

4717.7860 HEALTH RISK LIMITS TABLE.

Subpart 1. **Generally.** This table lists the health risk limits derived from methods specified in parts 4717.7830, 4717.7840, and 4717.7850. For each chemical, this table specifies:

- A. the chemical name;
- B. the CAS number;
- C. the year the HRL was adopted;
- D. the volatility classification;
- E. any noncancer HRL;
- F. any cancer HRL;
- G. the RfD and RSC used in the derivation of any noncancer HRL;
- H. the slope factor and any ADAF or $AF_{lifetime}$ used in the derivation of any cancer HRL;
- I. the intake rate used in the derivation of any noncancer or cancer HRL; and
- J. the health endpoints.

Subp. 2. Explanation of table in this part.

- A. "-" symbol means not relevant.
- B. "NA" means not applicable.
- C. "ND" means not derived due to absence or paucity of toxicity information.
- D. "None" means not applicable for inclusion in the health risk index.
- E. The following explanations in subitems (1) to (3) apply where noted:
 - (1) The acute HRL value is less than the calculated HRL. To be protective of acute exposures, the HRL is set equal to the acute HRL value.
 - (2) The short-term HRL value is less than the calculated HRL. To be protective of short-term exposures, the HRL is set equal to the short-term HRL value.
 - (3) The subchronic HRL value is less than the calculated HRL. To be protective of subchronic exposures, the HRL is set equal to the subchronic HRL value.

Subp. 3. Acetochlor.

CAS number: 34256-82-1

Year Adopted: 2009

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	40	40	40 (2)	9	NA
RfD (mg/kg-day)	0.021	0.021	(2)	0.002	–
RSC	0.5	0.5	(2)	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	0.289	0.289	(2)	0.043	–
Endpoints	developmental	developmental	developmental	hepatic (liver) system, male reproductive system, nervous system, renal (kidney) system, respiratory system	–

Subp. 3a. **Acetochlor ESA.**

CAS number: 187022-11-3

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	600	600	300	NA
RfD (mg/kg-day)	–	0.37	0.23	0.075	–
RSC	–	0.5	0.2	0.2	–

SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	0.077	0.043	–
Endpoints	–	thyroid (E)	thyroid (E)	thyroid (E)	–

Subp. 3b. **Acetochlor OXA.**

CAS number: 184992-44-4

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	200	200	100	NA
RfD (mg/kg-day)	–	0.12	0.077	0.026	–
RSC	–	0.5	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	0.077	0.043	–
Endpoints	–	thyroid (E)	thyroid (E)	thyroid (E)	–

Subp. 3c. **Acetone.**

CAS number: 67-64-1

Year Adopted: 2011

Volatility: Moderate

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	9,000	8,000	4,000	NA

RfD (mg/kg-day)	–	5.0	3.0	0.90	–
RSC	–	0.5	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	0.077	0.043	–
Endpoints	–	renal (kidney) system	renal (kidney) system, hematological (blood) system	renal (kidney) system, hematological (blood) system	–

Subp. 3d. **6-Acetyl-1,1,2,4,4,7-hexamethyltetraline (AHTN).**

CAS number: 21145-77-7 or 1506-02-1

Year Adopted: 2013

Volatility: Moderate

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	100	30	20	NA
RfD (mg/kg-day)	–	0.070	0.011	0.0037	–
RSC	–	0.5	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	0.077	0.043	–
Endpoints	–	hepatic (liver) system	hepatic (liver) system	hepatic (liver) system	–

Subp. 4. **Alachlor.**

CAS number: 15972-60-8

Year Adopted: 2009

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	200	30	5	NA
RfD (mg/kg-day)	–	0.1	0.01	0.001	–
RSC	–	0.5	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	0.077	0.043	–
Endpoints	–	renal (kidney) system	hepatic (liver) system, hematological (blood) system	hepatic (liver) system, hematological (blood) system	–

Subp. 5. **Atrazine.**

CAS number: 1912-24-9

Year Adopted: 2009

Volatility: Nonvolatile

MCL-based HRL: 3 µg/L

Subp. 6. **Benzene.**

CAS number: 71-43-2

Year Adopted: 2009

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	10	10	3	3 (3)	2

RfD (mg/kg-day)	0.015	0.014	0.0013	(3)	–
RSC	0.2	0.2	0.2	(3)	–
SF (per mg/kg-day)	–	–	–	–	0.055
ADAF	–	–	–	–	10 (ADAF _{<2}) 3 (ADAF _{2 to <16}) 1 (ADAF ₁₆₊)
Intake Rate (L/kg-day)	0.289	0.289	0.077	(3)	0.137 (<2) 0.047 (2 to <16) 0.039 (16+)
Endpoints	develop- mental	hemato- logical (blood) system, immune system	hemato- logical (blood) system, immune system	hemato- logical (blood) system, immune system	cancer

Subp. 6a. **Carbamazepine.**

CAS number: 298-46-4

Year Adopted: 2013

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	40	40	40 (2)	40 (2)	NA
RfD (mg/kg-day)	0.013	0.013	(2)	(2)	–
RSC	0.8	0.8	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate	0.289	0.289	(2)	(2)	–

(L/kg-day)					
Endpoints	developmental, nervous system	developmental, hematological (blood) system, hepatic (liver) system, immune system, nervous system, male reproductive system (E), female reproductive system (E), thyroid (E)	developmental, hematological (blood) system, hepatic (liver) system, immune system, nervous system, male reproductive system (E), female reproductive system (E), thyroid (E)	developmental, hematological (blood) system, hepatic (liver) system, immune system, nervous system, male reproductive system (E), female reproductive system (E), thyroid (E)	—

Subp. 6b. **Carbon tetrachloride.**

CAS number: 56-23-5

Year Adopted: 2013

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	100	3	3 (2)	3 (2)	1
RfD (mg/kg-day)	0.18	0.0037	(2)	(2)	—
RSC	0.2	0.2	(2)	(2)	—
SF (per mg/kg-day)	—	—	—	—	0.07
ADAF or AF_{lifetime}	—	—	—	—	10 (ADAF _{<2}) 3 (ADAF _{2 to <16}) 1 (ADAF ₁₆₊)

Intake Rate (L/kg-day)	0.289	0.289	(2)	(2)	0.137 (< ₂) 0.047 (< _{2 to <16}) 0.039 (< ₁₆₊)
Endpoints	developmental, hepatic (liver) system	hepatic (liver) system	hepatic (liver) system	hepatic (liver) system	cancer

Subp. 7. **Chloroform.**

CAS number: 67-66-3

Year Adopted: 2009

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	30	30 (2)	30 (2)	NA
RfD (mg/kg-day)	–	0.05	(2)	(2)	–
RSC	–	0.2	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	(2)	–
Endpoints	–	developmental, hepatic (liver) system, immune system	developmental, hepatic (liver) system, immune system, male reproductive system	developmental, hepatic (liver) system, immune system, male reproductive system	–

Subp. 8. **Cyanazine.**

CAS number: 21725-46-2

Year Adopted: 2009

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	2	2	2	1	NA
RfD (mg/kg-day)	0.001	0.001	0.00063	0.00026	–
RSC	0.5	0.5	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	0.289	0.289	0.077	0.043	–
Endpoints	developmental	developmental	hepatic (liver) system, renal (kidney) system	None	–

Subp. 8a. **Dichlorodifluoromethane.**

CAS number: 75-71-8

Year Adopted: 2011

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	ND	700	NA
RfD (mg/kg-day)	–	–	–	0.15	–
RSC	–	–	–	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–

Intake Rate (L/kg-day)	–	–	–	0.043	–
Endpoints	–	–	–	None	–

Subp. 8b. **1,2-Dichloroethane.**

CAS number: 107-06-2

Year Adopted: 2013

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	200	200 (2)	60	1
RfD (mg/kg-day)	–	0.23	(2)	0.012	–
RSC	–	0.2	(2)	0.2	–
SF (per mg/kg-day)	–	–	–	–	0.091
ADAF or AF_{lifetime}	–	–	–	–	10 (ADAF _{<2}) 3 (ADAF _{2 to <16}) 1 (ADAF ₁₆₊)
Intake Rate (L/kg-day)	–	0.289	(2)	0.043	0.137 (<2) 0.047 (2 to <16) 0.039 (16+)
Endpoints	–	hepatic (liver) system	hepatic (liver) system	renal (kidney) system, hepatic (liver) system	cancer

Subp. 8c. **trans-1,2-Dichloroethene.**

CAS number: 156-60-5

Year Adopted: 2013

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	200	40	NA
RfD (mg/kg-day)	–	–	0.091	0.0091	–
RSC	–	–	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	–	0.077	0.043	–
Endpoints	–	–	immune system	immune system	–

Subp. 8d. **1,1-Dichloroethylene.**

CAS number: 75-35-4

Year Adopted: 2011

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	200	200	NA
RfD (mg/kg-day)	–	–	0.090	0.046	–
RSC	–	–	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	–	0.077	0.043	–
Endpoints	–	–	hepatic (liver) system	hepatic (liver) system	–

Subp. 9. **cis 1,2-Dichloroethylene.**

CAS number: 156-59-2

Year Adopted: 2009

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	70	70 (2)	50	NA
RfD (mg/kg-day)	–	0.097	(2)	0.011	–
RSC	–	0.2	(2)	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	0.043	–
Endpoints	–	hematological (blood) system	hematological (blood) system	hematological (blood) system	–

Subp. 10. **Dichloromethane.**

CAS number: 75-09-2

Year Adopted: 2009

Volatility: High

MCL-based HRL: 5 µg/L

Subp. 11. **Dieldrin.**

CAS number: 60-57-1

Year Adopted: 2009

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	0.2	0.2	0.2 (2)	0.2	0.006
RfD (mg/kg-day)	0.0001	0.0001	(2)	0.00005	–

RSC	0.5	0.5	(2)	0.2	–
SF (per mg/kg-day)	–	–	–	–	16
AF_{lifetime}	–	–	–	–	2.5
Intake Rate (L/kg-day)	0.289	0.289	(2)	0.043	0.043
Endpoints	developmental	developmental, immune system, nervous system	developmental, immune system, nervous system	hepatic (liver) system, nervous system	cancer

Subp. 11a. **N,N-Diethyl-meta-toluamide (DEET).**

CAS number: 134-62-3

Year Adopted: 2013

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	200	200 (2)	200 (2)	NA
RfD (mg/kg-day)	–	0.23	(2)	(2)	–
RSC	–	0.2	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	(2)	–
Endpoints	–	developmental, nervous system	developmental, nervous system	developmental, nervous system	–

Subp. 11b. **1,4-Dioxane.**

CAS number: 123-91-1

Year Adopted: 2013

Volatility: Low

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	300	100	1
RfD (mg/kg-day)	–	–	0.12	0.025	–
RSC	–	–	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	0.1
ADAF or AF_{lifetime}	–	–	–	–	10 (ADAF _{<2}) 3 (ADAF _{2 to <16}) 1 (ADAF ₁₆₊)
Intake Rate (L/kg-day)	–	–	0.077	0.043	0.137 (<2) 0.047 (2 to <16) 0.039 (16+)
Endpoints	–	–	hepatic (liver) system, renal (kidney) system, respiratory system	hepatic (liver) system, renal (kidney) system, respiratory system	cancer

Subp. 12. **Di-(2-ethylhexyl) phthalate.**

CAS number: 117-81-7

Year Adopted: 2009

Volatility: Moderate

MCL-based HRL: 6 µg/L

Subp. 12a. **Ethylbenzene.**

CAS number: 100-41-4

Year Adopted: 2011

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	50	50 (2)	50 (2)	NA
RfD (mg/kg-day)	–	0.075	(2)	(2)	–
RSC	–	0.2	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	(2)	–
Endpoints	–	hepatic (liver) system, renal (kidney) system	hepatic (liver) system, renal (kidney) system	hepatic (liver) system, renal (kidney) system	–

Subp. 12b. **Ethylene glycol.**

CAS number: 107-21-1

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	4,000	4,000	2,000	2,000	NA
RfD (mg/kg-day)	0.76	0.76	0.72	0.50	–
RSC	0.2	0.2	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–

Intake Rate (L/kg-day)	0.043	0.043	0.077	0.043	–
Endpoints	developmental	developmental	renal (kidney) system, developmental	renal (kidney) system, developmental	–

Subp. 12c. **Metolachlor and S-Metolachlor.**

CAS number: 51218-45-2; 87392-12-9

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	400	400	300	300 (3)	NA
RfD (mg/kg-day)	0.24	0.24	0.097	(3)	–
RSC	0.5	0.5	0.2	(3)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	0.289	0.289	0.077	(3)	–
Endpoints	developmental	developmental	none	none	–

Subp. 12d. **Metolachlor ESA.**

CAS number: 171118-09-5

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	4,000	800	NA
RfD (mg/kg-day)	–	–	1.7	0.17	–
RSC	–	–	0.2	0.2	–

SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	–	0.077	0.043	–
Endpoints	–	–	hepatic (liver) system	hepatic (liver) system	–

Subp. 12e. **Metolachlor OXA.**

CAS number: 152019-73-3

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	3,000	3,000 (2)	800	NA
RfD (mg/kg-day)	–	1.7	(2)	0.17	–
RSC	–	0.5	(2)	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	0.043	–
Endpoints	–	none	none	none	–

Subp. 12f. **Metribuzin.**

CAS number: 21087-64-9

Year Adopted: 2013

Volatility: Low

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	30	10	10 (2)	10 (2)	NA

RfD (mg/kg-day)	0.016	0.006	(2)	(2)	–
RSC	0.5	0.5	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	0.289	0.289	(2)	(2)	–
Endpoints	developmental, nervous system	thyroid (E)	thyroid (E)	thyroid (E)	–

Subp. 12g. **Naphthalene.**

CAS number: 91-20-3

Year Adopted: 2013

Volatility: Moderate

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	70	70	70 (2)	70	NA
RfD (mg/kg-day)	0.038	0.038	(2)	0.016	–
RSC	0.5	0.5	(2)	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	0.289	0.289	(2)	0.043	–
Endpoints	nervous system	nervous system	nervous system	nervous system, spleen	–

Subp. 13. **Nitrate (as N).**

CAS number: 14797-55-8

Year Adopted: 2009

Volatility: Nonvolatile

MCL-based HRL: 10,000 µg/L

Subp. 14. **Pentachlorophenol.**

CAS number: 87-86-5

Year Adopted: 2009

Volatility: Nonvolatile

MCL-based HRL: 1 µg/L

Subp. 14a. **Perfluorobutane sulfonate (PFBS).**

CAS number: 375-73-5

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	9	7	NA
RfD (mg/kg-day)	–	–	0.0042	0.0014	–
RSC	–	–	0.5	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	–	0.245	0.043	–
Endpoints	–	–	hepatic (liver) system, hematological (blood) system, renal (kidney) system	hepatic (liver) system, hematological (blood) system, renal (kidney) system	–

Subp. 14b. **Perfluorobutyrate (PFBA).**

CAS number: 375-22-4

Year Adopted: 2011

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	7	7 (2)	7 (2)	NA
RfD (mg/kg-day)	–	0.0038	(2)	(2)	–
RSC	–	0.5	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	(2)	–
Endpoints	–	hepatic (liver) system, thyroid (E)	hepatic (liver) system, thyroid (E)	hepatic (liver) system, thyroid (E)	–

Subp. 15. **Perfluorooctane sulfonate (PFOS) and salts.**

CAS number: 1763-23-1; 29081-56-9; 2795-39-3; 70225-14-8; and 29457-72-5

Year Adopted: 2009

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	ND	0.3	NA
RfD (mg/kg-day)	–	–	–	0.00008	–
RSC	–	–	–	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–

Intake Rate (L/kg-day)	–	–	–	0.049	–
Endpoints	–	–	–	developmental, hepatic (liver) system, thyroid (E)	–

Subp. 16. **Perfluorooctanoic acid (PFOA) and salts.**

CAS number: 335-67-1; 3825-26-1; 2395-00-8; 335-93-3; and 335-95-5

Year Adopted: 2009

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	ND	0.3	NA
RfD (mg/kg-day)	–	–	–	0.000077	–
RSC	–	–	–	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	–	–	0.053	–
Endpoints	–	–	–	developmental, hepatic (liver) system, immune system	–

Subp. 17. **Simazine.**

CAS number: 122-34-9

Year Adopted: 2009

Volatility: Nonvolatile

MCL-based HRL: 4 µg/L

Subp. 18. **1,1,2,2-Tetrachloroethylene.**

CAS number: 127-18-4

Year Adopted: 2009

Volatility: High

MCL-based HRL: 5 µg/L

Subp. 18a. **Toluene.**

CAS number: 108-88-3

Year Adopted: 2011

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	200	200 (2)	200 (2)	NA
RfD (mg/kg-day)	–	0.22	(2)	(2)	–
RSC	–	0.2	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	(2)	–
Endpoints	–	immune system, nervous system	immune system, nervous system	immune system, nervous system	–

Subp. 18b. **1,2,4-Trichlorobenzene.**

CAS number: 120-82-1

Year Adopted: 2013

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	100	100 (2)	100	4
RfD (mg/kg-day)	–	0.17	(2)	0.021	–

RSC	–	0.2	(2)	0.2	–
SF (per mg/kg-day)	–	–	–	–	0.029
ADAF or AF_{lifetime}	–	–	–	–	10 (ADAF _{<2}) 3 (ADAF _{2 to <16}) 1 (ADAF ₁₆₊)
Intake Rate (L/kg-day)	–	0.289	(2)	0.043	0.137 (<2) 0.047 (2 to <16) 0.039 (16+)
Endpoints	–	hepatic (liver) system, adrenal (E), hemato-logical (blood) system	hepatic (liver) system, adrenal (E), hemato-logical (blood) system	hepatic (liver) system, adrenal (E), renal (kidney) system	cancer

Subp. 19. **1,1,1-Trichloroethane.**

CAS number: 71-55-6

Year Adopted: 2009

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	20,000	9,000	NA
RfD (mg/kg-day)	–	–	7	2	–
RSC	–	–	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–

Intake Rate (L/kg-day)	–	–	0.077	0.043	–
Endpoints	–	–	hepatic (liver) system, male reproductive system	hepatic (liver) system, male reproductive system	–

Subp. 20. **1,1,2-Trichloroethylene (TCE).**

CAS number: 79-01-6

Year Adopted: 2009

Volatility: High

MCL-based HRL: 5 µg/L

Subp. 21. **2(2,4,5-Trichlorophenoxy)propionic acid (2,4,5-TP or Silvex).**

CAS number: 93-72-1

Year Adopted: 2009

Volatility: Nonvolatile

MCL-based HRL: 50 µg/L

Subp. 21a. **1,2,3-Trichloropropane.**

CAS number: 96-18-4

Year Adopted: 2013

Volatility: Moderate

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	7	7	7 (2)	7 (2)	0.003
RfD (mg/kg-day)	0.0042	0.0042	(2)	(2)	–
RSC	0.5	0.5	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	30
ADAF or AF_{lifetime}	–	–	–	–	10 (ADAF ₂)

					3 (ADAF _{2 to <16}) 1 (ADAF ₁₆₊)
Intake Rate (L/kg-day)	0.289	0.289	(2)	(2)	0.137 (< ₂) 0.047 (< _{2 to <16}) 0.039 (< ₁₆₊)
Endpoints	developmental	developmental	developmental	developmental	cancer

Subp. 22. **1,3,5-Trimethylbenzene.**

CAS number: 108-67-8

Year Adopted: 2009

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	100	100 (2)	100 (2)	NA
RfD (mg/kg-day)	ND	0.14	(2)	(2)	–
RSC	–	0.2	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	–	0.289	(2)	(2)	–
Endpoints	–	hepatic (liver) system	hepatic (liver) system, renal (kidney) system	hepatic (liver) system, renal (kidney) system	–

Subp. 22a. **Tris(2-chloroethyl) phosphate.**

CAS number: 115-96-8

Year Adopted: 2013

Volatility: Low

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	300	200	200 (3)	5
RfD (mg/kg-day)	–	0.15	0.068	(3)	–
RSC	–	0.5	0.2	(3)	–
SF (per mg/kg-day)	–	–	–	–	0.02
ADAF or AF_{lifetime}	–	–	–	–	10 (ADAF _{<2}) 3 (ADAF _{2 to <16}) 1 (ADAF ₁₆₊)
Intake Rate (L/kg-day)	–	0.289	0.077	(3)	0.137 (<2) 0.047 (2 to <16) 0.039 (16+)
Endpoints	–	renal (kidney) system, nervous system, developmental	renal (kidney) system	renal (kidney) system	cancer

Subp. 23. **Vinyl Chloride.**

CAS number: 75-01-4

Year Adopted: 2009

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	ND	80	10	0.2
RfD (mg/kg-day)	–	–	0.03	0.003	–
RSC	–	–	0.2	0.2	–
SF (per mg/kg-day)	–	–	–	–	1.4

AF_{lifetime}	–	–	–	–	1
Intake Rate (L/kg-day)	–	–	0.077	0.043	0.043
Endpoints	–	–	hepatic (liver) system	hepatic (liver) system	cancer

Subp. 23a. **Xylenes.**

CAS number: 1330-20-7

Year Adopted: 2011

Volatility: High

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	800	300	300 (2)	300 (2)	NA
RfD (mg/kg-day)	1.2	0.5	(2)	(2)	–
RSC	0.2	0.2	(2)	(2)	–
SF (per mg/kg-day)	–	–	–	–	–
ADAF or AF_{lifetime}	–	–	–	–	–
Intake Rate (L/kg-day)	0.289	0.289	(2)	(2)	–
Endpoints	nervous system	nervous system	renal (kidney) system, nervous system	renal (kidney) system, nervous system	–

Subp. 24. **Transition.** The health risk limits established for the specific chemicals in this part supersede the health risk limits for those chemicals in part 4717.7500. For chemicals not included in this part, the health risk limits established in part 4717.7500 remain in place.

Statutory Authority: *MS s 103H.201; 144.0751*

History: *33 SR 1792; 35 SR 1395; 38 SR 397*

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