

## Publications and Reports from Industry Sponsored Environmental Research (2006 – 2015)

Year	Author and Title	Publication type	Availability	Remarks
	<b>Freshwater lead</b>			
2015	Van Sprang, P.A., Nys, C., Blust, R., Chowdhury, M.J. Gustafsson, J.P., Janssen, C.J., and De Schampelaere, K.A.C. 2015. The derivation of safe concentrations of lead for European freshwater ecosystems. <i>Environmental Toxicology &amp; Chemistry</i> .	Journal paper	September 2015	In revision after peer review
2015	Besser, J.M., Ivey, C.D., Brumbaugh, W.G., Ingersoll, C.G. 2015. Effect of diet quality on the chronic toxicity of aqueous lead to the amphipod, <i>Hyalella Azteca</i> . <i>Environmental Toxicology &amp; Chemistry</i> .	Journal paper	November 2015	In peer review
2015	Nys, C., Janssen, C., De Schampelaere, K.A.C. 2015. The effects of Ca, pH and Dissolved Organic Carbon on the chronic toxicity of Pb to the freshwater rotifer <i>Brachionus calyciflorus</i> : development and validation of a bioavailability model. <i>Environmental Toxicology &amp; Chemistry</i> .	Journal paper	December 2015	Manuscript ready for submission
2015	DeForest, D.K., Santore, R.C., Ryan, AC, Church, B., Chowdhury, M.J., and Brix, K.V. 2015. Development of biotic ligand model (BLM)-based freshwater aquatic life criteria for lead in the United State. <i>Environmental Toxicology &amp; Chemistry</i> .	Journal paper	November 2015	Draft manuscript for internal review
2015	Santore, R.C., Ryan, AC, Church, B., Chowdhury, M.J., DeForest, D.K., 2015. Development of biotic ligand model for lead following US EPA guidelines. <i>Environmental Toxicology &amp; Chemistry</i> .	Journal paper	November 2015	Manuscript under preparation
2015	DeForest, D.K. and Meyer, J.S.. 2015. Critical Review: Toxicity of Dietborne Metals to Aquatic Organisms, <i>Critical Reviews in Environmental Science and Technology</i> , 45:11, 1176-1241.	Journal paper	<a href="https://doi.org/10.1080/10643389.2014.955626">DOI: 10.1080/10643389.2014.955626</a>	

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2014	De Schamphelaere, K.A.C, Nys, C., Janssen, C.R. 2014. Ecotoxicity of lead (Pb) to freshwater green algae: development and validation of a bioavailability model and inter-species sensitivity comparison. <i>Aquat Toxicol</i> 155: 348-359.	Journal paper	<a href="https://doi.org/10.1016/j.aquatox.2014.07.008">doi:10.1016/j.aquatox.2014.07.008</a>	
2014	Antunes, P.M.C., Kreager, N.J. 2014. Lead toxicity to Lemna minor predicted using a metal speciation chemistry approach. <i>Environ Toxicol Chem</i> 33: 2225-2233.	Journal paper	<a href="https://doi.org/10.1002/etc.2688">DOI: 10.1002/etc.2688</a>	
2014	Nys, C., C.R. Janssen, E.M. Mager, A.J. Esbaugh, K.V. Brix, M. Grosell, W.A. Stubblefield, K. Holtze, K.A.C. De Schamphelaere. 2014. Development and validation of a biotic ligand model for predicting chronic toxicity of lead to Ceriodaphnia dubia. <i>Environ. Toxicol. Chem.</i> 33(2): 394-403.	Journal paper	<a href="https://doi.org/10.1002/etc.2433">DOI: 10.1002/etc.2433</a>	
2014	Blust R et al. 2014. Chemical analysis and speciation modeling of lead solubility under ecotoxicity testing relevant exposure scenarios. Department of Biology, University of Antwerp, Belgium. Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.34 p.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2013	Munley, K.M., K.V. Brix, J. Panlilio, D.K. Deforest, and M. Grosell. 2013. Growth inhibition in early life-stage tests predicts full life-cycle toxicity effects of lead in the freshwater pulmonate snail, <i>Lymnaea stagnalis</i> . <i>Aquat. Toxicol.</i> 128-129: 60-66	Journal paper	<a href="https://doi.org/10.1016/j.aquatox.2012.11.020">aquatox.2012.11.020</a>	
2013	Nys C, and De Schamphelaere KAC. 2013. Effect of Ca and pH on acute toxicity of Pb to Ceriodaphnia dubia. Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2013	Nys C, Janssen CR, De Schamphelaere KAC. 2013. A comparison of chronic Pb sensitivity between laboratory and field populations of <i>Lymnaea stagnalis</i> . Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request

Year	Author and Title	Publication type	Availability	Remarks
2013	Nys C, Janssen CR, De Schamphelaere KAC. 2013. An investigation of the potential toxicity of dietary Pb to Ceriodaphnia dubia. Report prepared for International Lead Zinc Research Organization (ILZRO), Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2012	Nys C, Janssen CR, De Schamphelaere KAC. 2012. Estimation of the effects of Ca <sup>2+</sup> , H <sup>+</sup> (pH) and DOC on chronic toxicity of Pb <sup>2+</sup> to Brachionus calyciflorus: Development and validation of a Biotic Ligand Model (BLM). Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2012	Esbaugh, A.J., K.V. Brix, E.M. Mager, K. De Schamphelaere, and M. Grosell. 2012. Multi-linear regression analysis, preliminary biotic ligand modeling, and cross species comparison of the effects of water chemistry on chronic lead toxicity in invertebrates. Comp. Biochem. Physiol. 155C: 423-431.	Journal paper	<a href="https://doi.org/10.1016/j.cbpc.2011.11.005">doi:10.1016/j.cbpc.2011.11.005</a>	
2012	Brix, K.V., A.J. Esbaugh, K.M. Munley, and M. Grosell. 2012. Investigations into the mechanism of lead toxicity to the freshwater pulmonate snail, Lymnaea stagnalis. Aquat. Toxicol. 106-107: 147-156.	Journal paper	<a href="#">aquatox.2011.11.007</a>	
2012	AquaTox. 2012. Report on the toxicity of lead to the freshwater invertebrate, Ceriodaphnia dubia . Report Prepared by AquaTox for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2012	Nguyen LTH, Janssen CR, De Schamphelaere KAC. 2012. Chronic toxicity of Pb to Chironomus riparius in five natural waters. Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2012	Wood, C.M., Alsop, D. 2012. Evaluating the relative contributions of waterborne and dietary lead to toxicity in rainbow trout. Report Prepared by McMaster University for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request

Year	Author and Title	Publication type	Availability	Remarks
2011	Esbaugh, A.J., K.V. Brix, E.M. Mager, and M. Grosell. 2011. Multi-linear regression models predict the effects of water chemistry on acute lead toxicity to Ceriodaphnia dubia and Pimephales promelas. Comp. Biochem. Physiol. 154C: 137-145.	Journal paper	<a href="https://doi.org/10.1016/j.cbpc.2011.04.006">doi:10.1016/j.cbpc.2011.04.006</a>	
2011	Mager, E.M. and M. Grosell. 2011. Effects of acute and chronic waterborne lead exposure on the swimming performance and aerobic scope of fathead minnows (Pimephales promelas). Comp. Biochem. Physiol. 154C: 7-13.	Journal paper	<a href="https://doi.org/10.1016/j.cbpc.2011.03.002">doi:10.1016/j.cbpc.2011.03.002</a>	
2011	Mager, E.M., K.V. Brix, R.M. Gerdes, A.C. Ryan, and M. Grosell. 2011. Effects of water chemistry on the chronic toxicity of lead to the cladoceran, Ceriodaphnia dubia. Ecotoxicol. Environ. Saf. 74: 238-243.	Journal paper	<a href="https://doi.org/10.1016/j.ecoenv.2010.11.005">doi:10.1016/j.ecoenv.2010.11.005</a>	
2011	Mager, E.M., A.J. Esbaugh, K.V. Brix, A.C. Ryan, and M. Grosell. 2011. Influences of water chemistry on the acute toxicity of lead to Pimephales promelas and Ceriodaphnia dubia. Comp. Biochem. Physiol. 153C: 82-90.	Journal paper	<a href="https://doi.org/10.1016/j.cbpc.2010.09.004">doi:10.1016/j.cbpc.2010.09.004</a>	
2011	Al-Reasi, H.A., Wood, C.M., Smith, D.S. 2011. Physicochemical and spectroscopic properties of natural organic matter (NOM) from various sources and implications for ameliorative effects on metal toxicity to aquatic biota. Aquat. Toxicol. 103:179-190.	Journal paper	<a href="https://doi.org/10.1016/j.aquatox.2011.02.015">doi:10.1016/j.aquatox.2011.02.015</a>	
2010	Mager, E.M., K.V. Brix and M. Grosell. 2010. Influence of bicarbonate and humic acid on effects of chronic waterborne lead exposure to fathead minnow (Pimephales promelas). Aquat. Toxicol. 96: 135-144	Journal paper	<a href="https://doi.org/10.1016/j.aquatox.2009.10.012">doi:10.1016/j.aquatox.2009.10.012</a>	
2010	Antunes P, Holtze K. 2010. Final report: Testing the toxicity of Pb to Lemna minor in natural waters. Study number: aquatox 162704736. Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix. 2010. Chronic toxicity of lead to the cladoceran, Ceriodaphnia dubia, under varying calcium and pH water quality conditions. Study number: 598-3690-008. Report Prepared for	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be

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	International Lead Zinc Research Organization, Durham, NC, USA.			made available upon request
2010	Parametrix. 2010a. Chronic toxicity of lead to the fathead minnow, <i>Pimephales promelas</i> , in natural waters. Report no.: 598-3690-008. Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2009	Grosell, M. and K.V. Brix. 2009. High net calcium uptake explains the hypersensitivity of the freshwater pulmonate snail, <i>Lymnaea stagnalis</i> , to chronic lead exposure. <i>Aquat. Toxicol.</i> 91: 302-311.	Journal paper	<a href="https://doi.org/10.1016/j.aquatox.2008.10.012">doi:10.1016/j.aquatox.2008.10.012</a>	
2008	Mager, E.M., H. Wintz, C.D. Vulpe, K.V. Brix, and M. Grosell. 2008. Toxicogenomics of water chemistry influence on chronic lead toxicity to the fathead minnow ( <i>Pimephales promelas</i> ). <i>Aquat. Toxicol.</i> 87(3): 200-209.	Journal paper	<a href="https://doi.org/10.1016/j.aquatox.2008.02.001">doi:10.1016/j.aquatox.2008.02.001</a>	
2007	Parametrix. 2007. Evaluation of Chronic Lead Toxicity to the Great Pond Snail, <i>Lymnaea stagnalis</i> . Report no.: 598-3690-008. Report Prepared for Lead Development Association, London, UK.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2006	Grosell, M., R. Gerdes, and K.V. Brix. 2006. Influence of Ca, humic acid and pH on lead accumulation and toxicity in the fathead minnow during prolonged water-borne lead exposure. <i>Comp. Biochem. Physiol.</i> 143C: 473-483.	Journal paper	<a href="https://doi.org/10.1016/j.cbpc.2006.04.014">doi:10.1016/j.cbpc.2006.04.014</a>	
2006	Grosell, M., R.M. Gerdes and K.V. Brix. 2006. Chronic toxicity of lead to three freshwater invertebrates - <i>Brachionus calyciflorus</i> , <i>Chironomus tentans</i> , and <i>Lymnaea stagnalis</i> . <i>Environ. Toxicol. Chem.</i> 25(1): 97-104.	Journal paper	<a href="#">Grosell et al., 2006a</a>	

	<b>Marine (saltwater) lead</b>			
2015	Church, B. G., Van Sprang, P.A., Chowdhury, M.J., and DeForest, D.K. 2015. Updated species sensitivity distribution evaluations for acute and chronic lead toxicity to saltwater aquatic life.	Journal paper	November 2015	Draft manuscript under internal review
2015	Smith, D.S. and McGeer, J. C. 2015. Impacts of Waterborne Pb to <i>Americamysis bahia</i> in a Chronic 30 day Flow-through Exposure: including analytical best practices and marine Pb solubility modelling.	Journal paper	December 2015	Manuscript under preparation
2015	Hoang, T. 2015. Chronic Toxicity of Lead to Topsmelt ( <i>Atherinops affinis</i> ). Report Prepared by Loyola University for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2013	Nadella, S.R., Tellis, M., Diamond, R., Smith, D.S., Bianchini, A., Wood, C.M. 2013. Toxicity of lead and zinc to developing mussel and sea urchin embryos: Critical tissue residues and effects of dissolved organic matter and salinity. <i>Comp. Biochem. Physiol. [C]</i> . 158:72-83.	Journal paper	<a href="https://doi.org/10.1016/j.cbpc.2013.04.004">doi:10.1016/j.cbpc.2013.04.004</a>	
2013	Tellis, M.S., Lauer, M.M., Nadella, S., Bianchini, A., Wood, C.M. 2013. Sublethal mechanisms of Pb and Zn toxicity to the purple sea urchin ( <i>Strongylocentrotus purpuratus</i> ) during early development. <i>Aquat. Toxicol.</i> 146:220-229.	Journal paper	<a href="https://doi.org/10.1016/j.aquatox.2013.11.004">doi:10.1016/j.aquatox.2013.11.004</a>	
2013	Vukov, O., Nasir, R., Cunningham, J., Smith, D.S. and McGeer, J. 2013. Impacts of Waterborne Pb to <i>Americamysis bahia</i> in a Chronic 30 day Flow-through Exposure. Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2013	Smith, D.S., Cunningham, J., and McGeer, J. 2013. Analytical Chemistry of Marine Aqueous Pb Determination: comparison of three methods. Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Project Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2013	Beiras, R., González, S., Trigo, N., and Tato, T. 2013. Lead full life-cycle toxicity tests with the marine copepod <i>Tisbe battagliai</i> . Report Prepared by the University of Vigo for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request

2012	Beiras, R., Trigo, N., Durán, I., and Tato, T. 2012. Toxicity of Pb to early life stages of the bivalve <i>Mytilus galloprovincialis</i> and to the microalgae <i>Phaeodactylum tricornutum</i> . Report Prepared by the University of Vigo for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2012	Beiras, R., Trigo, N., and Durán, I. 2012a. Toxicity of Pb to the sea urchin embryo bioassay with <i>Paracentrotus lividus</i> . Report Prepared by the University of Vigo for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2012	Holtz, K. 2012. Report on the toxicity of lead to the marine macroalgae, <i>Champia Parvula</i> . Report Prepared by AquaTox for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2011	Wood, C.M. 2011. Effects of salinity and DOC on Pb Toxicity to Marine Organisms. Report Prepared by McMaster University for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix, 2010b. Toxicity of Lead to the Marine Flagellate, <i>Dunaliella tertiolecta</i> . Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix, 2010c. Toxicity of Lead to the Mussel ( <i>Mytilus galloprovincialis</i> ). Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix, 2010d. Life-Cycle Toxicity of Lead to the Marine Polychaete, <i>Neanthes arenaceodentata</i> . Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix, 2010e. Toxicity of Lead to the Oyster ( <i>Crassostrea gigas</i> ). Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request

2010	Parametrix, 2010f. Toxicity of Lead to the Sand Dollar ( <i>Dendraster excentricus</i> ). Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix, 2010g. Toxicity of Lead to the Purple Sea Urchin ( <i>Strongylocentrotus purpuratus</i> ). Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix, 2010h. Early Life-Stage Toxicity of Lead to the Sheepshead Minnow ( <i>Cyprinodon variegatus</i> ). Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2010	Parametrix, 2010i. Toxicity of Lead to the Marine Diatom, <i>Skeletonema costatum</i> . Report Prepared for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request



	<b>Terrestrial (soil) lead</b>			
2015	Smolders, E., Oorts, K., Peeters, S., Lanno, R., Cheyns, K. 2015. Toxicity in lead salt spiked soils to plants, invertebrates and microbial processes: unraveling 1 effects of acidification, salt stress and ageing reactions. Science of the total environment.	Journal paper	September 2015	In peer review
2012	Cheyns, K., Peeters, S., Delcourt, D., Smolders, E. 2012. Lead phytotoxicity in soils and nutrient solutions is related to lead induced phosphorus deficiency. Environmental pollution, 164:242-247.	Journal paper	<a href="https://doi.org/10.1016/j.envpol.2012.01.027">Doi: 10.1016/j.envpol.2012.01.027</a>	
2012	Lanno, R. 2012. Toxicity of lead salts to higher plants, invertebrates, and soil microbial processes: effects of soil type and ageing after soil amendment (Collembola and earthworms). Report Prepared by Ohio State University for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2011	Smolders, E., Cheyns, K., Peeters, S., 2011. Toxicity of lead salts to higher plants, invertebrates, and soil microbial processes: effects of soil type and ageing after soil amendment. Report Prepared by Katholieke Universiteit Leuven for International Lead Zinc Research Organization, Durham, NC, USA.	Final Study Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2009	Buekers, J., Steen Redeker, E., Smolders, E. 2009. Lead toxicity to wildlife: Derivation of a critical blood concentration for wildlife monitoring based on literature data. Science of the total environment, 407: 3431–3438.	Journal paper	<a href="https://doi.org/10.1016/j.scitotenv.2009.01.044">doi:10.1016/j.scitotenv.2009.01.044</a>	
2009	Exponent, 2009. Lead Secondary Poisoning Expert Panel Workshop. Report Prepared by Exponent for International Lead Zinc Research Organization, Durham, NC, USA.	Final Workshop Report	<a href="#">Contact ILZRO</a>	A copy in pdf format can be made available upon request
2006	Lock K., Waegeneers N., Smolders E., Criel P., Van Eeckhout H., Janssen C.R. (2006) Effect of leaching and aging on the bioavailability of lead to the springtail Folsomia candida. Environmental Toxicology and Chemistry 25:2006-2010.	Journal paper	<a href="https://doi.org/10.1897/05-612r.1">DOI: 10.1897/05-612r.1</a>	