Table 4. Minimum reporting levels (MRL's) and reference for analytical techniques for volatile organic compounds analyzed in water samples collected from alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998

[µg/L, micrograms per liter]

Constituent	Chemical Abstract Service (CAS) registry number	MRL (µg/L)	Analytical technique
Acetone	67–64–1	4.90 – 19.6	Rose and Schroeder, 1995
Acrolein	107–02–8	2	Do.
Acrylonitrile	107–13–1	1.23 – 4.90	Do.
Benzene	71–43–2	0.032 – 0.400	Do.
Bromobenzene	108–86–1	0.036 – 0.144	Do.
Bromochloromethane	74–97–5	0.044 – 0.176	Do.
Bromodichloromethane	75–27–4	0.048 – 0.192	Do.
Bromoform	75–25–2	0.104 – 0.416	Do.
Bromomethane	74–83–9	0.148 – 0.592	Do.
2-Butanone	78–93–3	5	Do.
Butylbenzene	104–51–8	0.05	Do.
Carbon disulfide	75–15–0	0.08 – 0.37	Do.
Chlorobenzene	108–90–7	0.028 – 0.112	Do.
Chloroethane	75–00–3	0.120 – 0.480	Do.
Chloroform	67–66–3	0.052 – 0.208	Do.
Chloromethane	74–87–3	0.254 – 1.02	Do.
3-Chloropropene	107–05–1	0.196 – 0.784	Do.
2-Chlorotoluene	95–49–8	0.05	Do.
4-Chlorotoluene	106–43–4	0.05	Do.
Dibromochloromethane	124–48–1	0.182 – 0.728	Do.
1, 2-Dibromo-3-chloropropane	96–12–8	.5	Do.
1, 2-Dibromoethane	106–93–4	0.036 – 0.144	Do.
Dibromomethane	74–95–3	0.05 – 0.20	Do.
1, 2-Dichlorobenzene	95–50–1	0.05	Do.
1, 3-Dichlorobenzene	541–73–1	0.054 – 0.216	Do.
1, 4-Dichlorobenzene	106–46–7	0.05 – 0.20	Do.
Dichlorodifluoromethane	75–71–8	0.096 – 0.552	Do.
1, 1-Dichloroethane	75–34–3	0.066 – 0.264	Do.
1, 2-Dichloroethane	107–06–2	0.134 – 0.536	Do.
1, 1-Dichloroethylene	75–35–4	0.044 – 0.176	Do.
Dichloromethane	75–09–2	.1	Do.
1, 2-Dichloropropane	78–87–5	0.068 – 0.272	Do.
1, 3-Dichloropropane	142–28–9	0.116 – 0.464	Do.
2, 2-Dichloropropane	594–20–7	0.078 – 0.312	Do.
1, 1-Dichloropropene	563–58–6	0.026 – 0.104	Do.
Diethyl ether	60–29–7	.1	Do.
Diisopropyl ether	108–20–3	.1	Do.
Ethyl methacrylate	97–63–2	0.278 – 1.11	Do.
Ethyl tert-butyl ether	637–92–3	.1	Do.

Table 4. Minimum reporting levels (MRL's) and reference for analytical techniques for volatile organic compounds analyzed in water samples collected from alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998—Continued

Constituent	Chemical Abstract Service (CAS) registry number	MRL (µg/L)	Analytical technique
Ethylbenzene	100–41–4	0.030 – 0.120	Rose and Schroeder, 1995
Hexachlorobutadiene	87–68–3	0.142 – 0.568	Do.
Hexachloroethane	67–72–1	0.362 – 1.45	Do.
2-Hexanone	591–78–6	0.746 – 2.98	Do.
Isopropylbenzene	98–82–8	0.032 – 0.128	Do.
4-Isopropyl-1-methylbenzene	99–87–6	.05	Do.
Methyl acrylate	96–33–3	0.612 – 5.43	Do.
Methyl acrylonitrile	126–98–7	2.28 – 20.57	Do.
Methyl iodide	74–88–4	0.076 – 0.832	Do.
Methyl methacrylate	80–62–6	0.35 – 1.40	Do.
4-Methyl-2-pentanone	108–01–1	5	Do.
Naphthalene	91–20–3	0.25 – 1.00	Do.
Propylbenzene	103–65–1	0.042 – 0.168	Do.
Styrene	100–42–5	0.042 – 0.168	Do.
1, 1, 1, 2-Tetrachloroethane	630–20–6	0.044 – 0.176	Do.
1, 1, 2, 2-Tetrachloroethane	79–34–5	0.132 – 0.528	Do.
Tetrachloroethylene	127–18–4	0.038 – 0.41	Do.
Tetrachloromethane	56–23–5	.05	Do.
Tetrahydrofuran	109–99–9	5	Do.
1, 2, 3, 4-Tetramethylbenzene	488–23–3	.05	Do.
1, 2, 3, 5-Tetramethylbenzene	527–53–7	.05	Do.
Toluene	108–88–3	0.016 – 0.152	Do.
1, 2, 3-Trichlorobenzene	87–61–6	0.266 – 1.06	Do.
1, 2, 4-Trichlorobenzene	120–82–1	0.188 – 0.752	Do.
1, 1, 1-Trichloroethane	71–55–6	0.032 – 0.128	Do.
1, 1, 2-Trichloroethane	79–00–5	0.064 – 0.256	Do.
Trichloroethylene	79–01–6	0.038 – 0.152	Do.
Trichlorofluoromethane	75–69–4	0.092 – 0.368	Do.
1, 2, 3-Trichloropropane	96–18–4	0.070 – 0.648	Do.
1, 1, 2-Trichlorotrifluoroethane	76–13–1	.05	Do.
1, 2, 3-Trimethylbenzene	526–73–8	0.124 – 0.496	Do.
1, 2, 4-Trimethylbenzene	95–63–6	0.056 – 0.224	Do.
1, 3, 5-Trimethylbenzene	108–67–8	0.044 – 0.176	Do.
Vinyl acetate	108–05–4	5	Do.
Vinyl bromide	593–60–2	.2	Do.
Vinylchloride	75–01–4	0.112 – 0.448	Do.
cis-1, 2-Dichloroethylene	156–59–2	.05	Do.
cis-1, 3-Dichloropropene	10061–01–5	0.092 – 0.368	Do.
m- and p-Xylene		.05	Do.
o-Ethyl toluene	611–14–3	0.100 – 0.400	Do.

Table 4. Minimum reporting levels (MRL's) and reference for analytical techniques for volatile organic compounds analyzed in water samples collected from alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998—Continued

Constituent	Chemical Abstract Service (CAS) registry number	MRL (μg/L)	Analytical technique
o-Xylene	95–47–6	0.064 – 0.256	Rose and Schroeder, 1995
sec-Butylbenzene	135–98–8	0.048 – 0.192	Do.
tert-Butyl methyl ether	1634–04–4	.1	Do.
tert-Butylbenzene	98–06–6	0.096 – 0.384	Do.
tert-Pentyl methyl ether	994–05–8	0.112 – 0.448	Do.
trans-1, 2-Dichloroethylene	156–60–5	.05	Do.
trans-1, 3-Dichloropropene	10061–02–6	0.134 – 0.536	Do.
trans-1, 4-Dichloro-2-butene	110–57–6	0.692 – 2.77	Do.