

Overview Fingerprint results organics in wastewater biomonitor



Sample description	UIMS nr.	Q3-2021 23216532 biomonitor 20-10-2021	Q3-2021 23214357 opbouwmonster 18 10-2021	Q3-2021 23214669 opbouwmonster 19-10-2021	Q1-2022 23242776 13-01-2022	Q2-2022 23286279 09-05-2022	Q2-2022 23289134 12-05-2022	Q2-2022 23291321 23-05-2022	Q2-2022 23293685 28-05-2022	Q2-2022 23296802 08-06-2022	Q2-2022 23297335 09-06-2022	Q3-2022 23329318 10-09-2022	Q3-2022 23332805 26-09-2022	Q3-2022 23332830 25-09-2022
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Component	Cas. No	method	unit	LOQ	20-10-2021	18-10-2021	19-10-2021	13-01-2022	09-05-2022	12-05-2022	23-05-2022	28-05-2022	08-06-2022	09-06-2022	10-09-2022	26-09-2022	25-09-2022
Organics Concentration																	
D3 componenten		13	µg/L	10	20	35	31	120	<10	<10	<10	18	18	16	13.4	12	11
Methanol	67-56-1	14	mg/l	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Mineral oil C10-C40		15	mg/l	0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	0.05	0.14	<0.05	<0.05	<0.05	0.05	0.05

Remarks

Component	Cas. No	method	unit	LOQ	20-10-2021	18-10-2021	19-10-2021	13-01-2022	09-05-2022	12-05-2022	23-05-2022	28-05-2022	08-06-2022	09-06-2022	10-09-2022	26-09-2022	25-09-2022
Inorganics Concentration																	
Arsenic (As)	7440-38-2	3	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron (Fe)	7439-89-6	1	mg/l	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	1.1	<0.1	<0.1	0.3
Mercury (Hg)	7439-97-6	2	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Aluminium (Al)	7429-90-5	1	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	0.14	<0.1	<0.1	<0.1	<0.1	0.11	0.1	<0.1	<0.1
Titanium (Ti)	7440-32-6	1	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium (Cr)	7440-47-3	1	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt (Co)	7440-48-4	1	mg/l	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	0.002	0.002	<0.002	<0.002	<0.002
Nickel (Ni)	7440-02-0	1	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper (Cu)	7440-50-8	1	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (Zn)	7440-66-6	1	mg/l	0.02	0.03	<0.02	0.04	<0.02	<0.02	0.06	0.08	0.04	0.04	0.05	0.03	0.03	0.03
Molybdenum (Mo)	7439-98-7	1	mg/l	0.001	0.020	0.002	0.019	0.013	0.017	0.015	0.014	0.016	0.013	0.015	0.016	0.014	0.014
Cadmium (Cd)	7440-43-9	1	mg/l	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tellurium (Te)	13494-80-9	1	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead (Pb)	7439-92-1	1	mg/l	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vanadium (V)	7440-62-2	1	mg/l	0.05	n.a.	n.a.	n.a.	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hafnium (Hf)	7440-58-6	1	mg/l	0.001	n.a.	n.a.	n.a.	0.001	<0.001	<0.001	0.002	0.002	0.002	0.001	0.001	<0.001	<0.001
Germanium (Ge)	7440-56-4	1	mg/l	0.001	n.a.	n.a.	n.a.	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cesium (Cs)	7440-46-2	1	mg/l	0.001	n.a.	n.a.	n.a.	<0.001	<0.001	0.001	<0.001	<0.001	0.001	0.003	0.004	0.001	0.001
Benzene sulfonic acid	98-11-3	11	mg/l	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloride	16887-00-6	11	mg/l	1	89	92	90	80	99	97	91	103	105	110	130	120	120
Phosphate	14265-44-2	11	mg/l	1	<1	<1	<1	5	<1	<1	2	<1	<1	<1	<1	<1	<1
Nitrate	14797-55-8	11	mg/l	1	180	82	117	74	68	80	14	71	62	77	39	35	32
Nitrite	14797-65-0	11	mg/l	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulphate	14808-79-8	11	mg/l	1	240	230	224	255	292	251	169	229	204	194	210*	195*	200*
Undissolved components > 1.6 µm		12	mg/l	1	13	2.4	5.7	6	1	4	n.a.	<1	10	12	8	<1	25
Chemical Oxygen Demand (COD)		10	mg O2/l	10	25	24	20	25	30	20	n.a.	20	25	20	25	20	20
Biological Oxygen Demand (BOD-5)		9	mg O2/l	0.5	0.9	0.8	1.0	0.9	1.0	0.8	n.a.	<0.5	1.0	0.7	<0.5	0.7	<0.5
Total Organic Carbon (TOC)		19	mg/l	1	15	12	13	14	12	13	10	8	14	16	12	11	11
Kjeldahl-N		5	mg N/l	0.5	2.0	2.9	1.9	5.7	2.6	2.4	n.a.	1.8	2.0	1.5	1.2	1.1	1.1
Ammonium-N		6	mg N/l	0.1	0.2	0.4	0.4	0.3	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
pH		4			8.0	8.2	8.1	8.1	8.2	8.1	n.a.	7.8	7.8	7.9	7.9	7.9	7.9
Cyanide-total		7	mg/l	0.002	0.021	0.025	0.020	0.014	0.011	0.013	0.026	0.012	0.013	0.013	0.020	0.012	0.013
Cyanide-free		8	mg/l	0.002	0.012	0.020	0.016	0.008	0.008	0.008	0.022	0.008	0.007	0.007	0.006	0.005	0.005

Remarks: n.a. = due to low amount of sample, analysis is not executed

* heranalyse uitgevoerd

Component	Cas. No	method	unit	LOQ	20-10-2021	18-10-2021	19-10-2021	13-01-2022	09-05-2022	12-05-2022	23-05-2022	28-05-2022	08-06-2022	09-06-2022	10-09-2022	26-09-2022	25-09-2022
POLYCYCLIC AROMATIC HYDROCARBONS Concentration																	
SUM PAH's (EPA)		18	µg/L	0.01	0.13	0.01	0.01	0.03	0.01	0.10	0.05	0.08	0.17	0.14	0.06	0.04	0.04
Acenaphthene	83-32-9	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	208-96-8	18	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	120-12-7	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	56-553	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)-Pyrene	50-32-8	18	µg/L	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.02	0.01	0.01
Benzo(b)fluoranthene	205-99-2	18	µg/L	0.01	0.02	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.01	0.01
Benzo(g)h]perylene	191-24-2	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	207-08-9	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	218-01-9	18	µg/L	0.01	0.03	<0.01	<0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.03	0.03	0.02	0.02
Dibenzo(ah)anthracene	53-70-3	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Phenanthrene	85-01-8	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	206-44-0	18	µg/L	0.01	0.04	0.012	0.012	<0.01	<0.01	0.03	0.02	0.01	0.04	0.03	<0.01	<0.01	<0.01
Fluorene	86-73-7	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno-(1,2,3-c,d)pyrene	193-39-5	18	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Naphthalene	91-20-3	18	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.02	<0.02	<0.02
Pyrene	129-00-0	18	µg/L	0.01	0.04	<0.01	<0.01	0.01	<0.01	0.03	0.02	0.02	0.04	0.03	<0.01	<0.01	<0.01

Remarks

x = Concentrations below LoQ are not included.

hb = Due to high concentration of one or more components the sample had to be diluted. This causes a higher LoQ.

Component					20-10-2021	18-10-2021	19-10-2021	13-01-2022	09-05-2022	12-05-2022	23-05-2022	28-05-2022	08-06-2022	09-06-2022	10-09-2022	26-09-2022	25-09-2022
VOCs	Cas. No	method	unit	LOQ													
Concentration																	
MTBE		16	µg/L	1	1	<1	<1	<1	<1000	<1	<1	<1	<10	<10	<1	<1	<1
Oxazole		16	µg/L	1	1	4	2	<1	<1000	<1	<1	<1	<10	<10	<1	<1	<1
Methylal	109-87-5	16	µg/L	1	<1	<1	<1	<1	<1000	<1	<1	1	<10	<10	<1	<1	<1
Unknowns (total)		16	µg/L	1	<10	<10	<10	<10	<1000	<10	<10	<10	<10	<10	<10	<10	<10
Total		16	µg/L	1	<10	<10	<10	<10	<1000	<10	<10	<10	<10	<10	<10	<10	<10

Remarks

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Component					20-10-2021	18-10-2021	19-10-2021	13-01-2022	09-05-2022	12-05-2022	23-05-2022	28-05-2022	08-06-2022	09-06-2022	10-09-2022	26-09-2022	25-09-2022
Semi/Non VOCs	Cas. No	method	unit	LOQ													
Concentration																	
1-(2-Pyridyl)imidazole	25700-14-5	17	µg/L	1	1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetradecanoic acid	544-63-8	17	µg/L	1	1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-ethylhexyl) phthalate	1117-81-7	17	µg/L	1	4	7	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Squalene	1111-02-4	17	µg/L	1	10	9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzenamine, 4-octyl-N-(4-octylphenyl)-	101-67-7	17	µg/L	1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentadecanoic acid	1002-84-2	17	µg/L	1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Hexadecanoic acid	57-10-3	17	µg/L	1	<1	<1	12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Octadecanoic acid	57-11-4	17	µg/L	1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acridine, 9,10-dihydro-9,9-dimethyl-	6267-02-3	17	µg/L	1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.3
2,4,7,9-Tetramethyl-5-decyn-4,7-diol	126-86-3	17	µg/L	1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.7
phthalic acid		17	µg/L	1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	3.1
Octocrylene	6197-30-4	17	µg/L	1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.6
Unknowns (total)		17	µg/L	1	2	1	4	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total		17	µg/L	1	18	20	41	<10	<10	<10	<10	<10	<10	<10	<10	<10	14

Remarks

hb) Due to high concentration of one or more components the sample had to be diluted. This causes a higher LoQ.