Appendix

Table 1. Chemicals with health and environmental hazards identified in all water, sediment, and air samples. The table includes chemical name, CAS number, present in where, key hazards, and whether is included in Chinese regulation lists. Key hazards include persistent organic pollutants (POP), carcinogenic, mutagenic, reproductive toxic (CMR) chemicals, persistent, bioaccumulative, toxic (PBT) chemicals, very persistent and very bioaccumulative (vPvB) chemicals, endocrine disrupting chemicals (EDC) and chemicals that are hazardous to aquatic environment, hazardous to ozone layer. “1” , “1A”, “1B”, “2”, and “3” are the detailed hazard categories listed in the classification systems.

Chemical name	**CAS number**	**Small River water** **Sample 16003**	**Small River sediment** **Sample 16004**	**Wastewater Discharge Channel water samples** **found in one or more samples: CN16005 CN16007 CN16009**	**Wastewater Discharge Channel sediment** **found in one or more samples: CN16006 CN16008**	**Air** **2 samples compared to 1 control sample**	**Key hazards** **C - carcinogenicity** **M - mutagenicity** **R - toxic to reproduction** **Aq - Hazardous to aquatic environment** **EDC - Endocrine Disrupting**	**Catalogue of Hazardous Chemicals (Edition 2015)**	**Catalogue of Priority Hazardous Chemicals for Environmental Management (PHCs)**	**List of Hazardous Chemicals for Priority Management**	**List of Priority Chemicals for Prevention and Control**	**Inventory of Enterprise Risk Assessment for Environmental Incident**
Hexachlorobenzene (HCB)	118-74-1		Y		Y		POPs[1]; C 2[2]; Aq acute 1, Aq chronic 1[2]	Y	N	N	N	Y

Pentachlorobenzene (PeCB)	608-93-5		Y				POPs[1]; Aq acute 1, Aq chronic 1[2]	Y	N	N	N	N
Hexachlorobutadiene (HCBD)	87-68-3				Y		POPs[1]; M 2[2], R 2[2]; Aq acute 1, Aq chronic 1[2]	Y	Y	N	Y	Y
3,3'-Dichlorobenzidine	91-94-1				Y		C 2[2]; Aq acute 1, Aq chronic 1[2]	Y	N	N	N	N
Naphthalene	91-20-3		Y	Y			C 2[2]; EDC[3]; Aq acute 1, Aq chronic 1[2]	Y	Y	N	N	Y
Carbon disulfide	75-15-0	Y		Y			R 2[2]; EDC[3]; Aq acute 2[2]	Y	N	Y	N	Y
Tetrachloroethene	127-18-4	Y		Y			C 1B[2]; EDC[3]; Aq acute 2, Aq chronic 2[2]	Y	N	N	N	Y

Diethyl phthalate (DEP)	84-66-2	Y		Y	Y		EDC[3]	N	N	N	Y	N
Butylated hydroxytoluene (BHT)	128-37-0		Y	Y	Y		EDC[3]	N	N	N	N	N
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7		Y		Y		R 1B[4]	N	N	N	Y	N
1,2-Dichloroethane	107-06-2	Y		Y		Y	C 2[2]	Y	N	N	Y	Y
2-Methoxyaniline	90-04-0	Y					M 2[2], C 2[2]; Aq acute 2[2]	Y	N	N	N	N
Diisobutyl phthalate (DIBP)	84-69-5		Y	Y	Y		R 1B[2]; Aq acute 1[2]	Y	N	N	N	N
Michler's Base	101-61-1		Y				C 1B[4]	N	N	N	N	N

Trichloroethene	79-01-6			Y			C 1B[2], M 2[2]; Aq chronic 3[2]	Y	N	N	Y	Y
Dibutyl phthalate (DBP)	84-74-2			Y			R 1B[4]	N	N	N	Y	Y
Benzo[a]pyrene	50-32-8				Y		C 1B[4], M 1B[4], R 1B[4]; PBT[4]; vPvB[4]	N	N	N	Y	N
Anthracene	120-12-7		Y				PBT[4]; Aq acute 1, Aq chronic 1[2]	Y	Y	N	Y	Y
4-Chloroaniline	106-47-8			Y			C 2[2]; Aq acute 1, Aq chronic 1[2]	Y	N	N	Y	N
2-Nitroanisole	91-23-6	Y					C 2[2]; Aq chronic 3[2]	Y	N	N	N	N
Benzene	71-43-2			Y		Y	C 1A[2], M 1B[2]; Aq acute 2, Aq chronic 3[2]	Y	Y	Y	Y	Y
Dichlorome	75-09-2	Y		Y			C 2[2]	Y	N	N	N	Y

thane (DCM)												
Toluene	108-88-3	Y		Y		Y	R 2[2] Aq acute 2, Aq chronic 3[2]	Y	N	Y	Y	Y
Chloroform	67-66-3	Y		Y		Y	C 2[2], R 2[2]	Y	N	Y	N	Y
Ethylbenzene	100-41-4	Y		Y			C 2[2]; Aq acute 2[2]	Y	N	N	Y	Y
Tetrachloromethane	56-23-5			Y			C 2[2]; Aq chronic 1[2]; Ozone 1[2]	Y	N	N	N	Y
1-Chloro-4-nitrobenzene	100-00-5	Y			Y		M 2[2] Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
Dimethyl disulfide	624-92-0			Y			R 2[2] Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
Molinate	2212-67-1			Y			R 2[2]; Aq acute 1, Aq chronic 1[2]	Y	N	N	N	N

Chlorobenzene	108-90-7	Y		Y		Y	Aq acute 2, Aq chronic 2[2]	Y	N	Y	Y	Y
Cyclohexane	110-82-7	Y		Y		Y	Aq acute 1[2]	Y	N	N	Y	Y
1,2-Dichlorobenzene	95-50-1	Y	Y	Y			Aq acute 1, Aq chronic 1[2]	Y	N	N	N	Y
o-Xylene	95-47-6	Y		Y		Y	Aq acute 2[2]	Y	N	N	N	N
m-/p-Xylene	179601-23-1	Y		Y		Y	Aq acute 2[2]	Y (listed as xylene isomers)				
1-Chloro-2-nitrobenzene	88-73-3	Y			Y		Aq chronic 3[2]	Y	N	N	N	N
1,3-dichlorobenzene	541-73-1	Y		Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
4-nitrophenetole	100-29-8	Y		Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
4-nitroaniso	100-17-4	Y	Y				Aq chronic 3[2]	Y	N	N	N	N

le												
Malathion	121-75-5			Y			Aq acute 1, Aq chronic 1[2]	Y	Y	N	N	Y
1,2,4-Trichlorobenzene	120-82-1		Y	Y			Aq acute 1, Aq chronic 1[2]	Y	Y	N	N	Y
1,2,3-Trichlorobenzene	87-61-6			Y			Aq acute 1, Aq chronic 1[2]	Y	Y	N	Y	Y
2,2'-Azobis (2-methylpropiononitrile)	78-67-1			Y			Aq chronic 3[2]	Y	N	Y	N	N
4-Methylphenol	106-44-5			Y			Aq acute 2[2]	Y	N	N	N	N
2-Methylphenol	95-48-7			Y	Y		Aq acute 2[2]	Y	N	N	N	N
Isopropenylbenzene	98-82-8			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
2,4-Dichlorophenol	120-83-2			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	Y

1,1,2-Trichloroethane	79-00-5			Y			Aq chronic 3[2]	Y	N	N	N	N
N,N-dimethylaniline	121-69-7		Y	Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
Methylcyclohexane	108-87-2			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
2,4-Dichloroaniline	554-00-7			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
3,5-Dichloroaniline	626-43-7			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
Bromoform	75-25-2			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
Benzotrifluoride	98-08-8			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
2-Chlorophenol	95-57-8			Y			Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
5-Chloro-o-toluidine	95-79-4		Y	Y			Aq acute 1, Aq chronic 1[2]	Y	N	N	N	N
2,6-Dichlor	608-31-1			Y			Aq acute 1,	Y	N	N	N	N

oaniline							Aq chronic 1[2]					
Fluoranthene	206-44-0		Y		Y		Aq acute 1, Aq chronic 1[2]	Y	Y	N	N	Y
1-Methylnaphthalene	90-12-0		Y				Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
2-Methylnaphthalene	91-57-6		Y				Aq acute 2, Aq chronic 2[2]	Y	N	N	N	N
3,4-Dichloroaniline	95-76-1				Y		Aq acute 1, Aq chronic 1[2]	Y	N	N	Y	N
2,4,6-Trichlorophenol	88-06-2				Y		Aq acute 1, Aq chronic 1[2]	Y	N	N	N	N

[1] Stockholm Convention http://chm.pops.int/TheConvention/ThePOPs/ListingofPOPs/tabid/2509/Default.aspx, Accessed 30.03.2017.

[2] Harmonized classification of hazardous chemicals in China, published along with the Catalogue of Hazardous Chemicals, 2015, http://www.chinasafety.gov.cn/Contents/Channel_21111/2015/0902/257323/content_257323.htm.

[3] Endocrine disrupters are identified using the SIN list: http://sinlist.chemsec.org/, Accessed 28.03.2017. The SIN list consists of chemicals that have been identified by ChemSec as being SVHCs based on the criteria defined within REACH, but not yet included in the SVHC Candidate list.

[4] REACH Substance of Very High Concern (SVHC) Candidate list, https://echa.europa.eu/regulations/reach/authorisation/the-candidate-list, Accessed 30.03.2017. Since 2007 the EU chemicals regulation REACH entering into force, the most hazardous chemicals are defined as SVHC are listed on the Candidate list. The criteria for a SVHC are described in REACH article 57. The detailed classification category is listed in https://echa.europa.eu/information-on-chemicals/annex-vi-to-clp .