

Office of the Revisor of Statutes

Administrative Rules



TITLE: Adopted Permanent Rules Related to Health Risk Limits

AGENCY: Department of Health

REVISOR ID: R-4803

MINNESOTA RULES: Chapter 4717

The attached rules are approved for
filing with the Secretary of State

Sandra Glass-Sirany

Sandy Glass-Sirany
Senior Assistant Revisor

Document Number: 20252449
Filed July 2, 2025
Office of the Minnesota
Secretary of State, Steve Simon

1.1 **Department of Health**1.2 **Adopted Permanent Rules Related to Health Risk Limits**1.3 **4717.7860 HEALTH RISK LIMITS TABLE.**1.4 *[For text of subparts 1 to 7, see Minnesota Rules]*

1.5 Subp. 7a. [Renumbered subp 7c]

1.6 Subp. 7b. **Chlorothalonil.**

1.7 CAS number: 1897-45-6

1.8 Year Adopted: 2025

1.9 Volatility: Nonvolatile

1.10		Acute	Short-term	Subchronic	Chronic	Cancer
1.11	HRL (µg/L)	ND	20	2	1	6
1.12	RfD	--	0.014	0.00067	0.00029	--
1.13	(mg/kg-day)					
1.14	RSC	--	0.5	0.2	0.2	--
1.15	SF (per	--	--	--	--	0.017
1.16	mg/kg-day)					
1.17	ADAF or	--	--	--	--	10 (ADAF _{<2})
1.18	AF_{lifetime}					3 (ADAF _{2 to <16})
1.19						1 (ADAF ₁₆₊)
1.20	Intake Rate	--	0.290	0.074	0.045	0.155 (_{<2})
1.21	(L/kg-day)					0.040 (_{2 to <16})
1.22						0.042 (₁₆₊)
1.23	Endpoints	--	gastrointestinal	gastrointestinal	gastro-	cancer
1.24			system	system	intestinal	
1.25					system,	
1.26					hepatic	
1.27					(liver)	
1.28					system,	
1.29					renal	
1.30					(kidney)	
1.31					system	

2.1 Subp. 7c. **Clothianidin.**

2.2 CAS number: 210880-92-5, 205510-53-8

2.3 Year Adopted: 2018

2.4 Volatility: Nonvolatile

2.5		Acute	Short-term	Subchronic	Chronic	Cancer
2.6	HRL (µg/L)	ND	200	200 (2)	200 (2)	NA
2.7	RfD	--	0.093	(2)	(2)	--
2.8	(mg/kg-day)					
2.9	RSC	--	0.5	(2)	(2)	--
2.10	SF (per	--	--	--	--	--
2.11	mg/kg-day)					
2.12	ADAF or	--	--	--	--	--
2.13	AF _{lifetime}					
2.14	Intake Rate	--	0.285	(2)	(2)	--
2.15	(L/kg-day)					
2.16	Endpoints	--	developmental	developmental	developmental	--

2.17 Subp. 7d. **Cyanazine.**

2.18 CAS number: 21725-46-2

2.19 Year Adopted: 2018

2.20 Volatility: Nonvolatile

2.21		Acute	Short-term	Subchronic	Chronic	Cancer
2.22	HRL (µg/L)	3	3	3	1	NA
2.23	RfD	0.0015	0.0015	0.0012	0.00022	--
2.24	(mg/kg-day)					
2.25	RSC	0.5	0.5	0.2	0.2	--
2.26	SF (per	--	--	--	--	--
2.27	mg/kg-day)					
2.28	ADAF or	--	--	--	--	--
2.29	AF _{lifetime}					

3.1	Intake Rate	0.285	0.285	0.070	0.044	--
3.2	(L/kg-day)					
3.3	Endpoints	developmental,	developmental,	developmental,	None	--
3.4		female	female	female		
3.5		reproductive	reproductive	reproductive		
3.6		system	system	system,		
3.7				hepatic (liver)		
3.8				system, renal		
3.9				(kidney)		
3.10				system		

Subp. 7e. **1,2-Dibromoethane (EDB).**

CAS number: 106-93-4

Year Adopted: 2025

Volatility: High

3.15		Acute	Short-term	Subchronic	Chronic	Cancer
3.16	HRL (µg/L)	ND	10	10 (2)	9	0.03
3.17	RfD	--	0.018	(2)	0.0021	--
3.18	(mg/kg-day)					
3.19	RSC	--	0.2	(2)	0.2	--
3.20	SF (per	--	--	--	--	3.6
3.21	mg/kg-day)					
3.22	ADAF or	--	--	--	--	10 (ADAF _{<2})
3.23	AF_{lifetime}					3 (ADAF _{2 to <16})
3.24						1 (ADAF ₁₆₊)
3.25						
3.26	Intake Rate	--	0.290	(2)	0.045	0.155 (<2)
3.27	(L/kg-day)					0.040 (2 to <16)
3.28						0.042 (16+)
3.29	Endpoints	--	female	female	female	cancer
3.30			reproductive	reproductive	reproductive	
3.31			system,	system,	system,	
3.32			hepatic (liver)	hepatic (liver)	hepatic (liver)	
3.33			system,	system,	system,	
3.34			immune	immune	immune	

4.1		system, male	system, male	system, male	
4.2		reproductive	reproductive	reproductive	
4.3		system, renal	system, renal	system,	
4.4		(kidney)	(kidney)	respiratory	
4.5		system,	system,	system	
4.6		respiratory	respiratory		
4.7		system,	system,		
4.8		spleen	spleen		

4.9 Subp. 8. [Renumbered subp 7d]

4.10 *[For text of subparts 8a to 8f, see Minnesota Rules]*

4.11 Subp. 8g. [See repealer.]

4.12 *[For text of subparts 8h to 14d, see Minnesota Rules]*

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

4.14 CAS number: 45298-90-6; 1763-23-1; 29081-56-9; 2795-39-3; 70225-14-8;
4.15 and 29457-72-5

4.16 Year Adopted: 2025

4.17 Volatility: Nonvolatile

4.18		Acute	Short-term	Subchronic	Chronic	Cancer
4.19	HRL (µg/L)	ND	0.0023	0.0023	0.0023	0.0076
4.20	RfSC	--	2.6	2.6	2.6	--
4.21	(ng/mL)*					
4.22	RSC	--	0.2	0.2	0.2	--
4.23	SF (per	--	--	--	--	13
4.24	mg/kg-day)					
4.25	ADAF or	--	--	--	--	10
4.26	AF_{lifetime}					(ADAF ₂)
4.27						3
4.28						(ADAF ₂
4.29						to <16)
4.30						1
4.31						(ADAF
4.32						16+)

5.1	Intake Rate (L/kg-day)	--	#	#	#	0.155 _(<2)
5.2						0.040 ₍₂
5.3						to <16)
5.4						0.042
5.5						(16+)
5.6	Endpoints	--	developmental, hepatic (liver) system, immune system	developmental, hepatic (liver) system, immune system	developmental, hepatic (liver) system, immune system	cancer
5.7						
5.8						
5.9						

* A reference serum concentration (ng/mL) rather than a reference dose (mg/kg-d) was used in MDH's toxicokinetic model to calculate noncancer guidance values for PFOS.

95th percentile water intake rates (Tables 3-1, 3-3, and 3-5 in the Environmental Protection Agency, Exposure Factors Handbook, 2019), or upper percentile breast milk intake rates (Table 15-1), Environmental Protection Agency Exposure Factors Handbook, 2011.

Subp. 16. **Perfluorooctanoate (PFOA) and salts.**

CAS number: 45285-51-6; 335-67-1; 3825-26-1; 2395-00-8; 335-93-3; and 335-95-5

Year Adopted: 2025

Volatility: Nonvolatile

	Acute	Short-term	Subchronic	Chronic	Cancer
HRL (µg/L)	ND	0.00024	0.00024	0.00024	0.0000079
RfSC (ng/mL)*	--	0.93	0.93	0.93	--
RSC	--	0.2	0.2	0.2	--
SF (per ng/kg-day)	--	--	--	--	0.0126
ADAF or AF_{lifetime}	--	--	--	--	10 (ADAF _{<2}) 3 (ADAF ₂ to <16) 1 (ADAF ₁₆₊)

6.1 6.2 6.3 6.4	Intake Rate (L/kg-day)	--	#	#	#	0.155 (<2) 0.040 (2 to <16) 0.042 (16+)
6.5 6.6 6.7 6.8 6.9	Endpoints	--	developmental, hepatic (liver) system, immune system	developmental, hepatic (liver) system, immune system	developmental, hepatic (liver) system, immune system	cancer

* A reference serum concentration (ng/mL) rather than a reference dose (mg/kg-d) was used in MDH's toxicokinetic model to calculate noncancer guidance values for PFOA.

95th percentile water intake rates (Tables 3-1, 3-3, and 3-5 in the Environmental Protection Agency, Exposure Factors Handbook, 2019), or upper percentile breast milk intake rates (Table 15-1), Environmental Protection Agency Exposure Factors Handbook, 2011.

[For text of subparts 16a to 24, see Minnesota Rules]

REPEALER. Minnesota Rules, parts 4717.7500, subparts 5, 26a, and 31; and 4717.7860, subpart 8g, are repealed.

Document Number: 20252449
Filed July 2, 2025
Office of the Minnesota
Secretary of State, Steve Simon