

# Results of OWASA's monitoring as part of the Unregulated Contaminant Monitoring Rule (UCMR)

## UCMR 1 (2001 – 2005)

	Feb 2001	Apr 2001	May 2001	Jul 2001	Aug 2001	Nov 2001	Dec 2001	Feb 2002	May 2002	Aug 2002	Nov 2002	Average	Range
<b>Production of Isocyanate and Explosives</b>													
2,4-dinitrotoluene (µg/L)	< 2.0	-	-	< 2.0	< 2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	No range
2,6-dinitrotoluene (µg/L)	< 2.0	-	-	< 2.0	< 2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	No range
<b>Herbicide</b>													
Acetochlor (µg/L)	< 2.0	-	-	< 2.0	< 2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	No range
EPTC (µg/L)	< 1.0	-	-	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	No range
Molinate (µg/L)	< 0.9	-	-	< 0.9	< 0.9	-	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	No range
Terbacil (µg/L)	< 2.0	-	-	< 2.0	< 2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	No range
<b>Herbicide Degradate</b>													
DCPA degradates (mono- & di-acid) (µg/L)	< 1.0	-	< 1.0	-	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	No range
<b>Insecticide Degradate</b>													
4,4'-DDE (µg/L)	< 0.8	-	-	< 0.8	< 0.8	-	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	No range
<b>Gasoline Additive</b>													
MTBE (µg/L)	< 5.0	-	< 5.0	-	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	No range
<b>Production of Aniline</b>													
Nitrobenzene (µg/L)	< 10	-	< 10	-	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	No range
<b>Solid Fuel Additive</b>													
Perchlorate (µg/L)	< 4.0	-	< 4.0	-	< 4.0	< 4.0	-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	No range
<b>Microbe</b>													
Aeromonas (cfu/100 mL)	-	< 0.2	-	< 0.2	-	-	-	-	-	-	-	< 0.2	No range

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## UCMR 2 (2007 – 2011)

	Dec 2008		Mar 2009		May 2009		Jun 2009		Sep 2009		Average	Range	
<b>Insecticides</b>													
Dimethoate (µg/L)	< 0.7	-	< 0.7	-	-	< 0.7	-	< 0.7	-	< 0.7	-	< 0.7	No range
Terbufos sulfone (µg/L)	< 0.4	-	< 0.4	-	-	< 0.4	-	< 0.4	-	< 0.4	-	< 0.4	No range
<b>Flame Retardants</b>													
2,2',4,4'-tetrabromodiphenyl ether (BDE-47) (µg/L)	< 0.3	-	< 0.3	-	-	< 0.3	-	< 0.3	-	< 0.3	-	< 0.3	No range
2,2',4,4',5-pentabromodiphenyl ether (BDE-99) (µg/L)	< 0.9	-	< 0.9	-	-	< 0.9	-	< 0.9	-	< 0.9	-	< 0.9	No range
2,2',4,4',5,5'-hexabromobiphenyl (HBB) (µg/L)	< 0.7	-	< 0.7	-	-	< 0.7	-	< 0.7	-	< 0.7	-	< 0.7	No range
2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153) (µg/L)	< 0.8	-	< 0.8	-	-	< 0.8	-	< 0.8	-	< 0.8	-	< 0.8	No range
2,2',4,4',6-pentabromodiphenyl ether (BDE-100) (µg/L)	< 0.5	-	< 0.5	-	-	< 0.5	-	< 0.5	-	< 0.5	-	< 0.5	No range
<b>Explosives</b>													
1,3-dinitrobenzene (µg/L)	< 0.8	-	< 0.8	-	-	< 0.8	-	< 0.8	-	< 0.8	-	< 0.8	No range
2,4,6-trinitrotoluene (TNT) (µg/L)	< 0.8	-	< 0.8	-	-	< 0.8	-	< 0.8	-	< 0.8	-	< 0.8	No range
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) (µg/L)	< 1.0	-	< 1.0	-	-	< 1.0	-	< 1.0	-	< 1.0	-	< 1.0	No range
<b>Parent Acetanilides</b>													
Acetochlor (µg/L)	< 2.0	-	< 2.0	-	-	< 2.0	-	< 2.0	-	< 2.0	-	< 2.0	No range
Alachlor (µg/L)	< 2.0	-	< 2.0	-	-	< 2.0	-	< 2.0	-	< 2.0	-	< 2.0	No range
Metolachlor (µg/L)	< 1.0	-	< 1.0	-	-	< 1.0	-	< 1.0	-	< 1.0	-	< 1.0	No range
<b>Acetanilide Degradates</b>													
Acetochlor ethane sulfonic acid (ESA) (µg/L)	< 1.0	-	< 1.0	-	-	< 1.0	-	< 1.0	-	< 1.0	-	< 1.0	No range
Acetochlor oxanilic acid (OA) (µg/L)	< 2.0	-	< 2.0	-	-	< 2.0	-	< 2.0	-	< 2.0	-	< 2.0	No range
Alachlor ethane sulfonic acid (ESA) (µg/L)	< 1.0	-	< 1.0	-	-	< 1.0	-	< 1.0	-	< 1.0	-	< 1.0	No range
Alachlor oxanilic acid (OA) (µg/L)	< 2.0	-	< 2.0	-	-	< 2.0	-	< 2.0	-	< 2.0	-	< 2.0	No range
Metolachlor ethane sulfonic acid (ESA) (µg/L)	< 1.0	-	< 1.0	-	-	< 1.0	-	< 1.0	-	< 1.0	-	< 1.0	No range
Metolachlor oxanilic acid (OA) (µg/L)	< 2.0	-	< 2.0	-	-	< 2.0	-	< 2.0	-	< 2.0	-	< 2.0	No range
<b>Nitrosamines</b>													
N-nitroso-diethylamine (NDEA) (µg/L)	< 0.0050	< 0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	No range
N-nitroso-dimethylamine (NDMA) (µg/L)	< 0.0020	< 0.0020	-	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	<b>0.0025</b>	<b>0.0003</b>	<b>&lt; 0.0020 - 0.0025</b>		
N-nitroso-di-n-butylamine (NDBA) (µg/L)	< 0.0040	< 0.0040	-	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	No range
N-nitroso-di-n-propylamine (NDPA) (µg/L)	< 0.0070	< 0.0070	-	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	No range
N-nitroso-methylethylamine (NMEA) (µg/L)	< 0.0030	< 0.0030	-	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	No range
N-nitroso-pyrrolidine (NPYR) (µg/L)	< 0.0020	< 0.0020	-	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	No range

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## UCMR 3 (2012 – 2016)

	Nov 2013		Feb 2014		May 2014		Aug 2014		Average	Range
<b>Volatile Organic Compounds</b>										
Bromochloromethane (halon 1011) (µg/L)	< 0.06	-	< 0.06	-	< 0.06	-	< 0.06	-	< 0.06	No range
Bromomethane (methyl bromide) (µg/L)	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	No range
1,3-butadiene (µg/L)	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	No range
Chlorodifluoromethane (HCFC-22) (µg/L)	< 0.08	-	< 0.08	-	< 0.08	-	< 0.08	-	< 0.08	No range
Chloromethane (methyl chloride) (µg/L)	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	No range
1,1-dichloroethane (µg/L)	< 0.03	-	< 0.03	-	< 0.03	-	< 0.03	-	< 0.03	No range
1,2,3-trichloropropane (µg/L)	< 0.03	-	< 0.03	-	< 0.03	-	< 0.03	-	< 0.03	No range
<b>Synthetic Organic Compound</b>										
1,4-dioxane (µg/L)	< 0.07	-	< 0.07	-	< 0.07	-	< 0.07	-	< 0.07	No range
<b>Metals</b>										
Chromium-6 (µg/L)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	No range
Cobalt (µg/L)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	No range
Molybdenum (µg/L)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	No range
Strontium (µg/L)	<b>72</b>	<b>75</b>	<b>53</b>	<b>57</b>	<b>54</b>	<b>55</b>	<b>66</b>	<b>66</b>	<b>62</b>	<b>53 - 75</b>
Vanadium (µg/L)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	No range
Chromium, hexavalent (µg/L)	<b>0.05</b>	<b>0.06</b>	<0.03	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>	<b>0.04</b>	<b>0.05</b>	<b>0.04</b>	<b>&lt; 0.03 - 0.06</b>
<b>Oxyhalide Anion</b>										
Chlorate (µg/L)	<b>650</b>	<b>620</b>	<b>160</b>	<b>180</b>	<b>330</b>	<b>330</b>	<b>630</b>	<b>620</b>	<b>440</b>	<b>160 - 650</b>
<b>Perfluorinated Compounds</b>										
Perfluorobutanesulfonic acid (PFBS) (µg/L)	< 0.09	-	< 0.09	-	< 0.09	-	< 0.09	-	< 0.09	No range
Perfluoroheptanoic acid (PFHpA) (µg/L)	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	No range
Perfluorohexanesulfonic acid (PFHxS) (µg/L)	< 0.03	-	< 0.03	-	< 0.03	-	< 0.03	-	< 0.03	No range
Perfluorononanoic acid (PFNA) (µg/L)	< 0.02	-	< 0.02	-	< 0.02	-	< 0.02	-	< 0.02	No range
Perfluorooctanesulfonic acid (PFOS) (µg/L)	< 0.04	-	< 0.04	-	< 0.04	-	< 0.04	-	< 0.04	No range
Perfluorooctanoic acid (PFOA) (µg/L)	< 0.02	-	<b>0.03</b>	-	< 0.02	-	< 0.02	-	<b>0.01</b>	<b>&lt; 0.02 - 0.03</b>

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## UCMR 4 (2017 – 2021)

	Aug 2019	Nov 2019	Feb 2020	Apr 2020		May 2020		Jun 2020		Jul 2020		Average	Range
<b>Metals</b>													
germanium (µg/L)	< 0.300	< 0.300	< 0.300	-	-	< 0.300	-	-	-	-	-	< 0.300	No range
manganese (µg/L)	< 0.400	<b>0.998</b>	<b>0.701</b>	-	-	< 0.400	-	-	-	-	-	<b>0.425</b>	<0.400 - 0.998
<b>Pesticides &amp; Pesticide Manufacturing Byproduct</b>													
alpha-hexachlorocyclohexane (µg/L)	< 0.0100	< 0.0100	< 0.0100	-	-	< 0.0100	-	-	-	-	-	< 0.0100	No range
chlorpyrifos (µg/L)	< 0.0300	< 0.0300	< 0.0300	-	-	< 0.0300	-	-	-	-	-	< 0.0300	No range
dimethipin (µg/L)	< 0.200	< 0.200	< 0.200	-	-	< 0.200	-	-	-	-	-	< 0.200	No range
ethoprop (µg/L)	< 0.0300	< 0.0300	< 0.0300	-	-	< 0.0300	-	-	-	-	-	< 0.0300	No range
oxyfluorfen (µg/L)	< 0.0500	< 0.0500	< 0.0500	-	-	< 0.0500	-	-	-	-	-	< 0.0500	No range
profenofos (µg/L)	< 0.300	< 0.300	< 0.300	-	-	< 0.300	-	-	-	-	-	< 0.300	No range
tebuconazole (µg/L)	< 0.200	< 0.200	< 0.200	-	-	< 0.200	-	-	-	-	-	< 0.200	No range
permethrin, cis- & trans- (µg/L)	< 0.0400	< 0.0400	< 0.0400	-	-	< 0.0400	-	-	-	-	-	< 0.0400	No range
tribufos (µg/L)	< 0.0700	< 0.0700	< 0.0700	-	-	< 0.0700	-	-	-	-	-	< 0.0700	No range
<b>Alcohols</b>													
1-butanol (µg/L)	< 2.00	< 2.00	< 2.00	-	-	< 2.00	-	-	-	-	-	< 2.00	No range
2-methoxyethanol (µg/L)	< 0.400	< 0.400	< 0.400	-	-	< 0.400	-	-	-	-	-	< 0.400	No range
2-propen-1-ol (µg/L)	< 0.500	< 0.500	< 0.500	-	-	< 0.500	-	-	-	-	-	< 0.500	No range
<b>Semivolatile Chemicals</b>													
butylated hydroxyanisole (µg/L)	< 0.0300	< 0.0300	< 0.0300	-	-	< 0.0300	-	-	-	-	-	< 0.0300	No range
o-toluidine (µg/L)	< 0.00700	< 0.00700	< 0.00700	-	-	< 0.00700	-	-	-	-	-	< 0.00700	No range
quinoline (µg/L)	< 0.0200	< 0.0200	< 0.0200	-	-	< 0.0200	-	-	-	-	-	< 0.0200	No range
<b>Brominated Haloacetic Acid (HAA) Groups</b>													
HAA5 (µg/L)	<b>11.69</b>	<b>7.43</b>	<b>9.65</b>	-	-	<b>12.70</b>	-	-	-	-	-	<b>10.36</b>	5.66 - 14.00
HAA6Br (µg/L)	<b>4.21</b>	<b>2.68</b>	<b>3.41</b>	-	-	<b>4.13</b>	-	-	-	-	-	<b>3.61</b>	1.78 - 4.45
HAA9 (µg/L)	<b>15.36</b>	<b>10.03</b>	<b>12.84</b>	-	-	<b>16.83</b>	-	-	-	-	-	<b>13.76</b>	8.52 - 18.28
<b>Cyanotoxins</b>													
anatoxin-a (µg/L)	-	-	-	< 0.0300	< 0.0300	< 0.0300	< 0.0300	< 0.0300	< 0.0300	< 0.0300	< 0.0300	< 0.0300	No range
cylindrospermopsin (µg/L)	-	-	-	< 0.0900	< 0.0900	< 0.0900	< 0.0900	< 0.0900	< 0.0900	< 0.0900	< 0.0900	< 0.0900	No range
total microcystins & nodularins (µg/L)	-	-	-	< 0.300	< 0.300	< 0.300	< 0.300	< 0.300	< 0.300	< 0.300	< 0.300	< 0.300	No range
microcystin-LA * (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
microcystin-LF * (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
microcystin-LR * (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
microcystin-LY * (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
microcystin-RR * (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
microcystin-YR * (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-

\* only analyzed if total microcystins & nodularins results > 0.3 µg/L