. 7, pp. Article No.: 22
KCA 7.1.3.1.1	Paradelo M. et al.	2015	Prediction of the glyphosate sorption coefficient across two loamy agricultural fields	Geoderma (2015), Vol. 259-260, pp. 224
KCA 7.1.3.1.1	Singh B. et al.	2014	Soil characteristics and herbicide sorption coefficients in 140 soil profiles of two irregular undulating to hummocky terrains of western Canada	Geoderma (2014), Vol. 232-234, pp. 107
KCA 7.1.3.1.1	Waiman C. V. et al.	2016	The simultaneous presence of glyphosate and phosphate at the goethite surface as seen by XPS, ATR-FTIR and competitive adsorption isotherms	Colloids and Surfaces A: Physicochemical and Engineering Aspects (2016), Vol. 498, pp. 121
KCA 7.1.3.1.1	Wang M. et al.	2019	Montmorillonites Can Tightly Bind Glyphosate and Paraquat Reducing Toxin Exposures and Toxicity	ACS omega (2019), Vol. 4, No. 18, pp. 17702
KCA 7.1.3.1.1	Yan W. et al.	2018	Molecular Insights into Glyphosate Adsorption to Goethite Gained from ATR-FTIR, Two-Dimensional Correlation Spectroscopy, and DFT Study.	Environmental science & technology (2018), Vol. 52, No. 4, pp. 1946
KCA 7.1.3.1.1	Zhao Y. et al.	2015	Use of Fe/Al drinking water treatment residuals as amendments for enhancing the retention capacity of glyphosate in agricultural soils.	Journal of environmental sciences (2015), Vol. 34, pp. 133
KCA 7.1.3.1.1, KCA 7.1.4.1.1	Okada E. et al.	2016	Adsorption and mobility of glyphosate in different soils under no-till and conventional tillage.	Geoderma (2016), Vol. 263, pp. 78
KCA 7.1.3.1.1, KCA 7.2.1.3	Maqueda C. et al.	2017	Behaviour of glyphosate in a reservoir and the surrounding agricultural soils.	The Science of the total environment (2017), Vol. 593-594, pp. 787
KCA 7.1.3.1.1, KCA 7.2.1.3	Yang Y. et al.	2018	Comparative study of glyphosate removal on goethite and magnetite: Adsorption and photo-degradation.	Chemical Engineering Journal (2018), Vol. 352, pp. 581
KCA 7.1.3.1.1, KCA 7.1.3.1.2	Sidoli P. et al.	2016	Glyphosate and AMPA adsorption in soils: laboratory experiments and pedotransfer rules.	Environmental science and pollution research international (2016), Vol. 23, No. 6, pp. 5733
KCA 7.1.3.1.1, KCA 7.1.3.1.2	Skeff W. et al.	2018	Adsorption behaviors of glyphosate, glufosinate, aminomethylphosphonic acid, and 2-aminoethylphosphonic acid on three typical Baltic Sea sediments.	Marine Chemistry (2018) ,Vol. 198, pp. 1
KCA 7.1.3.1.1, KCA 7.1.3.1.2	Tevez H. R.	2015	pH dependence of Glyphosate adsorption on soil horizons.	Boletinf de la sociedad geologica Mexicana (2015), Vol. 67, No. 3, pp. 509
KCA 7.1.4	Aslam S. et al.	2018	Mulch of plant residues at the soil surface impact the leaching and persistence of pesticides: A modelling study from soil columns.	Journal of contaminant hydrology (2018), Vol. 214, pp. 54
KCA 7.1.4	Carretta L. et al.	2019	A new rapid procedure for simultaneous determination of glyphosate and AMPA in water at sub µg/L level.	Journal of chromatography. A (2019), Vol. 1600, pp. 65

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.1.4	Exterkoetter R. et al.	2019	Potential of terracing to reduce glyphosate and AMPA surface runoff on Latosol	Journal of soils and sediments (2019), Vol. 19, No. 5, pp. 2240
KCA 7.1.4	Richards B. K. et al.	2018	Antecedent and Post-Application Rain Events Trigger Glyphosate Transport from Runoff-Prone Soils	Environmental science & technology letters (2018), Vol. 5, No. 5, pp. 249
KCA 7.1.4	Zhang K. et al.	2019	Can we use a simple modelling tool to validate stormwater biofilters for herbicides treatment?	Urban Water Journal (2019), Vol. 16, pp. 412
KCA 7.1.4.1	Suleman M. et al.	2019	Laboratory simulation studies of leaching of the priority pesticides and their transformation products in soils	Journal of Animal and Plant Sciences (2019), Vol. 29, No. 4, pp. 1112
KCA 7.1.4.1.1	Gjettermann B. et al.	2011	Kinetics of Glyphosate Desorption from Mobilized Soil Particles.	Soil Science Society of America journal (2011), Vol. 75, No. 2, pp. 434
KCA 7.1.4.1.1	Gjettermann B. et al.	2011	Evaluation of Sampling Strategies for Pesticides in a Macroporous Sandy Loam Soil.	Soil & sediment contamination (2011), Vol. 20, No. 5
KCA 7.1.4.1.1	Hagner M. et al.	2013	The effects of biochar, wood vinegar and plants on glyphosate leaching and degradation	European journal of soil biology (2013), Vol. 58, pp. 1
KCA 7.1.4.1.1, KCA 7.1.4.1.2, KCA 7.2.1.1	Zhang W. et al.	2019	A method for determining glyphosate and its metabolite aminomethyl phosphonic acid by gas chromatography-flame photometric detection.	Journal of chromatography. A (2019), Vol. 1589, pp. 116
KCA 7.1.4.2	Napoli M. et al.	2015	Leaching of Glyphosate and Aminomethylphosphonic Acid through Silty Clay Soil Columns under Outdoor Conditions.	Journal of environmental quality, (2015), Vol. 44, No. 5, pp. 1667
KCA 7.1.4.3	Aronsson H. et al.	2011	Leaching of N, P and glyphosate from two soils after herbicide treatment and incorporation of a ryegrass catch crop.	Soil use and management (2011), Vol. 27, No. 1, pp. 54
KCA 7.1.4.3	Candela L. et al.	2010	Glyphosate transport through weathered granite soils under irrigated and non-irrigated conditions--Barcelona, Spain.	The Science of the total environment, (2010), Vol. 408, No. 12, pp. 2509
KCA 7.1.4.3	Kjaer J. et al.	2011	Transport modes and pathways of the strongly sorbing pesticides glyphosate and pendimethalin through structured drained soils.	Chemosphere (2011), Vol. 84, No. 4, pp. 471
KCA 7.1.4.3	Ulen B. M. et al.	2014	Spatial variation in herbicide leaching from a marine clay soil via subsurface drains.	Pest management science (2014), Vol. 70, No. 3, pp. 405
KCA 7.1.4.3	Ulen B. M. et al.	2012	Particulate-facilitated leaching of glyphosate and phosphorus from a marine clay soil via tile drains.	Acta agriculturae Scandinavica (2012), Vol. 62, pp. 241
KCA 7.1.4.3, KCA 7.5	Kjaer J. et al.	2011	Reply to Comments on "Transport modes and pathways of the strongly sorbing pesticides glyphosate and pendimethalin through structured drained soils".	Chemosphere (2011), Vol. 85, No. 9, pp. 1539

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.1.4.3, KCA 7.5	Petersen C. T. et al.	2011	Comments on "Transport modes and pathways of the strongly sorbing pesticides glyphosate and pendimethalin through structured drained soils".	Chemosphere (2011), Vol. 85, No. 9, pp. 1538
KCA 7.2.1	Ascolani Y. J. et al.	2014	Abiotic degradation of glyphosate into aminomethylphosphonic acid in the presence of metals.	Journal of agricultural and food chemistry (2014), Vol. 62, No. 40, pp. 9651
KCA 7.2.1	Paudel P. et al.	2015	Birnessite-Catalyzed Degradation of Glyphosate: A Mechanistic Study Aided by Kinetics Batch Studies and NMR Spectroscopy.	Soil Science Society of America Journal (2015), Vol. 79, No. 3, pp. 815
KCA 7.2.1.1	Qin J. et al.	2017	Potential effects of rainwater-borne H2O2 on competitive degradation of herbicides and in the presence of humic acid.	Chemosphere (2017), Vol. 170, pp. 146
KCA 7.2.1.3	Jiang Y. et al.	2016	The role of Fe(III) on phosphate released during the photo-decomposition of organic phosphorus in deionized and natural waters.	Chemosphere (2016), Vol. 164, pp. 208
KCA 7.2.2.3	Wang S. et al.	2016	(Bio)degradation of glyphosate in water-sediment microcosms - A stable isotope co-labeling approach.	Water research (2016), Vol. 99, pp. 91
KCA 7.2.2.3	Brock A. L. et al.	2019	Microbial Turnover of Glyphosate to Biomass: Utilization as Nutrient Source and Formation of AMPA and Biogenic NER in an OECD 308 Test.	Environmental science & technology (2019), Vol. 53, No. 10, pp. 5838
KCA 7.3.1	Bento C. P. M. et al.	2017	Glyphosate and AMPA distribution in wind-eroded sediment derived from loess soil.	Environmental pollution (2017), Vol. 220, No. Pt B, pp. 1079-1089
KCA 7.5	Assalin M. R. et al.	2010	Studies on degradation of glyphosate by several oxidative chemical processes: ozonation, photolysis and heterogeneous photocatalysis.	Journal of environmental science and health. Part. B, Pesticides, food contaminants, and agricultural wastes, (2010), Vol. 45, No. 1, pp. 89
KCA 7.5	Birch H et. al.	2011	Micropollutants in stormwater runoff and combined sewer overflow in the Copenhagen area, Denmark.	Water science and technology : a journal of the International Association on Water Pollution Research (2011), Vol. 64, No. 2, pp. 485
KCA 7.5	Botta F. et al.	2012	Phyt'Eaux Cites: application and validation of a programme to reduce surface water contamination with urban pesticides.	Chemosphere (2012), Vol. 86, No. 2, pp. 166
KCA 7.5	Boucherie C. et al.	2010	"Ozone" and "GAC filtration" synergy for removal of emerging micropollutants in a drinking water treatment plant?	Water Science and Technology: Water Supply (2010), Vol. 10, No. 5, pp. 860
KCA 7.5	Bruchet A. et al.	2011	Natural attenuation of priority and emerging contaminants during river bank filtration and artificial recharge	European Journal of Water Quality (2011), Vol. 42, No. 2, pp. 123
KCA 7.5	Busetto M. et al.	2010	Surveys of herbicide glyphosate and degradation product aminomethyl phosphonic acid in waterways of Monza-Brionza province	Bollettino - Unione Italiana degli Esperti Ambientali (2010), Vol. 61, No. 4, pp. 46

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.5	Coupe R. et al.	2012	Fate and transport of glyphosate and aminomethylphosphonic acid in surface waters of agricultural basins.	Pest management science (2012), Vol. 68, No. 1, pp. 16
KCA 7.5	Dairon R. et al.	2017	Long-term impact of reduced tillage on water and pesticide flow in a drained context	Environmental Science and Pollution Research (2017), Vol. 24, pp. 6866
KCA 7.5	Daouk S. et al.	2013	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.	Journal of environmental science and health. Part. B, Pesticides, food contaminants, and agricultural wastes (2013), Vol. 48, No. 9, pp. 725
KCA 7.5	Daouk S. et al.	2013	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.	Journal of environmental science and health. Part. B, Pesticides, food contaminants, and agricultural wastes (2013), Vol. 48, No. 9, pp. 717
KCA 7.5	Desmet N. et al.	2016	A hybrid monitoring and modelling approach to assess the contribution of sources of glyphosate and AMPA in large river catchments.	The Science of the total environment (2016), Vol. 573, pp. 1580
KCA 7.5	Di Guardo A. et al.	2018	A new methodology to identify surface water bodies at risk by using pesticide monitoring data: The glyphosate case study in Lombardy Region (Italy)	Science of the total environment (2018), Vol. 1; No. 610-611, pp. 421
KCA 7.5	Di Guardo A. et al.	2016	A moni-modeling approach to manage groundwater risk to pesticide leaching at regional scale	Science of the Total Environment, (2016) Vol. 545-546, pp. 200-209. CODEN: STENDL. ISSN: 0048-9697.
KCA 7.5	Gasperi J. et al.	2014	Micropollutants in urban stormwater: occurrence, concentrations, and atmospheric contributions for a wide range of contaminants in three French catchments	Environmental Science and Pollution Research (2014), Vol. 21, No. 8, pp. 5267
KCA 7.5	Gregoire C. et al.	2010	Use and fate of 17 pesticides applied on a vineyard catchment.	International Journal of Environmental Analytical Chemistry (2010), Vol. 90, No. 3/6, pp. 406
KCA 7.5	Hamann E. et al.	2016	The fate of organic micropollutants during long-term/long-distance river bank filtration	Science of the Total Environment, (2016) Vol. 545-546, pp. 629
KCA 7.5	Hanke I. et al.	2010	Relevance of urban glyphosate use for surface water quality.	Chemosphere (2010), Vol. 81, No. 3, pp. 422
KCA 7.5	Hedegaard M. J. et al.	2014	Microbial pesticide removal in rapid sand filters for drinking water treatment--potential and kinetics.	Water research (2014), Vol. 48, pp. 71
KCA 7.5	Houtman C. J. et al.	2013	A multicomponent snapshot of pharmaceuticals and pesticides in the river Meuse basin	Environmental Toxicology and Chemistry (2013), Vol. 32, No. 11, pp. 2449

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.5	Huntscha S. et al.	2018	Seasonal Dynamics of Glyphosate and AMPA in Lake Greifensee: Rapid Microbial Degradation in the Epilimnion During Summer.	Environmental science & technology, (2018), Vol. 52, No. 8, pp. 4641
KCA 7.5	Imfeld G.	2013	Transport and attenuation of dissolved glyphosate and AMPA in a stormwater wetland.	Chemosphere (2013), Vol. 90, No. 4, pp. 1333
KCA 7.5	Joensson J. et al.	2013	Removal and degradation of glyphosate in water treatment: a review.	Journal of Water Supply Research and Technology (2013), Vol. 62, No. 7, pp. 395
KCA 7.5	Karanasios E. et al.	2018	Monitoring of glyphosate and AMPA in soil samples from two olive cultivation areas in Greece: aspects related to spray operators activities	Environmental Monitoring and Assessment (2018), Vol. 190, No. 6, pp. 1
KCA 7.5	Kegel Schoonenberg F. et al.	2010	Reverse osmosis followed by activated carbon filtration for efficient removal of organic micropollutants from river bank filtrate.	Water science and technology (2010) Vol. 61, No. 10, pp. 2603
KCA 7.5	Lamprea K. et al.	2011	Pollutant concentrations and fluxes in both stormwater and wastewater at the outlet of two urban watersheds in Nantes (France)	Urban Water Journal (2011), Vol. 8, no. 4, pp. 219
KCA 7.5	Larsbo M. et al.	2016	Surface Runoff of Pesticides from a Clay Loam Field in Sweden.	Journal of environmental quality, (2016), Vol. 45, No. 4, pp. 1367
KCA 7.5	Lefrancq M. et al.	2017	High frequency monitoring of pesticides in runoff water to improve understanding of their transport and environmental impacts.	The Science of the total environment, (2017), Vol. 587-588, pp. 75
KCA 7.5	Lerch R. N. et al.	2017	Vegetative buffer strips for reducing herbicide transport in runoff: effects of buffer width, vegetation, and season.	Journal of the American Water Resources Association (2017), Vol. 53, No. 3, pp. 667
KCA 7.5	Litz N. T. et al.	2011	Comparative studies on the retardation and reduction of glyphosate during subsurface passage.	Water research, (2011), Vol. 45, No. 10, pp. 3047
KCA 7.5	Maillard E. et al.	2014	Pesticide mass budget in a stormwater wetland.	Environmental science & technology (2014), Vol. 48, No. 15, pp. 8603
KCA 7.5	Maillard E. et al.	2011	Removal of pesticide mixtures in a stormwater wetland collecting runoff from a vineyard catchment.	The Science of the total environment, (2011), Vol. 409, No. 11, pp. 2317
KCA 7.5	Malaguerra F. et al.	2012	Pesticides in water supply wells in Zealand, Denmark: A statistical analysis.	Science of the Total Environment, (2012), Vol. 414, pp. 433
KCA 7.5	Malaguerra F. et al.	2013	Assessment of the contamination of drinking water supply wells by pesticides from surface water resources using a finite element reactive transport model and global sensitivity analysis techniques	Journal of hydrology (2013), Vol. 476, pp. 321
KCA 7.5	Manassero A. et al.	2010	Glyphosate degradation in water employing the H2O2/UVC process.	Water research (2010), Vol. 44, No. 13, pp. 3875

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.5	Martin J. et al.	2013	Sugarcane, herbicides and water pollution in Reunion Island: achievements and perspectives after ten years of monitoring.	Journees Internationales sur la Lutte contre les Mauvaises Herbes, (2013), pp. 641
KCA 7.5	Masiol M. et al.	2018	Herbicides in river water across the northeastern Italy: occurrence and spatial patterns of glyphosate, aminomethylphosphonic acid, and glufosinate ammonium.	Environmental science and pollution research international (2018), Vol. 25, No. 24, pp. 24368
KCA 7.5	McManus S. et al.	2014	Pesticide occurrence in groundwater and the physical characteristics in association with these detections in Ireland	Environmental Monitoring and Assessment (2014), Vol. 186, No. 11, pp. 7819
KCA 7.5	Meyer B. et al.	2011	Concentrations of dissolved herbicides and pharmaceuticals in a small river in Luxembourg	Environmental Monitoring and Assessment (2011), Vol. 180, No. 1-4, pp. 127
KCA 7.5	Moertl M. et al.	2013	Determination of glyphosate residues in Hungarian water samples by immunoassay	Microchemical Journal (2013), Vol. 107, pp. 143
KCA 7.5	Mottes C. et al.	2017	Relationships between past and present pesticide applications and pollution at a watershed outlet: The case of a horticultural catchment in Martinique, French West Indies.	Chemosphere (2017), Vol. 184, pp. 762
KCA 7.5	Napoli M. et al.	2016	Transport of Glyphosate and Aminomethylphosphonic Acid under Two Soil Management Practices in an Italian Vineyard.	Journal of environmental quality, (2016), Vol. 45, No. 5, pp. 1713
KCA 7.5	Norgaard T. et al.	2014	Leaching of Glyphosate and Aminomethylphosphonic Acid from an Agricultural Field over a Twelve-Year Period	Vadose Zone Journal (2014), Vol. 13, No. 10, pp. 18
KCA 7.5	Petersen J. et al.	2012	Sampling of herbicides in streams during flood events.	Journal of environmental monitoring (2012), Vol. 14, No. 12, pp. 3284
KCA 7.5	Poiger T. et al.	2017	Occurrence of the herbicide glyphosate and its metabolite AMPA in surface waters in Switzerland determined with on-line solid phase extraction LC-MS/MS.	Environmental science and pollution research international (2017), Vol. 24, No. 2, pp. 1588
KCA 7.5	Ramwell C. T. et al.	2014	Contribution of household herbicide usage to glyphosate and its degradate aminomethylphosphonic acid in surface water drains.	Pest management science (2014) Vol. 70, No. 12, pp. 1823
KCA 7.5	Ravier S. et al.	2019	Monitoring of Glyphosate, Glufosinate-ammonium, and (Aminomethyl) phosphonic acid in ambient air of Provence-Alpes-Cote-d'Azur Region, France.	Atmospheric Environment (2019), Vol. 204, pp. 102
KCA 7.5	Reoyo-Prats B. et al.	2017	Multicontamination phenomena occur more often than expected in Mediterranean coastal watercourses: Study case of the Tet River (France)	Science of the Total Environment (2017), Vol. 579, pp. 10
KCA 7.5	Rosenbom A. et al.	2015	Pesticide leaching through sandy and loamy fields - Long-term lessons learnt from the Danish Pesticide Leaching Assessment Programme	Environmental Pollution (2015), Vol. 201, pp. 75

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.5	Ruel S. M. et al.	2011	On-site evaluation of the removal of 100 micro-pollutants through advanced wastewater treatment processes for reuse applications.	Water Science and Technology (2011), Vol. 63, No. 11, pp. 2486
KCA 7.5	Ruel S. M. et al.	2012	Occurrence and fate of relevant substances in wastewater treatment plants regarding Water Framework Directive and future legislations	Water Science and Technology (2012), Vol. 65, No. 7, pp. 1179
KCA 7.5	Sabatier P. et al.	2014	Long-term relationships among pesticide applications, mobility, and soil erosion in a vineyard watershed.	Proceedings of the National Academy of Sciences of the United States of America (2014), Vol. 111, No. 44, pp. 15647
KCA 7.5	Sanchis J. et al.	2012	Determination of glyphosate in groundwater samples using an ultrasensitive immunoassay and confirmation by on-line solid-phase extraction followed by liquid chromatography coupled to tandem mass spectrometry.	Analytical and bioanalytical chemistry (2012), Vol. 402, No. 7, pp. 2335
KCA 7.5	Sanchis J. et al.	2012	Determination of glyphosate in groundwater samples using an ultrasensitive immunoassay and confirmation by on-line solid-phase extraction followed by liquid chromatography coupled to tandem mass spectrometry [Erratum to document cited in CA156:223888]	Analytical and Bioanalytical Chemistry (2012), Vol. 404, No. 2, pp. 617
KCA 7.5	Schreiner V. C. et al.	2016	Pesticide mixtures in streams of several European countries and the USA	Science of the Total Environment (2016), Vol. 573, pp. 680
KCA 7.5	Shen Y. et al.	2011	Ozonation of herbicide glyphosate	Huanjing Kexue Xuebao (2011), Vol. 31, pp. 1647
KCA 7.5	Silva V. et al.	2018	Distribution of glyphosate and aminomethylphosphonic acid (AMPA) in agricultural topsoils of the European Union	Science of the total environment (2018), Vol. 15, pp. 1352
KCA 7.5	Stenrod M.	2015	Long-term trends of pesticides in Norwegian agricultural streams and potential future challenges in northern climate	Acta Agriculturae Scandinavica, Section B - Soil & Plant Science (2015), Vol. 65, pp. 199
KCA 7.5	Szekacs A.	2015	Monitoring Pesticide Residues in Surface and Ground Water in Hungary: Surveys in 1990-2015	Journal of chemistry (2015), Article ID 717948
KCA 7.5	Szekacs A.	2014	Monitoring and biological evaluation of surface water and soil micropollutants in Hungary	Carpathian Journal of Earth and Environmental Sciences (2014), Vol. 9, No. 3, pp. 47
KCA 7.5	Tang T. et al.	2015	Quantification and characterization of glyphosate use and loss in a residential area.	The Science of the total environment (2015), Vol. 517, pp. 207
KCA 7.5	Vialle C. et al.	2013	Pesticides in roof runoff: study of a rural site and a suburban site.	Journal of environmental management (2013), Vol. 120, pp. 48
KCA 7.5	Zgheib S. et al.	2012	Priority pollutants in urban stormwater: Part 1 - Case of separate storm sewers	Water Research (2012), Vol. 46, No. 20, pp. 6683

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.5	Armbruster D. et al.	2019	Characterization of phosphonate-based antiscalants used in drinking water treatment plants by anion-exchange chromatography coupled to electrospray ionization time-of-flight mass spectrometry and inductively coupled plasma mass spectrometry.	Journal of chromatography A (2019), Vol. 1601, pp. 189
KCA 7.5	Aslam S. et al.	2015	Effect of rainfall regimes and mulch decomposition on the dissipation and leaching of S-metolachlor and glyphosate: a soil column experiment.	Pest management science (2015), Vol. 71, No. 2, pp. 278
KCA 7.5	Boye K. et al.	2019	Long-term data from the swedish national environmental monitoring program of pesticides in surface waters	Journal of Environmental Quality (2019), Vol. 48, pp. 1109
KCA 7.5	Braun C. et al.	2013	The load from rail wastewater. Emissions of micropollutants from rail traffic into the watershed	Aqua & Gas (2013), Vol. 93, No. 7/8, pp. 40
KCA 7.5	Carles L. et al.	2019	Meta-analysis of glyphosate contamination in surface waters and dissipation by biofilms.	Environment international (2019), Vol. 124, pp. 284
KCA 7.5	di Guardo A. et al.	2016	A case study on monitoring glyphosate in water. Monitoraggio delle acque: il caso studio glifosate.	Informatore Agrario (2016), Vol. 72, No. 23, pp. 55
KCA 7.5	Karasali H. et al.	2019	Investigation of the presence of glyphosate and its major metabolite AMPA in Greek soils.	Environmental science and pollution research international (2019), Vol. 26, No. 36, pp. 36308
KCA 7.5	Kepler R. M. et al.	2019	Soil microbial communities in diverse agroecosystems exposed to the herbicide glyphosate.	Applied and environmental microbiology (2020), Vol. 18, No. 86
KCA 7.5	Klatyik S. et al.	2017	Dissipation of the herbicide active ingredient glyphosate in natural water samples in the presence of biofilms	International journal of environmental analytical chemistry (2017), Vol. 97, No. 10, pp. 901
KCA 7.5	Kylin H.	2013	Time-integrated sampling of glyphosate in natural waters.	Chemosphere (2013), Vol. 90, No. 6, pp. 1821
KCA 7.5	Maillard E. et al.	2012	Removal of dissolved pesticide mixtures by a stormwater wetland receiving runoff from a vineyard catchment: an inter-annual comparison	International journal of environmental analytical chemistry (2012), Vol. 92, No. 8, pp. 979
KCA 7.5	Mailler R. et al.	2014	Biofiltration vs conventional activated sludge plants: what about priority and emerging pollutants removal?	Environmental Science and Pollution Research (2014), Vol. 21, No. 8, pp. 5379
KCA 7.5	Mandiki S. N. M. et al.	2014	Effect of land use on pollution status and risk of fish endocrine disruption in small farmland ponds	Hydrobiologia (2014), Vol. 723, No. 1, pp. 103
KCA 7.5	Munz N. et al.	2012	Pesticide measurements in watercourses	Aqua & Gas (2012), Vol. 92, No. 11, pp. 32
KCA 7.5	Mutzner L. et al.	2016	Model-based screening for critical wet-weather discharges related to micropollutants from urban areas.	Water research (2016), Vol. 104, pp. 547

Data requirement (indicated by the corresponding CA / CP data point number)	Author(s)	Year	Title	Source
KCA 7.5	Quaglia G. et al.	2019	A spatial approach to identify priority areas for pesticide pollution mitigation	JOURNAL OF ENVIRONMENTAL MANAGEMENT (2019), Vol. 246, pp. 5833
KCA 7.5	Reding M.-A.	2012	Letter to the editor regarding "Determination of glyphosate in groundwater samples using an ultrasensitive immunoassay and confirmation by on-line solid phase extraction followed by liquid chromatography coupled to tandem mass spectrometry".	Analytical and bioanalytical chemistry (2012), Vol. 404, No. 2, pp. 613
KCA 7.5	Silva V. et al.	2019	Pesticide residues in European agricultural soils - A hidden reality unfolded	Science of the total environment (2019), Vol. 653, pp. 1532
KCA 7.5	Skeff W. et al.	2015	Glyphosate and AMPA in the estuaries of the Baltic Sea method optimization and field study.	Marine pollution bulletin (2015), Vol. 100, No. 1, pp. 577
KCA 7.5	Slomberg D. L. et al.	2017	Insights into natural organic matter and pesticide characterisation and distribution in the Rhone River.	Environmental Chemistry (2017), Vol. 14, No. 1, pp. 64
KCA 7.5	Staufer P. et al.	2012	Diffuse inflow from settlements	Aqua & Gas (2012), Vol. 92, No. 11, pp. 42
KCA 7.5	Swartjes F. A. et al.	2020	Measures to reduce pesticides leaching into groundwater-based drinking water resources: An appeal to national and local governments, water boards and farmers	The Science of the total environment (2020), Vol. 699, pp. 134186
KCA 7.5	Tang T. et al.	2017	Hysteresis and parent-metabolite analyses unravel characteristic pesticide transport mechanisms in a mixed land use catchment.	Water Research (2017), Vol. 124, pp. 663
KCA 7.5	Tauchnitz N. et al.	2017	Quantification of pesticide input into surface waters in a small catchment area (Querne/Weida). Quantifizierung von Pflanzenschutzmittel(PSM)-Eintraegen in Oberflaechengewaesser in einem Kleineinzugsgebiet (Querne/Weida).	Lysimeter Forschung-Moeglichkeiten und Grenzen Lysimeter research - options and limits, 9-10 May 2017, Raumberg-Gumpenstein, Austria (2017), pp. 11
KCA 7.5	Todorovic G. R. et al.	2010	Dispersion of glyphosate in soils through erosion. Environmental Quality 4	Air, water, and soil pollution (2010), Vol. 4, pp. 15
KCP 9.2.4	Rasmussen S. B. et al.	2015	Effects of single rainfall events on leaching of glyphosate and bentazone on two different soil types, using the DAISY model	Vadose Zone Journal (2015), Vol. 14, No. 11, pp. 15