

□ 왜관 지점

○ 산업용 물질(60종)

(단위: µg/L)

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과		국내 ⁴⁾	국외	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)		논문 ⁵⁾	유럽 ⁶⁾
1	Perfluorobutanesulfonic acid (PFBS)	375-73-5	PFAS	-	-	-	-	-	100	0.0011-0.0111 (0.0033)	ND-0.011	0.003-0.071	ND-0.0010
2	Perfluorobutanoic acid (PFBA)	375-22-4	PFAS	-	-	-	-	-	1	ND-0094 (0.0001)	-	0.002-0.143	ND-0.01
3	Perfluorodecanesulfonic acid (PFDS)	335-77-3	PFAS	-	-	-	-	-	2	ND-0.0012 (0.00002)	ND	-	ND
4	Perfluorodecanoic acid (PFDA)	335-76-2	PFAS	-	-	-	-	-	0	ND	ND-0.004	-	ND
5	Perfluorododecanoic acid (PFDoDA)	307-55-1	PFAS	-	-	-	-	-	0	ND	ND	-	ND
6	Perfluoroheptanesulfonic acid (PFHpS)	375-92-8	PFAS	-	-	-	-	-	0	ND	-	-	ND
7	Perfluoroheptanoic acid (PFHpA)	375-85-9	PFAS	-	-	-	-	-	59	ND-0.0058 (0.0009)	ND-0.012	0.025-0.148	ND-0.0026
8	Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS	감시(0.48)	-	-	-	-	41	ND-0.0035 (0.0007)	ND-0.599	-	ND
9	Perfluorohexanoic acid (PFHxA)	307-24-4	PFAS	-	-	-	-	-	73	ND-0.0154 (0.0029)	0.0004-0.033	0.003-1.248	ND-0.0118
10	Perfluorononanoic acid (PFNA)	375-95-1	PFAS	-	-	-	-	-	33	ND-0.0020 (0.0004)	0.0004-0.005	-	ND
11	Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS	감시(0.07)	-	-	2B	-	19	ND-0.0024 (0.0003)	ND-0.005	0.004-0.193	ND-0.0115
12	Perfluorooctanoic acid (PFOA)	335-67-1	PFAS	감시(0.07)	-	-	1	-	84	ND-0.0061 (0.0023)	0.0008-0.065	0.009-3.640	ND-0.0043
13	Perfluoropentanoic acid (PFPeA)	2706-90-3	PFAS	-	-	-	-	-	55	ND-0.0126 (0.0016)	ND-0.017	0.003-1.638	ND

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과		국내 ⁴⁾	국외	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)		논문 ⁵⁾	유럽 ⁶⁾
14	Perfluorotetradecanoic acid (PFTeDA)	376-06-7	PFAS	-	-	-	-	-	0	ND	ND	-	ND
15	Perfluorotridecanoic acid (PFTrDA)	72629-94-8	PFAS	-	-	-	-	-	0	ND	ND	-	ND
16	Perfluoroundecanoic acid (PFUnDA)	2058-94-8	PFAS	-	-	-	-	-	0	ND	ND-0.0003	-	ND
17	Benzidine	92-87-5	산업용	-	-	-	1	-	0	ND	-	ND-222.58	-
18	Benzotriazole	95-14-7	산업용	-	-	-	-	-	100	0.0166-0.7454 (0.1563)	-	0.16-0.21	ND-0.7070
19	Quinoline	91-22-5	산업용	-	-	-	2B	-	51	ND-0.1406 (0.0213)	0.0006-0.041	ND-0.017	-
20	Triethyl phosphate	78-40-0	산업용	-	-	-	-	-	56	ND-0.0320 (0.0113)	-	0.01-0.18	ND-0.0356
21	Tris(2-chloroethyl) phosphate	115-96-8	산업용	-	-	-	3	-	19	ND-1.6522 (0.0368)	-	ND-0.33	ND-0.0385
22	1,1,1,2-Tetrachloroethane	630-20-6	산업용	-	-	-	2B	-	0	ND	-	-	-
23	1,1,2,2-Tetrachloroethane	79-34-5	산업용	-	-	-	2B	-	0	ND	-	-	ND
24	1,1,2-Trichloroethane	79-00-5	산업용	-	-	5	3	-	0	ND	ND	0.6	ND
25	1,1-Dichloroethane	75-34-3	산업용	-	-	-	-	-	0	ND	ND	<0.003-0.021	ND
26	1,2,3-Trichloropropane	96-18-4	산업용	-	-	-	2A	-	0	ND	-	-	-
27	1,2,4-Trichlorobenzene	120-82-1	산업용	-	-	70	-	-	0	ND	ND-0.25	<0.006-0.086	ND
28	1,2,4-Trimethylbenzene	95-63-6	산업용	-	-	-	-	-	0	ND	-	-	ND
29	1,2-Dichlorobenzene	95-50-1	산업용	-	1,000	600	3	-	1	ND-0.016 (0.0002)	ND-0.12	<0.004-0.034	ND
30	1,2-Dichloropropane	78-87-5	산업용	-	40	5	1	-	3	ND-0.045 (0.001)	ND-1.11	<0.00-3.0	ND
31	1,3-Dichlorobenzene	541-73-1	산업용	-	-	-	-	-	0	ND	ND	<0.003-0.030	ND

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					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)		논문 ⁵⁾	유럽 ⁶⁾
32	1,4-Dichlorobenzene	106-46-7	산업용	-	300	75	2B	-	0	ND	ND-0.07	<0.015-0.157	ND
33	Bromochloromethane	74-97-5	산업용	-	-	-	-	-	0	ND	-	-	-
34	Chlorobenzene	108-90-7	산업용	-	-	100	-	-	0	ND	ND-0.05	<0.007-0.052	ND
35	cis-1,2-Dichloroethene	156-59-2	산업용	-	50	70	-	-	5	ND-0.015 (0.001)	ND-0.924	-	-
36	cis-1,3-Dichloropropene	10061-01-5	산업용	-	20	-	-	-	0	ND	ND	-	-
37	Cumene	98-82-8	산업용	-	-	-	2B	-	0	ND	-	-	ND
38	Epichlorohydrin	106-89-8	산업용	-	0.4	-	2A	-	0	ND	ND	-	-
39	Hexachlorobutadiene	87-68-3	산업용	-	0.6	-	3	-	0	ND	ND	-	ND-0.009
40	Hexachloroethane	67-72-1	산업용	-	-	-	2B	-	0	ND	-	-	ND
41	Methyl tert-butyl ether	1634-04-4	산업용	-	-	-	3	-	82	ND-0.343 (0.048)	-	2.7	ND
42	Naphthalene	91-20-3	산업용	-	-	-	2B	-	11	ND-0.014 (0.001)	ND-0.240	-	ND-0.424
43	n-Butylbenzene	104-51-8	산업용	-	-	-	-	○	0	ND	ND	-	ND
44	n-Propylbenzene	103-65-1	산업용	-	-	-	-	-	0	ND	-	-	-
45	sec-Butylbenzene	135-98-8	산업용	-	-	-	-	-	0	ND	-	-	-
46	trans-1,2-Dichloroethylene	156-60-5	산업용	-	-	100	-	-	2	ND-0.023 (0.0004)	ND	-	ND
47	trans-1,3-Dichloropropene	10061-02-6	산업용	-	20	-	-	-	0	ND	-	-	ND
48	Barium (Ba)	7440-39-3	금속류	-	1,300	2,000	-	-	100	20.02-38.25 (30.43)	4.10-215.30	8.1-157.5	2.02-11
49	Beryllium (Be)	7440-41-7	금속류	-	-	4	1	-	0	ND	ND-0.198	-	0.0900

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					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)		논문 ⁵⁾	유럽 ⁶⁾
50	Cobalt (Co)	7440-48-4	금속류	-	-	-	2B	-	55	ND-0.13 (0.05)	-	-	0.1000
51	Lithium (Li)	7439-93-2	금속류	-	-	-	-	-	100	1.41-42.74 (16.75)	-	-	-
52	Molybdenum (Mo)	7439-98-7	금속류	-	-	-	-	-	100	0.63-3.34 (1.68)	-	-	0.17
53	Nickel (Ni)	7440-02-0	금속류	-	70	-	2B	-	96	ND-2.26 (1.06)	0.023-318.59	0.5-13.3	ND-89
54	Silver (Ag)	7440-22-4	금속류	-	-	100	-	-	0	ND	ND-0.597	-	-
55	Tellurium (Te)	13494-80-9	금속류	-	-	-	-	-	0	ND	-	-	-
56	Thallium (Tl)	7440-28-0	금속류	-	-	2	-	-	0	ND	-	-	-
57	Thorium (Th)	7440-29-1	금속류	-	-	-	1	-	0	ND	-	-	-
58	Tin (Sn)	7440-31-5	금속류	-	-	-	-	-	0	ND	0.007-0.237	-	0.10
59	Titanium (Ti)	7440-32-6	금속류	-	-	-	3	-	12	ND-1.92 (0.13)	0.152-11.90	-	-
60	Vanadium (V)	7440-62-2	금속류	-	-	-	-	-	100	0.07-1.75 (0.59)	-	-	0.1000

※ ND : 정량한계 미만

- 1) 국내기준: 수질환경기준(수질), 먹는물수질기준(먹는물), 먹는물수질감시항목 감시기준(감시)
- 2) 국외기준: 세계보건기구(WHO) 먹는물기준(Guidelines for Drinking water Quality), 미국환경보호청(EPA) 먹는물기준(NPDWR: National Primary Drinking Water Regulations, SDWR: Secondary Drinking Water Regulations)
- 3) 유해성: 세계보건기구 국제암연구소 발암물질(WHO International Agency for Research on Cancer-List of Classifications), 야생동물보호기금 내분비계장애물질(WWF-EDCs: Endocrine Disrupting Chemicals)
- 4) 지천중심 잠정관리 유해물질 분포 및 오염경로 조사(2011~2017, 4대강 수계관리위원회), 취정수장 미량유해물질 안전성 제고방안 마련(2018, 낙동강수계관리위원회)
- 5) 유럽, 스위스, 독일, 스웨덴, 이탈리아, 포르투갈, 스페인, 그리스, 영국, 루마니아, 벨기에, 미국, 캐나다, 일본, 중국, 베트남, 이집트, 1997~2022년(<https://www.sciencedirect.com>)
- 6) 유럽(오스트리아, 불가리아, 크로아티아, 체코, 프랑스, 독일, 헝가리, 몰도바, 몬테네그로, 루마니아, 세르비아, 슬로바키아, 우크라이나), 2017~2022년(<https://www.norman-network.com>)

○ 농약류(36종)

(단위: µg/L)

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과		국내 ⁴⁾	국외	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)		논문 ⁵⁾	유럽 ⁶⁾
1	Alachlor ESA	142363-53-9	농약류	-	-	-	-	-	100	0.0601-0.2037 (0.1043)	-	0.74-5.01	ND
2	Aldicarb	116-06-3	농약류	-	10	-	3	○	58	ND-0.0370 (0.0070)	ND	ND-0.069	ND
3	Atrazine	1912-24-9	농약류	-	100	3	3	○	33	ND-0.0677 (0.0041)	ND-0.003	ND-1.65	ND-0.0552
4	Butachlor	23184-66-9	농약류	-	-	-	-	-	30	ND-0.2023 (0.0120)	-	<0.01-0.09	ND
5	Carbendazim	10605-21-7	농약류	-	-	-	-	-	100	0.0098-0.1407 (0.0521)	-	0.001-0.105	ND-1.5232
6	Carbofuran	1563-66-2	농약류	-	7	40	-	-	70	ND-0.0382 (0.0053)	ND-0.780	0.03-0.15	ND
7	Chlorpyrifos	2921-88-2	농약류	-	30	-	-	-	1	ND-0.0639 (0.0007)	ND-0.076	ND-0.009	ND-0.0170
8	Clomazone	81777-89-1	농약류	-	-	-	-	-	24	ND-0.0442 (0.0035)	-	ND-15.69	ND-0.0026
9	Dichlorvos	62-73-7	농약류	-	-	-	2B	-	11	ND-0.0331 (0.0010)	ND-0.163	ND-5.63	ND-0.0033
10	Diuron	330-54-1	농약류	-	-	-	-	-	0	ND	ND-0.013	0.023-0.068	ND-1.1974
11	Flutolanil	66332-96-5	농약류	-	-	-	-	-	51	ND-0.0310 (0.0017)	-	0.073-0.35	ND
12	Flutriafol	76674-21-0	농약류	-	-	-	-	-	100	0.0038-0.0362 (0.0119)	-	-	-
13	Fluxapyroxad	907204-31-3	농약류	-	-	-	-	-	88	ND-0.0259 (0.0072)	-	-	-
14	Imidacloprid	138261-41-3	농약류	-	-	-	-	-	82	ND-0.0220 (0.0065)	-	0.002-0.019	ND-0.1070
15	Linuron	330-55-2	농약류	-	-	-	-	-	18	ND-0.0070 (0.0006)	ND-0.021	0.27	ND-0.0021
16	Malathion	121-75-5	농약류	-	-	-	2A	○	0	ND	-	0.855-503.58	ND-0.0261
17	MCPA	94-74-6	농약류	-	2	-	-	-	55	ND-0.0613 (0.0094)	ND-0.810	0.27	ND-0.66
18	Mefenacet	73250-68-7	농약류	-	-	-	-	-	59	ND-0.1813 (0.0110)	-	ND-0.028	ND

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					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)		논문 ⁵⁾	유럽 ⁶⁾
19	Metalaxyl	57837-19-1	농약류	-	-	-	-	-	100	0.0067-0.0455 (0.0132)	-	5.76	ND-0.0160
20	Metconazole	125116-23-6	농약류	-	-	-	-	-	92	ND-0.0175 (0.0030)	-	0.025-0.072	-
21	Methiocarb	2032-65-7	농약류	-	-	-	-	-	0	ND	-	-	ND
22	Methomyl	16752-77-5	농약류	-	-	-	-	○	50	ND-0.0390 (0.0063)	ND-0.040	-	ND
23	Metolachlor	51218-45-2	농약류	-	10	-	-	-	97	ND-0.2630 (0.0446)	ND-0.521	ND-10.5	ND-0.7203
24	Metolachlor ESA	171118-09-5	농약류	-	-	-	-	-	100	0.0427-0.0997 (0.0652)	-	0.002-0.017	ND-0.3307
25	Metribuzin	21087-64-9	농약류	-	-	-	-	○	1	ND-0.0075 (0.0001)	ND-0.0004	ND-0.12	ND-0.0077
26	Oryastrobin	248593-16-0	농약류	-	-	-	-	-	100	0.0218-0.4101 (0.0806)	-	-	-
27	Pendimethalin	40487-42-1	농약류	-	20	-	-	-	70	ND-0.0352 (0.0050)	ND-0.005	ND-0.2	ND
28	Propazine	139-40-2	농약류	-	-	-	-	-	0	ND	-	-	ND
29	Propiconazole	60207-90-1	농약류	-	-	-	-	-	100	0.0033-0.1419 (0.0141)	-	ND-0.065	ND-0.0307
30	Pyrimethanil	53112-28-0	농약류	-	-	-	-	-	18	ND-0.0049 (0.0004)	-	0.0009-0.089	0-0.11
31	Simazine	122-34-9	농약류	-	2	4	3	-	21	ND-0.0024 (0.0003)	ND-0.103	-	ND-0.2098
32	Simetryn	1014-70-6	농약류	-	-	-	-	-	67	ND-0.2576 (0.0201)	-	0.21-23.3	ND
33	Tebuconazole	107534-96-3	농약류	-	-	-	-	-	100	0.0069-0.0874 (0.0366)	-	0.086-0.48	ND-0.0370
34	Tebupirimfos	96182-53-5	농약류	-	-	-	-	-	3	ND-0.0017 (0.00004)	-	0.034	-
35	Thiacloprid	111988-49-9	농약류	-	-	-	-	-	33	ND-0.0061 (0.0006)	-	0.02-1.37	0-0.0205
36	Tricyclazole	41814-78-2	농약류	-	-	-	-	-	100	0.0097-0.2959 (0.0448)	-	-	ND

○ 의약품질(18종)

(단위: µg/L)

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과		국내 ⁴⁾	국외	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)		논문 ⁵⁾	유럽 ⁶⁾
1	Antipyrine	60-80-0	의약품질	-	-	-	-	-	0	ND	-	ND-0.295	ND-0.0273
2	Candesartan	139481-59-7	의약품질	-	-	-	-	-	99	ND-0.0175 (0.0086)	-	0.006-0.022	ND-0.0312
3	Climbazole	38083-17-9	의약품질	-	-	-	-	-	98	ND-0.0317 (0.0149)	-	-	ND-0.1776
4	Fexofenadine	83799-24-0	의약품질	-	-	-	-	-	93	ND-0.0530 (0.0252)	-	ND-1.144	ND
5	Gabapentin	60142-96-3	의약품질	-	-	-	-	-	100	0.0189-0.2684 (0.1270)	-	ND-1.879	ND-0.0434
6	Irbesartan	138402-11-6	의약품질	-	-	-	-	-	59	ND-0.0149 (0.0044)	-	<0.0153	0-0.67
7	Lamotrigine	84057-84-1	의약품질	-	-	-	-	-	97	ND-0.0231 (0.0089)	-	0.005-0.045	ND-0.1885
8	Lidocaine	137-58-6	의약품질	-	-	-	-	-	100	0.0016-0.0418 (0.0162)	-	ND-0.04	ND-0.0045
9	Losartan	114798-26-4	의약품질	-	-	-	-	-	99	ND-0.0226 (0.0090)	-	ND-0.149	ND-0.2960
10	Methylprednisolone	83-43-2	의약품질	-	-	-	-	-	0	ND	-	-	ND
11	Oseltamivir	204255-11-8	의약품질	-	-	-	-	-	63	ND-0.1009 (0.0212)	-	-	ND
12	Primidone	125-33-7	의약품질	-	-	-	-	-	49	ND-0.0044 (0.0012)	-	ND-0.061	ND
13	Propyphenazone	479-92-5	의약품질	-	-	-	-	-	10	ND-0.0046 (0.0002)	-	1.970	0-0.037
14	Ranitidine	66357-35-5	의약품질	-	-	-	-	-	0	ND	ND-0.015	ND-0.074	ND-0.0019
15	Sitagliptin	486460-32-6	의약품질	-	-	-	-	-	100	0.0032-0.1207 (0.0564)	-	ND-0.121	ND
16	Sulfapyridine	144-83-2	의약품질	-	-	-	-	-	98	ND-0.0099 (0.0047)	-	ND-0.493	ND-0.0831
17	Tramadol	27203-92-5	의약품질	-	-	-	-	-	100	0.0051-0.0597 (0.0303)	-	ND-5.97	ND-0.012
18	Valsartan	137862-53-4	의약품질	-	-	-	-	-	100	0.0083-0.1564 (0.0542)	-	0.031- 0.297	ND-0.8099

□ 기타 지점(강정, 남지, 물금)

○ 산업용 물질(60종)

(단위: µg/L)

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과(강정)		검출결과(남지)		검출결과(물금)	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)
1	Perfluorobutanesulfonic acid (PFBS)	375-73-5	PFAS	-	-	-	-	-	100	0.0013-0.0033 (0.0020)	100	0.0023-0.0138 (0.0049)	100	0.0025-0.0120 (0.0063)
2	Perfluorobutanoic acid (PFBA)	375-22-4	PFAS	-	-	-	-	-	8	ND-0.0074 (0.0006)	33	ND-0.0175 (0.0038)	33	ND-0.0170 (0.0032)
3	Perfluorodecanesulfonic acid (PFDS)	335-77-3	PFAS	-	-	-	-	-	0	ND	0	ND	0	ND
4	Perfluorodecanoic acid (PFDA)	335-76-2	PFAS	-	-	-	-	-	0	ND	0	ND	0	ND
5	Perfluorododecanoic acid (PFDoDA)	307-55-1	PFAS	-	-	-	-	-	0	ND	0	ND	0	ND
6	Perfluoroheptanesulfonic acid (PFHpS)	375-92-8	PFAS	-	-	-	-	-	0	ND	8	ND-0.0011 (0.0001)	8	ND-0.0012 (0.0001)
7	Perfluoroheptanoic acid (PFHpA)	375-85-9	PFAS	-	-	-	-	-	50	ND-0.0022 (0.0006)	92	ND-0.0102 (0.0044)	92	ND-0.0066 (0.0038)
8	Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS	감시(0.48)	-	-	-	-	50	ND-0.0022 (0.0008)	42	ND-0.0052 (0.0010)	42	ND-0.0038 (0.0009)
9	Perfluorohexanoic acid (PFHxA)	307-24-4	PFAS	-	-	-	-	-	67	ND-0.0069 (0.0021)	100	0.0042-0.0368 (0.0183)	100	0.0044-0.0343 (0.0164)
10	Perfluorononanoic acid (PFNA)	375-95-1	PFAS	-	-	-	-	-	42	ND-0.0020 (0.0006)	67	ND-0.0045 (0.0018)	67	ND-0.0043 (0.0019)
11	Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS	감시(0.07)	-	-	-	-	17	ND-0.0029 (0.0003)	33	ND-0.0030 (0.0007)	42	ND-0.0040 (0.0012)
12	Perfluorooctanoic acid (PFOA)	335-67-1	PFAS	감시(0.07)	-	-	2B	-	67	ND-0.0038 (0.0016)	100	0.0049-0.0145 (0.0089)	100	0.0033-0.0126 (0.0090)
13	Perfluoropentanoic acid (PFPeA)	2706-90-3	PFAS	-	-	-	-	-	42	ND-0.0030 (0.0007)	83	ND-0.0197 (0.0074)	92	ND-0.0224 (0.0093)
14	Perfluorotetradecanoic acid (PFTeDA)	376-06-7	PFAS	-	-	-	-	-	0	ND	0	ND	8	ND-0.0135 (0.0011)
15	Perfluorotridecanoic acid (PFTrDA)	72629-94-8	PFAS	-	-	-	-	-	0	ND	0	ND	0	ND

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과(강정)		검출결과(남지)		검출결과(물금)	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)
16	Perfluoroundecanoic acid (PFUnDA)	2058-94-8	PFAS	-	-	-	-	-	0	ND	0	ND	0	ND
17	Benzidine	92-87-5	산업용	-	-	-	1	-	0	ND	0	ND	0	ND
18	Benzotriazole	95-14-7	산업용	-	-	-	-	-	92	ND-0.0409 (0.0214)	100	0.0396-0.3127 (0.1202)	100	0.0417-0.1747 (0.1096)
19	Quinoline	91-22-5	산업용	-	-	-	2B	-	67	ND-0.0558 (0.0234)	67	ND-0.1202 (0.0302)	58	ND-0.0926 (0.0227)
20	Triethyl phosphate	78-40-0	산업용	-	-	-	-	-	42	ND-0.0254 (0.0090)	67	ND-0.0484 (0.0161)	75	ND-0.0655 (0.0209)
21	Tris(2-chloroethyl) phosphate	115-96-8	산업용	-	-	-	3	-	92	ND-1.9781 (0.4514)	92	ND-0.7049 (0.2429)	92	ND-1.4319 (0.3962)
22	1,1,1,2-Tetrachloroethane	630-20-6	산업용	-	-	-	2B	-	0	ND	0	ND	0	ND
23	1,1,2,2-Tetrachloroethane	79-34-5	산업용	-	-	-	2B	-	0	ND	0	ND	0	ND
24	1,1,2-Trichloroethane	79-00-5	산업용	-	-	5	3	-	0	ND	0	ND	0	ND
25	1,1-Dichloroethane	75-34-3	산업용	-	-	-	-	-	0	ND	0	ND	0	ND
26	1,2,3-Trichloropropane	96-18-4	산업용	-	-	-	2A	-	0	ND	0	ND	0	ND
27	1,2,4-Trichlorobenzene	120-82-1	산업용	-	-	70	-	-	0	ND	0	ND	0	ND
28	1,2,4-Trimethylbenzene	95-63-6	산업용	-	-	-	-	-	0	ND	0	ND	0	ND
29	1,2-Dichlorobenzene	95-50-1	산업용	-	1,000	600	3	-	0	ND	0	ND	0	ND
30	1,2-Dichloropropane	78-87-5	산업용	-	40	5	1	-	0	ND	0	ND	0	ND
31	1,3-Dichlorobenzene	541-73-1	산업용	-	-	-	-	-	0	ND	0	ND	0	ND

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과(강정)		검출결과(남지)		검출결과(물금)	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)
32	1,4-Dichlorobenzene	106-46-7	산업용	-	300	75	2B	-	0	ND	0	ND	0	ND
33	Bromochloromethane	74-97-5	산업용	-	-	-	-	-	0	ND	0	ND	0	ND
34	Chlorobenzene	108-90-7	산업용	-	-	100	-	-	0	ND	0	ND	0	ND
35	cis-1,2-Dichloroethene	156-59-2	산업용	-	50	70	-	-	0	ND	0	ND	0	ND
36	cis-1,3-Dichloropropene	10061-01-5	산업용	-	20	-	-	-	0	ND	0	ND	0	ND
37	Cumene	98-82-8	산업용	-	-	-	2B	-	0	ND	0	ND	0	ND
38	Epichlorohydrin	106-89-8	산업용	-	0.4	-	2A	-	0	ND	0	ND	0	ND
39	Hexachlorobutadiene	87-68-3	산업용	-	0.6	-	3	-	0	ND	0	ND	0	ND
40	Hexachloroethane	67-72-1	산업용	-	-	-	2B	-	0	ND	0	ND	0	ND
41	Methyl tert-butyl ether	1634-04-4	산업용	-	-	-	3	-	58	ND-0.076 (0.022)	92	ND-0.062 (0.038)	75	ND-0.099 (0.034)
42	Naphthalene	91-20-3	산업용	-	-	-	2B	-	8	ND-0.014 (0.001)	8	ND-0.012 (0.001)	8	ND-0.010 (0.001)
43	n-Butylbenzene	104-51-8	산업용	-	-	-	-	○	0	ND	0	ND	0	ND
44	n-Propylbenzene	103-65-1	산업용	-	-	-	-	-	0	ND	0	ND	0	ND
45	sec-Butylbenzene	135-98-8	산업용	-	-	-	-	-	0	ND	0	ND	0	ND
46	trans-1,2-Dichloroethylene	156-60-5	산업용	-	-	100	-	-	0	ND	0	ND	0	ND
47	trans-1,3-Dichloropropene	10061-02-6	산업용	-	20	-	-	-	0	ND	0	ND	0	ND

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과(강정)		검출결과(남지)		검출결과(물금)	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)
48	Barium (Ba)	7440-39-3	금속류	-	1,300	2,000	-	-	100	26.40-43.26 (30.82)	100	21.96-41.95 (29.33)	100	22.52-38.35 (30.88)
49	Beryllium (Be)	7440-41-7	금속류	-	-	4	1	-	0	ND	0	ND	0	ND
50	Cobalt (Co)	7440-48-4	금속류	-	-	-	2B	-	0	ND	75	ND-0.32 (0.12)	67	ND-0.24 (0.13)
51	Lithium (Li)	7439-93-2	금속류	-	-	-	-	-	100	0.60-15.13 (5.02)	100	1.38-23.56 (8.07)	100	1.00-20.56 (9.72)
52	Molybdenum (Mo)	7439-98-7	금속류	-	-	-	-	-	100	0.50-0.85 (0.65)	100	1.11-3.01 (1.80)	100	1.15-3.17 (2.01)
53	Nickel (Ni)	7440-02-0	금속류	-	70	-	2B	-	8	ND-0.24 (0.02)	100	0.44-5.65 (1.98)	100	0.39-22.54 (3.51)
54	Silver (Ag)	7440-22-4	금속류	-	-	100	-	-	0	ND	0	ND	0	ND
55	Tellurium (Te)	13494-80-9	금속류	-	-	-	-	-	0	ND	0	ND	0	ND
56	Thallium (Tl)	7440-28-0	금속류	-	-	2	-	-	0	ND	0	ND	0	ND
57	Thorium (Th)	7440-29-1	금속류	-	-	-	1	-	0	ND	0	ND	0	ND
58	Tin (Sn)	7440-31-5	금속류	-	-	-	-	-	0	ND	0	ND	0	ND
59	Titanium (Ti)	7440-32-6	금속류	-	-	-	3	-	17	ND-1.11 (0.17)	8	ND-0.66 (0.06)	8	ND-1.38 (0.12)
60	Vanadium (V)	7440-62-2	금속류	-	-	-	-	-	100	0.20-1.41 (0.62)	100	0.15-1.70 (0.76)	100	0.13-1.68 (0.79)

※ ND : 정량한계 미만

- 1) 국내기준: 수질 환경기준(수질), 먹는물수질기준(먹는물), 먹는물수질감시 항목 감시기준(감시)
- 2) 국외기준: 세계보건기구(WHO) 먹는물기준(Guidelines for Drinking water Quality), 미국 환경보호청(EPA) 먹는물기준(NPDWR: National Primary Drinking Water Regulations, SDWR: Secondary Drinking Water Regulations)
- 3) 유해성: 세계보건기구 국제암연구소 발암물질(WHO International Agency for Research on Cancer-List of Classifications), 야생동물보호기금 내분비계장애물질(WWF-EDCs: Endocrine Disrupting Chemicals)

○ 농약류(36종)

(단위: µg/L)

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과(강정)		검출결과(남지)		검출결과(물금)	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)
1	Alachlor ESA	142363-53-9	농약류	-	-	-	-	-	100	0.0573-0.3120 (0.1281)	100	0.1144-0.2808 (0.1620)	100	0.1033-0.2862 (0.1814)
2	Aldicarb	116-06-3	농약류	-	10	-	3	○	58	ND-0.0428 (0.0076)	33	ND-0.0114 (0.0030)	50	ND-0.0211 (0.0057)
3	Atrazine	1912-24-9	농약류	-	100	3	3	○	8	ND-0.0034 (0.0003)	17	ND-0.0009 (0.0001)	17	ND-0.0037 (0.0005)
4	Butachlor	23184-66-9	농약류	-	-	-	-	-	25	ND-0.1430 (0.0168)	67	ND-0.1556 (0.0224)	67	ND-0.2646 (0.0353)
5	Carbendazim	10605-21-7	농약류	-	-	-	-	-	100	0.0274-0.1247 (0.0554)	100	0.0320-0.0960 (0.0566)	100	0.0356-0.1188 (0.0668)
6	Carbofuran	1563-66-2	농약류	-	7	40	-	-	58	ND-0.0358 (0.0077)	58	ND-0.0513 (0.0072)	67	ND-0.0556 (0.0108)
7	Chlorpyrifos	2921-88-2	농약류	-	30	-	-	-	0	ND	0	ND	0	ND
8	Clomazone	81777-89-1	농약류	-	-	-	-	-	25	ND-0.0346 (0.0058)	25	ND-0.0182 (0.0017)	25	ND-0.0177 (0.0018)
9	Dichlorvos	62-73-7	농약류	-	-	-	2B	-	17	ND-0.0099 (0.0011)	17	ND-0.0066 (0.0009)	25	ND-0.0061 (0.0014)
10	Diuron	330-54-1	농약류	-	-	-	-	-	0	ND	0	ND	0	ND
11	Flutolanil	66332-96-5	농약류	-	-	-	-	-	33	ND-0.0023 (0.0006)	92	ND-0.0036 (0.0021)	83	ND-0.0040 (0.0021)
12	Flutriafol	76674-21-0	농약류	-	-	-	-	-	100	0.0043-0.0270 (0.0132)	100	0.0021-0.0248 (0.0097)	100	0.0042-0.0214 (0.0099)
13	Fluxapyroxad	907204-31-3	농약류	-	-	-	-	-	92	ND-0.0173 (0.0074)	100	0.0050-0.0184 (0.0102)	100	0.0065-0.0209 (0.0110)
14	Imidacloprid	138261-41-3	농약류	-	-	-	-	-	92	ND-0.0205 (0.0070)	83	ND-0.0182 (0.0087)	83	ND-0.0233 (0.0083)
15	Linuron	330-55-2	농약류	-	-	-	-	-	8	ND-0.0020 (0.0002)	17	ND-0.0032 (0.0005)	33	ND-0.0344 (0.0066)
16	Malathion	121-75-5	농약류	-	-	-	2A	○	0	ND	0	ND	0	ND
17	MCPA	94-74-6	농약류	-	2	-	-	-	42	ND-0.0481 (0.0097)	67	ND-0.0271 (0.0075)	75	ND-0.0353 (0.0090)
18	Mefenacet	73250-68-7	농약류	-	-	-	-	-	50	ND-0.1977 (0.0198)	42	ND-0.0266 (0.0056)	50	ND-0.0348 (0.0069)

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과(강정)		검출결과(남지)		검출결과(물금)	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)
19	Metalaxyl	57837-19-1	농약류	-	-	-	-	-	100	0.0073-0.0323 (0.0140)	100	0.0070-0.0201 (0.0115)	100	0.0064-0.0274 (0.0123)
20	Metconazole	125116-23-6	농약류	-	-	-	-	-	92	ND-0.0119 (0.0035)	92	ND-0.0082 (0.0030)	92	ND-0.0157 (0.0042)
21	Methiocarb	2032-65-7	농약류	-	-	-	-	-	0	ND	0	ND	0	ND
22	Methomyl	16752-77-5	농약류	-	-	-	-	○	50	ND-0.0311 (0.0061)	42	ND-0.0110 (0.0034)	50	ND-0.0131 (0.0039)
23	Metolachlor	51218-45-2	농약류	-	10	-	-	-	92	ND-0.1399 (0.0435)	100	0.0182-0.2299 (0.0603)	92	ND-0.2328 (0.0633)
24	Metolachlor ESA	171118-09-5	농약류	-	-	-	-	-	100	0.0521-0.0972 (0.0723)	100	0.0370-0.0992 (0.0562)	100	0.0390-0.0746 (0.0554)
25	Metribuzin	21087-64-9	농약류	-	-	-	-	○	0	ND	0	ND	0	ND
26	Oryastrobin	248593-16-0	농약류	-	-	-	-	-	100	0.0278-0.4441 (0.0965)	100	0.0260-0.1734 (0.0678)	100	0.0287-0.2391 (0.0761)
27	Pendimethalin	40487-42-1	농약류	-	20	-	-	-	67	ND-0.0143 (0.0050)	83	ND-0.0373 (0.0079)	92	ND-0.0246 (0.0076)
28	Propazine	139-40-2	농약류	-	-	-	-	-	0	ND	0	ND	0	ND
29	Propiconazole	60207-90-1	농약류	-	-	-	-	-	100	0.0029-0.0470 (0.0115)	100	0.0038-0.0448 (0.0140)	100	0.0060-0.0514 (0.0130)
30	Pyrimethanil	53112-28-0	농약류	-	-	-	-	-	25	ND-0.0036 (0.0006)	33	ND-0.0025 (0.0007)	25	ND-0.0038 (0.0006)
31	Simazine	122-34-9	농약류	-	2	4	3	-	25	ND-0.0012 (0.0002)	50	ND-0.0017 (0.0006)	33	ND-0.0014 (0.0004)
32	Simetryn	1014-70-6	농약류	-	-	-	-	-	67	ND-0.2247 (0.0246)	75	ND-0.0516 (0.0074)	75	ND-0.0476 (0.0069)
33	Tebuconazole	107534-96-3	농약류	-	-	-	-	-	100	0.0164-0.0806 (0.0378)	100	0.0147-0.0593 (0.0333)	100	0.0189-0.0691 (0.0387)
34	Tebupirimfos	96182-53-5	농약류	-	-	-	-	-	0	ND	0	ND	0	ND
35	Thiacloprid	111988-49-9	농약류	-	-	-	-	-	33	ND-0.0015 (0.0004)	50	ND-0.0082 (0.0014)	75	ND-0.0077 (0.0018)
36	Tricyclazole	41814-78-2	농약류	-	-	-	-	-	100	0.0102-0.3500 (0.0561)	100	0.0119-0.0879 (0.0298)	100	0.0120-0.0927 (0.0321)

○ 의약품질(18종)

(단위: µg/L)

번호	물질명	CAS No.	용도	국내기준 ¹⁾	국외기준 ²⁾		유해성 ³⁾		검출결과(강정)		검출결과(남지)		검출결과(물금)	
					WHO (먹는물)	EPA (먹는물)	발암 등급	EDCs	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)	빈도 (%)	검출농도 (평균)
1	Antipyrine	60-80-0	의약품질	-	-	-	-	-	0	ND	0	ND	0	ND
2	Candesartan	139481-59-7	의약품질	-	-	-	-	-	100	0.0024-0.0131 (0.0072)	100	0.0030-0.0362 (0.0156)	100	0.0022-0.0242 (0.0142)
3	Climbazole	38083-17-9	의약품질	-	-	-	-	-	100	0.0028-0.0141 (0.0072)	100	0.0076-0.0343 (0.0183)	100	0.0049-0.0243 (0.0137)
4	Fexofenadine	83799-24-0	의약품질	-	-	-	-	-	75	ND-0.0263 (0.0140)	100	0.0111-0.0871 (0.0399)	100	0.0065-0.0632 (0.0351)
5	Gabapentin	60142-96-3	의약품질	-	-	-	-	-	100	0.0267-0.1582 (0.0755)	100	0.0531-0.3922 (0.1722)	100	0.0322-0.2721 (0.1504)
6	Irbesartan	138402-11-6	의약품질	-	-	-	-	-	33	ND-0.0092 (0.0021)	83	ND-0.0396 (0.0095)	67	ND-0.0311 (0.0081)
7	Lamotrigine	84057-84-1	의약품질	-	-	-	-	-	100	0.0019-0.0119 (0.0059)	100	0.0047-0.0600 (0.0194)	100	0.0035-0.0363 (0.0170)
8	Lidocaine	137-58-6	의약품질	-	-	-	-	-	100	0.0019-0.0144 (0.0076)	100	0.0067-0.1208 (0.0332)	100	0.0031-0.0607 (0.0266)
9	Losartan	114798-26-4	의약품질	-	-	-	-	-	92	ND-0.0164 (0.0076)	100	0.0045-0.0347 (0.0151)	100	0.0027-0.0258 (0.0116)
10	Methylprednisolone	83-43-2	의약품질	-	-	-	-	-	0	ND	0	ND	0	ND
11	Oseltamivir	204255-11-8	의약품질	-	-	-	-	-	58	ND-0.0792 (0.0185)	58	ND-0.0893 (0.0208)	58	ND-0.0868 (0.0198)
12	Primidone	125-33-7	의약품질	-	-	-	-	-	42	ND-0.0025 (0.0008)	50	ND-0.0063 (0.0024)	75	ND-0.0049 (0.0026)
13	Propyphenazone	479-92-5	의약품질	-	-	-	-	-	0	ND	8	ND-0.0014 (0.0001)	8	ND-0.0015 (0.0001)
14	Ranitidine	66357-35-5	의약품질	-	-	-	-	-	0	ND	0	ND	0	ND
15	Sitagliptin	486460-32-6	의약품질	-	-	-	-	-	100	0.0061-0.4330 (0.0570)	100	0.0122-0.1920 (0.0836)	100	0.0055-0.1389 (0.0662)
16	Sulfapyridine	144-83-2	의약품질	-	-	-	-	-	75	ND-0.0065 (0.0029)	92	ND-0.0183 (0.0064)	100	0.0022-0.0087 (0.0052)
17	Tramadol	27203-92-5	의약품질	-	-	-	-	-	100	0.0063-0.0358 (0.0202)	100	0.0115-0.1318 (0.0510)	100	0.0074-0.0882 (0.0438)
18	Valsartan	137862-53-4	의약품질	-	-	-	-	-	100	0.0104-0.1276 (0.0493)	100	0.0136-0.2979 (0.0890)	100	0.0104-0.1872 (0.0555)