Renewal Assessment Report

Dimethenamid-P

Volume 3 – B.8 - Appendix

Evaluation of open literature regarding environmental fate and behaviour

Rev. 0 - 10 August 2016

Rapporteur Member State: Germany

Co-Rapporteur Member State: Bulgaria

Version history

When	What
10 August 2016	First version submitted to EFSA

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B.8 Evaluation of open literature regarding the environmental fate and behaviour

B.8.1 Search strategy of open literature search

Literature search report – dimethenamid-P

Author:	Zander-El-Metwally responsible for Section 2-6 Esswein, U. responsible for Sections 1, 7-11
Title:	Literature Search report for dimethenamid-P
Date:	Date of main search: 2013-02-01 (Sec 1, 7-11) Date of main search: 2013-02-07, 2013-02-08 (Sec 2-6) Date of update search: 2013-12-19 (Sec. 1, 2-6) Date of update search: 2014-01-14 (Sec. 2-6)
Doc ID:	BASF DocID 2014/1103028

Material and Methods

A search for open literature which included papers in peer-reviewed journals and reports from government and other agencies in the EU and several other countries was performed by the applicant. The literature search regarding the fate of dimethenamid-P and its metabolites in air, soil and water was done via the databases BIOSIS, CAPLUS, and CAB Abstracts using the key-word "dimethenamid" or "dimethenamid-P" and the CAS Numbers 87674-68-8 and 163515-14-8, respectively, together with key words representative for the environment like e.g. "environment", "degradation", "air", "water" or "soil".

Main search was performed at the 1st of February 2013 and a last update search was done on 19th of December 2013. The search process was documented according to EFSA guidance 2011; 9(2):2092.

Details on the databases used for the literature search are presented in Table B.8.1-1.

Table B.8.1-1 Details on the databases used for open literature search of dimethenamid-P and its metabolites in air, soil and water

Database	BIOSIS	CAB Abstracts	CAPLUS Chemical Abstracts Plus
Provider	STN International	STN International	STN International
Justification for choosing the source: **for STN dadabases referring to STN database summary sheets**	BIOSIS-Previews® is the largest and most comprehensive life science database in the world. Amongst others subject coverage includes Agriculture, Biochemistry, Biophysies, Botany, Environmental Biology, Physiology, Toxicology. Sources include periodicals, journals, conference proceedings, reviews, reports, patents, and short communications. Nearly 6,000 life source journals, 1,500 international meetings as well as review articles, books, and monographs are reviewed for inclusion. Bibliographic information, indexing terms, abstracts, and CAS Registry Numbers are all searchable.	The CAB-Abstracts database covers worldwide literature from all areas of agriculture anel related sciences inluding Agriculture, Agricultural chemicals, Anirnal sciences and production, Crop protection, Crop sciences and production, Environment, Soils and fertilisers. Sources for CABA include journals, books, reports, published theses, conference proceedings, and patents. Bibliographie information, indexing terms, abstracts, and CAS Registry Numbers are searchable.	The Chemical Abstracts (CA) database covers all areas of Biochemistry, Chemistry and Chemical engineering, and related sciences. Sources include over 8,000 journals, patents from 38 national patent offices and two international patent organisations, technical reports, books, conference proceedings, and dissertations. Eleetronic only journals and Web preprints are also covered. Bibliographie terms, indexing temls, roles, CAS Registry Numbers, International Patent Classification, and abstracts are searchable.
Data span of the source	1926 - present	1973 – to present	1907 – to present
Data of main search	2013-02-07, 2013-02-08	2013-02-07, 2013-02-08	2013-02-07, 2013-02-08
Data span of the search	2004 - 2013	2004 - 2013	2004 - 2013
Data of the latest database update inclded in the search	20130206/UP	20130206/UP	20130206/UP

The process of selection of relevant scientific open literature was done in two steps:

In the first selection step for relevance based on summary records (e.g. titles, abstracts, index terms, keywords) obviously irrelevant records were tagged as ‘ballast’. This ‘ballast’ was not further processed. Summary records which appear to be relevant and those of unclear relevance were tagged as ‘hit’ and evaluated further.

In the second detailed assessment the relevance of the ‘hits’ was performed.
In a first step, the ‘hits’ were reviewed based on the information given in the title and the abstract with regard to relevance for the regulators endpoints in the respective regulatory area. Records that were clearly judged as not assignable to any regulatory endpoint were shifted together with an explaining reasoning into the register ‘no relevant endpoint’.
In a second step, all remaining records were assessed in detail based on the complete report and separated into relevant reports for further discussion and not relevant publications.

Criteria to assign a record to the register '**evaluated – not-relevant**' were:

- Those records which provided information supporting the existing regulatory data package without any new relevant data or information were classified as "confirmatory data"
- Those records which were not assignable to the substance of interest (for example mixtures, not about test substance or other relevant substance)
- Secondary literature linking to primary literature already discussed under relevant records
- Records with limited reliability of grade 3 or 4 based on the 'Klimisch' scoring system (see below)
- those which were judged as not relevant due to other reasons with a respective justification.

Criteria to assign a record to the register '**used for dossier**' were:

- Records providing information about additional / new / unknown / potentially contradictory effects or data which might impact the hazard assessment endpoints or the risk assessments parameters and which in addition have a high grade of reliability of grade 1 or 2 based on the 'Klimisch' scoring system (see below)

Those records assigned to the category 'used for dossier' were provided with a Doc ID and discussed in detail in Volume 3, B.8 of dimethenamid-P.

Additionally to the relevance, the reliability of the literature tagged as 'hits' were assessed using a reliability scoring system based on Klimisch et al (1997)[1]:

Reliability 1: reliable without restrictions: studies or data generated according to generally valid and/or internationally accepted testing guidelines (preferably performed according to GLP) or in which the test parameters documented are based on a specific (national) testing guideline or in which all parameters described are closely related /comparable to a guideline method. (e.g. literature about toxicity / ecotoxicity study consistent with requests of international testing guidelines and performed under GLP conditions with experienced and trained personal)

Reliability 2: reliable with restrictions: studies or data (mostly not performed according to GLP), in which the test parameters documented do not totally comply with the specific testing guideline, but are sufficient to accept the data or in which investigations are described which cannot be subsumed under a testing guideline, but which are nevertheless well documented and scientifically acceptable (appropriately documented studies which meets basic scientific principles, mechanistic studies)

Reliability 3: not reliable: studies or data in which there were interferences between the measuring system and the test substance or in which organisms/test systems were used which are not relevant in relation to the exposure (e.g. no physiologic pathways of application) or which were carried out or generated according to a method which is not acceptable, the documentation of which is not sufficient for assessment and which is not convincing for an expert judgement (e.g. literature studies with insufficient information or according to not validated method)

Reliability 4: not assignable: studies or data which do not give sufficient experimental details and which are only listed in short abstracts or secondary literature

Results and Discussion

The numbers of hits before and after the first selection step for relevance are summarised in Table B.8.1-2.

[1] Klimisch, H., Andrea, M. Tillmann, U., 1997. A systematic approach for evaluating the quality of experimental toxicological and ecotoxicological data. Regulatory Toxicology and Pharmacology, 55, pp. 276-280.

Table B.8.1-2 Number of records after of the first step of the open literature search regarding the fate of dimethenamid-P and its metabolites in air, soil and water

	Total	Database		
		BIOSIS	CAB Abstracts	CAPLUS Chemical Abstracts Plus
First search on the 1st of Feburary 2013				
Total number of summary records for dimethenamid-P and metabolites retrieved		240	102	4142
Total number of summary records for after removing duplicates	4287 (at least 3959 records with only heptan)	111	34	4142
Totals number of summary records removed after first selection step ('Ballast')	4242			
Totals number of summary records retrieved after first selection step (hits)	**45**			
Search update on the 2nd of August 2013				
Total number of summary records for dimethenamid-P and metabolites retrieved		n.a.	n.a.	n.a.
Total number of summary records for after removing duplicates	461	29	2	430
Totals number of summary records removed after first selection step ('Ballast')	459			
Totals number of summary records retrieved after first selection step (hits)	**2**			
Additional search for new dimethenamid-P metabolites and impuritiers				
Total number of summary records for dimethenamid-P and metabolites retrieved		n.a.	n.a.	n.a.
Total number of summary records for after removing duplicates	83	68	0	15
Totals number of summary records removed after first selection step ('Ballast')	82			
Totals number of summary records retrieved after first selection step (hits)	**1**			

n.a. not available

Thus for a total of **48** open literature studies were subjected to a more detailed assessment the relevance. However in the Excel Sheet summarising the results of the more detail assessment, **56** open literature studies were discussed.

In the provided Excel Sheet, the assessed studies were three categories 'no relevant end point', 'Evaluated non-relevant' and 'used for dossier'.
The 'hits' sorted in the category 'no relevant endpoint' are listed in Table B.8.1-3. The hits sorted in the category 'evaluated non-relevant' are listed in Table B.8.1-4 and the 'hits' sorted in the category 'used for dossier' are listed in Table B.8.1-5.

Table B.8.1-3: Records sorted in the category 'no relevant endpoint'

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
1929	An Improved Screening Tool for Predicting Volatilisation of Pesticides Applied to Soils	Davie-Martin, Cleo L. Hageman, Kimberly J. Chin, Yu-Ping	Environmental Science & Technology (2013), 47(2), 868-876	3	Visual screening method for deetermination of volatility from soil.	agreed
1930	Comprehensive Screening Study of Pesticide Degradation via Oxidation and Hydrolysis	Chamberlain, Evelyn, Shi, Honglan Wang, Tongwen Ma, Yinfa Fulmer, Alice Adams, Craig	Journal of Agricultural and Food Chemistry (2012), 60(1), 354-363	3	No truly relevant E-fate endpoint. Experimental conditions not relevant to guideline studies. Attempts to mimic drinking water treatment conditions.	agreed
1931	Predicting Sorption of Pesticides and Other Multifunctional Organic Chemicals to Soil Organic Carbon	Bronner, Guido Goss, Kai-Uwe	Environmental Science + Technology (2011), 45(4), 1313-1319	3	Fundamental research attempting to predict partitioning of pesticides into soil organic carbon by molecular modeling parameters. Not relevant for guideline studies	agreed
1934	Reverse osmosis followed by activated carbon filtration for efficient removal of organic micropollutants from river bank filtrate	Kegel, F. Schoonenberg Rietman, B. M. Verliefde, A. R. D.	Water Science and Technology (2010), 61(10), 2603-2610	3	Basic research on water treatment with activated carbon	agreed
1937	Screening study and byproduct determination for pesticide degradation during disinfection in water treatment	Chamberlain, Evelyn F. Wang, Tongwen Adams, Craig D. Ma, Yinfa Shi, Honglan Meyer, Michael T. Fulmer, Alice	Proceedings - Water Quality Technology Conference and Exposition (2007) chamber1/1-chamber1/8	3	No E-fate endpoint. Discusses hypothetical reactions of pesticides under water treatment/disinfecting conditions	agreed

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
1939	Pesticides in rain in four agricultural watersheds in the United States	Vogel, Jason R. Majewski, Michael S. Capel, Paul D.	Journal of Environmental Quality (2008), 37(3), 1101-1115	3	US paper attempts to observe pesticides in rainfall as a function or result of volatility. DMTA-P not mentioned as a mojor component. Acetanilide herbicides in particular were rarely detected.	Agreed, none-European study
1941	Neutral chloroacetamide herbicide degradates and related compounds in Midwestern United States drinking water sources	Hladik, Michelle L. Bouwer, Edward J. Roberts, A. Lynn	Science of the Total Environment (2008), 390(1), 155-165	3	Not relevant for EU. Concerns water treatment for drinking water in US.	Agreed, none-European study
1942	Photo-induced chemiluminescence-based determination of diphenamid by using a multicommuted flow system	Czescik, A. Malo, D. Lopez Duart, M. J. Zamora, L. Lahuerta Fos, G. M. Anton Calatayud, J. Martinez	Talanta (2007), 73(4), 718-725	3	Basic resseach on chemiluminescient method for detection of amide containing herbicides.	agreed
1944	Removal of neutral chloroacetamide herbicide degradates during simulated unit processes for drinking water treatment	Hladik, Michelle L. Roberts, A. Lynn Bouwer, Edward J.	Water Research (2005), 39(20), 5033-5044	3	Similar material to Nr. 1951. Focus on water treatment.	agreed
1945	Are Neutral Chloroacetamide Herbicide Degradates of Potential Environmental Concern? Analysis and Occurrence in the Upper Chesapeake Bay	Hladik, Michelle L. Hsiao, Jonie J. Roberts, A. Lynn	Environmental Science and Technology (2005), 39(17), 6561-6574	3	Similar material to Nr. 1951	agreed
1946	Removal of chloroacetamide herbicides and neutral degradates during simulated drinking water treatment	Hladik, Michelle L. Bouwer, Edward J. Roberts, A. Lynn	Abstracts of Papers, 228th ACS National Meeting, Philadelphia, PA, United States, August 22-26, 2004 (2004)	3	Same as Nr. 1954	agreed
1948	Removal of chloroacetamide herbicides and neutral degradates during simulated drinking water	Hladik, Michelle L. [Reprint Author] Bouwer, Edward J.	Abstracts of Papers American Chemical Society, (AUG 22 2004)	3	Same as Nr. 1954	agreed

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
	treatment.	Roberts, A. Lynn	Vol. 228, No. Part 1, pp. U94			
1951	Effect of liquid cow manure amendment on dimethenamid persistence in a volcanic soil.	Candia, O. Luz Mora, M. de la Demanet, R. Briceno, G. Palma, G. de la Luz Mora, M.	Journal of Soil Science and Plant Nutrition (2012) Volume 12, Number 1, pp. 153-163	3	Very specific. DT_{50} decreased with application of Liquid Cow Manure.	agreed
1953	Are neutral chloroacetamide herbicide degradates of potential environmental concern? Analysis and occurrence in the upper Chesapeake Bay.	Hladik, M. L. Hsiao, J. J. Roberts, A. L.*	Environ. Sci. Technol. (2005) 39(17), 6561-6574	3	Same as Nr. 1954	agreed
1954	Comprehensive Screening Study of Pesticide Degradation via Oxidation and Hydrolysis	Chamberlain, Evelyn Shi, Honglan Wang, Tongwen Ma, Yinfa Fulmer, Alice Adams, Craig	Journal of Agricultural and Food Chemistry (2012), 60(1), 354-363	3	No E-fate endpoint. Discusses hypothetical reactions of pesticides under water treatment/disinfecting conditions	agreed
1955	Solid phase microextraction as an efficient method for characterisation of the interaction of pesticides with different soil types	Durovic, Rada D. Umiljendic, Jelena S. Gajic Cupac, Svjetlana B. Ignjatovic, Ljubisa M.	Journal of the Brazilian Chemical Society (2010), 21(6), 985-994	3	fundamental research on method development using SPME and analysing sorption for different soil types. No relevant environmental endpoints given.	agreed
1956	Analysis of current use pesticides in environmental and wastewater samples by high resolution GC with high resolution mass spectrometric detection	Hamilton, M. C. Woudneh, M. Grace, R.	Organohalogen Compounds (2007), 69, 600/1-600/4	3	Analytical method development for waste water treatment samples. No relevant environmental endpoint given.	agreed
1957	Grain sorghum response to saflufenacil applied preemergence	Keeling, J. Wayne Brown, Brent A. Reed, Jacob D. Dotray, Peter A.	Crop Protection (2013), 46, 1-6		No E-fate endpoint.	agreed
1958	Weed control, environmental impact and profitability of two-pass weed	Soltani, N. Nurse, R. E.	Open Plant Science Journal (2013), 7, 31-38		No E-fate endpoint.	agreed

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
	management strategies in glyphosate-resistant corn	Gillard, C. L. Sikkema, P. H.				
1960	Spatial and temporal distribution of herbicides and herbicide degradates in a shallow glacial drift aquifer/surface water system, south-central Michigan	Unterreiner, Gerald A. Kehew, Alan E.	Ground Water Monitoring + Remediation (2005), 25(2), 87-95		No E-fate endpoint.	agreed

* according to Klimisch et al (1997)

Table B.8.1-4: Records sorted in the category 'not relevant'

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
1929	Pesticide Nonextractable Residue Formation in Soil: Insights from Inverse Modeling of Degradation Time Series	Loos, Martin Krauss, Martin Fenner, Kathrin	Environmental Science + Technology (2012), 46(18), 9830-9837	3	Modeling based on non-extractable residues. No new data data generated as they used dat from the DAR.	agreed
1930	Study of the presence of priority pesticides in surface water of river basins located in two areas of intensive dairy farming in the NW Spain (Galicia)	Dagnac, Thierry Garcia-Chao, Maria Fernandez-Alvarez, Maria Castro-Insua, Juan Garcia-Pomar, Maria Isabel Llompart, Maria	International Journal of Environmental Analytical Chemistry (2012), 92(8), 995-1011		DMTA-P not seen as a major contributor to surface water.	Not agreed, European monitoring studies should be included
1931	Broad target chemical screening approach used as tool for rapid assessment of groundwater quality	ter Laak, Thomas L. Puijker, Leo M. van Leerdam, Jan A. Raat, Klaasjan J. Kolkman, Annemieke de Voogt, Pim van Wezel, Annemarie P.	Science of the Total Environment (2012), 427-428, 308-313	3	Paper does not mention DMTA, DMTA-P or metabolites.	agreed
1934	Efficacy and dissipation of pyroxasulfone and three chloroacetamides in a Tennessee field soil	Mueller, Thomas C. Steckel, Lawrence E.	Weed Science (2011), 59(4), 574-579		North American paper. Exagerated application rate (1500 g/ha)Mainly concerned with efficacy data. DT_{50} values were 5 and 9 d.	Agreed, no-European study
1937	Gas/particle partitioning of currently used pesticides in the atmosphere of Strasbourg (France)	Schummer, Claude Mothiron, Elodie Appenzeller, Brice M. R. Wennig, Robert Millet, Maurice	Air Quality, Atmosphere + Health (2010), 3(3), 171-181	3	DMTA-P not detected.	Not agreed, European monitoring studies should be included
1939	Patterning ecological risk of pesticide contamination at the river basin scale	Faggiano, Leslie de Zwart, Dick Garcia-Berthou, Emili	Science of the Total Environment (2010), 408(11), 2319-2326	3	Researchers attempt to calculate cumulative risk of pesticides with similar mode	agreed

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
		Lek, Sovan Gevrey, Muriel			of action. No relevant endpoints for DMTA-P.	
1941	Assessing Persistence and Long-Range Transport Potential of Current-use Pesticides	Matthies, Michael Klasmeier, Joerg Beyer, Andreas Ehling, Christian	Environmental Science + Technology (2009), 43(24), 9223-9229	-	Dimethenamid not mentioned in paper.	agreed
1942	Improving the knowledge of pesticide and nitrate transfer processes using age-dating tools (CFC, SF6, 3H) in a volcanic island (Martinique, French West Indies)	Gourcy, Laurence Baran, Nicole Vittecoq, Benoit	Journal of Contaminant Hydrology (2009), 108(3-4), 107-117	3	Basic hydrology research for monitoring methods. DMTA not detected.	agreed
1944	Predicting critical source areas for diffuse herbicide losses to surface waters: Role of connectivity and boundary conditions	Frey, Martin P. Schneider, Manuel K. Dietzel, Anne Reichert, Peter Stamm, Christian	Journal of Hydrology (Amsterdam, Netherlands) (2009), 365(1-2), 23-36	3	Hydrological research for modeling purposes. No relevant end points for DMTA-P.	agreed
1945	Predicting Pesticide Environmental Risk in Intensive Agricultural Areas. II: Screening Level Risk Assessment of Complex Mixtures in Surface Waters	Verro, Roberto Finizio, Antonio Otto, Stefan Vighi, Marco	Environmental Science + Technology (2009), 43(2), 530-537	3	Paper concerned more with predicting ecotox of pesticide mixtures in surface water. No relevant E-fate endpoints reported.	agreed
1946	Predicting Pesticide Environmental Risk in Intensive Agricultural Areas. I: Screening Level Risk Assessment of Individual Chemicals in Surface Waters	Verro, Roberto Finizio, Antonio Otto, Stefan Vighi, Marco	Environmental Science + Technology (2009), 43(2), 522-529	3	PEC for DMTA is for 0.54 ug/L in this basin.	agreed, no measurements but theoretical calculations
1948	Source area effects on herbicide losses to surface waters-A case study in the Swiss Plateau	Freitas, Luciana Gomides Singer, Heinz Muller, Stephan R. Schwarzenbach, Rene P. Stamm, Christian	Agriculture, Ecosystems + Environment (2008), 128(3), 177-184	3	Levels of DMTA reported in ng/L range.	Not agreed, European monitoring studies should be included

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
1951	Neutral chloroacetamide herbicide degradates and related compounds in Midwestern United States drinking water sources	Hladik, Michelle L. Bouwer, Edward J. Roberts, A. Lynn	Science of the Total Environment (2008), 390(1), 155-165	3	Focus on US drinking water sources in the US (surface water). DMTA and deschloro DMTA were observed in ng/L quantities.	agreed
1953	Contribution by urban and agricultural pesticide uses to water contamination at the scale of the Marne watershed	Blanchoud, H. Moreau-Guigon, E. Farrugia, F. Chevreuil, M. Mouchel, J. M.	Science of the Total Environment (2007), 375(1-3), 168-179	3	DMTA-P not seen as a major contributor from urban sources.	agreed
1954	Removal of neutral chloroacetamide herbicide degradates during simulated unit processes for drinking water treatment	Hladik, Michelle L. Roberts, A. Lynn Bouwer, Edward J.	Water Research (2005), 39(20), 5033-5044	3	Paper is concerned with treatment techniques for drinking water.	agreed
1955	Predicting pesticide mixtures load in surface waters from a given crop	Finizio, A. Villa, S. Vighi, M.	Agriculture, Ecosystems + Environment (2005), 111(1-4), 111-118	3	Low levels of DMTA reported. Never above 30 µg/L.	Uncertain, European monitoring studies should be included
1956	Herbicides and degradates in shallow aquifers of illinois: Spatial and temporal trends	Mills, Patrick C. Kolpin, Dana W. Scribner, Elisabeth A. Thurman, E. Michael	Journal of the American Water Resources Association (2005), 41(3), 537-547	3	Paper describes monitoring of shallow aquifers in Illinois over a 9 year period. DMTA was not detected over the observed time period. DMTA metabolite detection frequency was low (1.8 %) and when detected was at 0.05 and 0.06 µg/L for the oxalamide and the sulfonic acid respectively.	agreed, not a European study
1957	Are Neutral Chloroacetamide Herbicide Degradates of Potential Environmental Concern? Analysis and Occurrence in the Upper Chesapeake Bay	Hladik, Michelle L. Hsiao, Jonie J. Roberts, A. Lynn	Environmental Science and Technology (2005), 39(17), 6561-6574	3	Paper is concerned with levels of neutral degradates of chloroacetamides in surface water. North America based. Parent and deschloro metabolite observed in ng/L amounts.	agreed, not a European study

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
1958	Glyphosate, other herbicides, and transformation products in midwestern streams, 2002	Battaglin, William A. Kolpin, Dana W. Scribner, Elizabeth A. Kuivila, Kathryn M. Sandstrom, Mark W.	Journal of the American Water Resources Association (2005), 41(2), 323-332	3	North America based study. Low levels of DMTA observed in midwestern streams. Authors do not report actual levels observed, only percent above the method limit and above 0.1 µg/L	agreed, not a European study
1960	Degradates provide insight to spatial and temporal trends of herbicides in ground water	Kolpin, Dana W. Schnoebelen, Douglas J. Thurman, E. Michael	Ground Water (2004), 42(4), 601-608	3	Monitoring of ground water in Iowa, US for DMTA and oxalamide and sulfonic acid metabolites. Detection frequency of parent was 1.2 % and observed at a maximum of 0.8 µg/L. Metabolites were not detected.	agreed, not a European study
1962	Variability of Herbicide Losses from 13 Fields to Surface Water within a Small Catchment after a Controlled Herbicide Application	Leu, Christian Singer, Heinz Stamm, Christian Mueller, Stephan R. Schwarzenbach, Rene P.	Environmental Science and Technology (2004), 38(14), 3835-3841	3	Paper is mainly concerned with pesticide transport mechanisms to surface waters. Levels of DMTA reported in µg/L quantities.	Not agreed, actual measurements on surface water entry of DMA-P
1963	A calculation procedure to assess potential environmental risk of pesticides at the farm level	Padovani, Laura Trevisan, Marco Capri, Ettore	Ecological Indicators (2004), 4(2), 111-123	-	No relevant endpoints. Researchers used publicly available data for use in models to predict environmental risk assessment at the farm level.	agreed
1964	Herbicide concentrations in the Mississippi River Basin - the importance of chloroacetanilide herbicide degradates	Rebich, R. A. Coupe, R. H. Thurman, E. M.	Science of the Total Environment (2004), 321(1-3), 189-199	3	North American based study measuring for DMTA and sulfonic acid and oxalamide metabolites. Metabolites were not detected and DMTA-P observed infrequently and at sub µg/L levels.	agreed, not a European study
1965	Pesticides in fluvial wetlands catchments under intensive	Poissant, Laurier [Reprint Author]	Science of the Total Environment, (OCT 1	3	Pesticides monitored in surface waters. DMTA not	Not agreed, European

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
	agricultural activities.	Beauvais, Conrad Lafrance, Pierre Deblois, Christian	2008) Vol. 404, No. 1, pp. 182-195.		observed often (4 %) and at 0.05 µg/L.	monitoring studies should be included
1967	Estimates of environmental conditions of soils in Plovdiv region in applying the new herbicides for weed control in major field crops.	Popova, R. Zhalnov, I. Valcheva, E. Zorovski, P. Dimitrova, M.	Journal of Central European Agriculture (2012) Volume 13, Number 3, pp. 595-600, 9 refs. ISSN: 1332-9049 DOI: 10.5513/JCEA01/13.3.1096	-	Paper in Russian	agreed, not a European study
1969	Behavior studies of dimethemanid and DMTA-P on maize drained soils. Etude du comportement du dimethenamide et du DMTA-P sur des parcelles de mais drainees.	Paepe, I. de Real, B. de Paepe, I.	19eme Conference du COLUMA. Journees Internationales sur la Lutte contre les Mauvaises Herbes, Dijon, France, 8, 9 et 10 Decembre, 2004 (2004),		Paper in French. Low levels observed.	Not agreed, European monitoring studies should be included
1970	Persistence and percolation of acetochlor and dimethenamid-P applied in maize and metazachlor and clomazone applied in potato. Verifiche preliminari della persistenza e percolazione di acetochlor e dimethenamid-P impiegatis su mais e di clomazone e metazachlor su patata.	Rapparini, G. Geminiani, E. Romagnoli, S. Editor(s): Brunelli, A.	Giornate Fitopatologiche 2008, Cervia (RA), 12-14 marzo 2008, Volume 1 (2008), pp. 529-536, 10 refs. Published by: Universita di Bologna, Bologna Conference: Giornate Fitopatologiche 2008, Cervia (RA), 12-14 marzo 2008, Volume 1.	-	Paper in Italian. DMTA never observed below 19 cm after significant rain event scenarios.	uncertain
1971	Percolation of acetochlor, dimethenamid, flufenacet and s-metolachlor applied in columns.Studio in colonna della percolazione di alcuni diserbanti residuali del mais.	Campagna, G. Paci, F. Fabbi, A. Rapparini, G. Editor(s): Brunelli, A. Canova, A. Collina, M.	Giornate Fitopatologiche 2006, Riccione (RN), 27-29 marzo 2006. Atti, volume primo (2006), pp. 591-598, 11 refs. Published by: Universita di Bologna, Bologna Conference: Atti, Giornate Fitopatologiche, Riccione, Italy, 27-29 March 2006.	-	Paper in Italian	uncertain

No.	Title	Author	Source	Reliability*	Comments/ Justification for non-relevance	Comments RMS
1972	Sorption, desorption, and leaching potential of dimethenamid in Brazilian soils.Sorcao, dessorcao e potencial de lixiviacao de dimethenamid em solos brasileiros.	Archangelo, E. R. Karam, D. Ferreira, F. A. Prates, H. T. Ferreira, L. R. Cardoso, A. A.	Planta Daninha (2004) Volume 22, Number 3, pp. 467-477, 20 refs. ISSN: 0100-8358 DOI: 10.1590/S0100-83582004000300018	3	Ads/Des study of DMTA on various brazilian soils. Koc data derived from Fruendlich isotherms are in line with current Koc data in the dossier.	agreed, not a European study
7058	Multiresidue analysis of 88 polar organic micropollutants in ground, surface and wastewater using online mixed-bed multilayer solid-phase extraction coupled to high performance liquid chromatography-tandem mass spectrometry	Huntscha, Sebastian Singer, Heinz P. McArdell, Christa S. Frank, Carolin E. Hollender, Juliane	Journal of Chromatography, A (2012), 1268, 74-83	3	Method paper for multiresidue analysis of ground, surface and waste water. DMTA and metabolites were below LOQ which was in ng/L for all substances and matrices.	agreed
7060	Surveying upstate NY well water for pesticide contamination: Cayuga and Orange counties	Richards, Brian K. Pacenka, Steven Salvucci, Anthony E. Saia, Sheila M. Whitbeck, Luanne F. Furdyna, Peter M. Steenhuis, Tammo S.	Ground Water Monitoring + Remediation (2012), 32(1), 73-82	3	DMTA not detected in groundwater samples.	agreed, not a European study
7063	Pesticide multiresidues in waters of the Lower Fraser Valley, British Columbia, Canada. Part I. Surface water	Woudneh, Million B. Ou, Ziqing Sekela, Mark Tuominen, Taina Gledhill, Melissa	Journal of Environmental Quality (2009), 38(3), 940-947	3	DMTA in multiresidue method for monitoring surface waters in Canada. DMTA not detected.	agreed, not a European study

* according to Klimisch et al (1997)

Table B.8.1-5: Records sorted in the category 'used for dossier'

No.	Title	Author	Source	Reliability*
1936	Occurrence of currently used pesticides in ambient air of Centre Region (France)	Coscolla, Clara Colin, Patrice Yahyaoui, Abderrazak Petrique, Olivier Yusa, Vicent Mellouki, Abdelwahid Pastor, Agustin	Atmospheric Environment (2010), 44(32), 3915-3925	3
1950	Risk assessment of herbicide mixtures in a large European lake	Chevre, Nathalie Edder, Patrick Ortelli, Didier Tatti, Elisa Erkman, Suren Rapin, Francois	Environmental Toxicology (2008), 23(2), 269-277	3
1961	Simultaneous Assessment of Sources, Processes, and Factors Influencing Herbicide Losses to Surface Waters in a Small Agricultural Catchment	Leu, Christian Singer, Heinz Stamm, Christian Mueller, Stephan R. Schwarzenbach, Rene P.	Environmental Science and Technology (2004), 38(14), 3827-3834	3
1933	Plant protection legal irrelevant metabolites in groundwater	Hamer, Kay Freudenberger, Uta	Wasser und Abfall (Wiesbaden, Germany) (2011), 13(9), 42-45	3

* according to Klimisch et al (1997)

Conclusion

A comprehensive literature search was performed by the applicant for dimethenamid-P and its metabolites. While the general principle of the literature search appears to be in order, there are some discrepancies in the report as listed below:
According to the main literature search report, 48 open literature studies were subjected to a more detailed assessment of the relevance. However in the Excel Sheet summarising the results of the more detailed assessment, 56 open literature studies were discussed.
In the main literature study it was stated that the studies subjected to a more detailed relevance assessment were sorted into two categories 'evaluated – not-relevant' and 'used for dossier', however in the Excel Sheet summarising the results, three categories were used.
Not for all studies listed in Table B.8.1-3 and Table B.8.1-5, the reliability according to Klimisch et al (1997) was actually assessed. Besides, the assessment did not seem to have influenced the decision whether a study was included in the dossier or not, since the four studies included in the dossier were also sorted in the category 'reliability 3' contradictory to the description of the descripted literature search method.
Besides, the RMS believes that outlining some additional clear criteria on how to assess the relevance of a study should have been developed and described beforehand.

The RMS agrees with the inclusion of the four studies listed in Table B.8.1-5. Summaries of these studies can be found in Volume 3, B.8 of dimethenamid-P.
However, he believes that some additional studies should have been included in the dossier or their non-relevance should have been assessed in more detail. The studies for which the relevance is still considered uncertain are listed in Table B.8.1-6.

Table B.8.1-6: Studies which require further relevance assessment and/or should be included in the dossier

No.	Title	Author	Source
1930	Study of the presence of priority pesticides in surface water of river basins located in two areas of intensive dairy farming in the NW Spain (Galicia)	Dagnac, Thierry Garcia-Chao, Maria Fernandez-Alvarez, Maria Castro-Insua, Juan Garcia-Pomar, Maria Isabel Llompart, Maria	International Journal of Environmental Analytical Chemistry (2012), 92(8), 995-1011
1937	Gas/particle partitioning of currently used pesticides in the atmosphere of Strasbourg (France)	Schummer, Claude Mothiron, Elodie Appenzeller, Brice M. R. Wennig, Robert Millet, Maurice	Air Quality, Atmosphere + Health (2010), 3(3), 171-181
1948	Source area effects on herbicide losses to surface waters-A case study in the Swiss Plateau	Freitas, Luciana Gomides Singer, Heinz Muller, Stephan R. Schwarzenbach, Rene P. Stamm, Christian	Agriculture, Ecosystems + Environment (2008), 128(3), 177-184
1955	Predicting pesticide mixtures load in surface waters from a given crop	Finizio, A. Villa, S. Vighi, M.	Agriculture, Ecosystems + Environment (2005), 111(1-4), 111-118
1962	Variability of Herbicide Losses from 13 Fields to Surface Water within a Small Catchment after a Controlled Herbicide Application	Leu, Christian Singer, Heinz Stamm, Christian Mueller, Stephan R. Schwarzenbach, Rene P.	Environmental Science and Technology (2004), 38(14), 3835-3841
1965	Pesticides in fluvial wetlands catchments under intensive agricultural activities.	Poissant, Laurier [Reprint Author] Beauvais, Conrad Lafrance, Pierre Deblois, Christian	Science of the Total Environment, (OCT 1 2008) Vol. 404, No. 1, pp. 182-195.
1969	Behavior studies of dimethemanid and DMTA-P on maize drained soils. Etude du comportement du dimethenamide et du DMTA-P sur des parcelles de mais drainees.	Paepe, I. de Real, B. de Paepe, I.	19eme Conference du COLUMA. Journees Internationales sur la Lutte contre les Mauvaises Herbes, Dijon, France, 8, 9 et 10 Decembre, 2004 (2004),
1970	Persistence and percolation of acetochlor and dimethenamid-P applied in maize and metazachlor and clomazone applied in potato. Verifiche preliminari della persistenza e percolazione di acetochlor e dimethenamid-P impiegatis su mais e di clomazone e metazachlor su patata.	Rapparini, G. Geminiani, E. Romagnoli, S. Editor(s): Brunelli, A.	Giornate Fitopatologiche 2008, Cervia (RA), 12-14 marzo 2008, Volume 1 (2008), pp. 529-536, 10 refs. Published by: Universita di Bologna, Bologna Conference: Giornate Fitopatologiche 2008, Cervia (RA), 12-14 marzo 2008, Volume 1.
1971	Percolation of acetochlor, dimethenamid, flufenacet and s-metolachlor applied in columns.Studio in colonna della percolazione di alcuni diserbanti residuali del mais.	Campagna, G. Paci, F. Fabbi, A. Rapparini, G. Editor(s): Brunelli, A. Canova, A. Collina, M.	Giornate Fitopatologiche 2006, Riccione (RN), 27-29 marzo 2006. Atti, volume primo (2006), pp. 591-598, 11 refs. Published by: Universita di Bologna, Bologna Conference: Atti, Giornate Fitopatologiche, Riccione, Italy, 27-29 March 2006.