

<i>Name of Contaminant</i>	<i>Criteria Classification</i>	<i>Units of Concentration Measurement</i>	<i>Period of Time Contaminant is Measured</i>	<i>Maximum Tolerable Level Concentration</i>	<i>Maximum Acceptable Level Concentration</i>	<i>Maximum Desirable Level Concentration</i>	<i>Reference</i>
Ammonia	Guideline	Milligrams per cubic metre (parts per million) of air	1 - hour average		1.4 (2.0)		7
Arsenic	Guideline <i>(new)</i>	Micrograms per cubic metre of air	24 - hour average		0.3		20
Cadmium	Guideline <i>(new)</i>	Micrograms per cubic metre of air	24 - hour average		2		20
Carbon Monoxide	Objective	Milligrams per cubic metre (parts per million) of air	1 - hour average 8 - hour average	20 (17)	35 (30) 15 (13)	15 (13) 6 (5)	5,9
Chromic Acid (as Cr ⁺⁶)	Guideline	Micrograms per cubic metre of air	1 - hour average		4.5		11
Copper	Guideline <i>(new)</i>	Micrograms per cubic metre of air	24 - hour average		50		20
Fluorides (as HF)	Guideline	Micrograms per cubic metre (parts per billion) of air	24 - hour average 7 - day average 30 - day average 70 - day average		0.85 (1.06) 0.55 (0.69) 0.35 (0.44) 0.20 (0.25)	0.40 (0.50) 0.22 (0.28)	3
Formaldehyde	Guideline	Micrograms per cubic metre (parts per billion) of air	1 - hour average		60 (49)		16
Hydrogen Chloride	Guideline	Micrograms per cubic metre (parts per billion) of air	1 - hour average		100 (70)		8

<i>Name of Contaminant</i>	<i>Criteria Classification</i>	<i>Units of Concentration Measurement</i>	<i>Period of Time Contaminant is Measured</i>	<i>Maximum Tolerable Level Concentration</i>	<i>Maximum Acceptable Level Concentration</i>	<i>Maximum Desirable Level Concentration</i>	<i>Reference</i>
Hydrogen Sulfide	Guideline	Micrograms per cubic metre (parts per billion) of air	1 - hour average 24 - hour average	1400 (1000)	15 (11.0) 5 (4.0)	1 (0.7)	4,12
Hydrogen Cyanide	Guideline	Micrograms per cubic metre (parts per billion) of air	1 - hour average annual average		40 (36) 3 (2.7)		13
Lead	Guideline <i>(revised)</i>	Micrograms per cubic metre of air	24 - hour average 30 - day average		2.0 0.7		2
Methylene Diphenyl Diisocyanate (MDI)	Guideline	Micrograms per cubic metre (parts per billion) of air	1 - hour average annual average		3 (0.3) 0.5 (0.05)		14
Nickel	Guideline <i>(new)</i>	Micrograms per cubic metre of air	24 - hour average		2		20
Nitrogen Dioxide	Objective	Micrograms per cubic metre (parts per million) of air	1 - hour average 24 - hour average Annual arithmetic mean	1000 (0.53)	400 (0.213) 200 (0.106) 100 (0.053)	60 (0.032)	5,9
Odours (see note 1)	Guideline	Odour units	two tests not less than 15 minutes apart nor more than 60 minutes apart		<u>Residential Zone</u> 2.0 (see note 2) <u>Industrial Zone</u> 7.0 (see note 3)	<1.0 (less than the odour threshold)	6
Ground-level Ozone	Objective	Micrograms per cubic metre (parts per billion) of air	1 - hour average Annual arithmetic mean	400 (200)	160 (82) 30 (15)	100 (50)	5,9

<i>Name of Contaminant</i>	<i>Criteria Classification</i>	<i>Units of Concentration Measurement</i>	<i>Period of Time Contaminant is Measured</i>	<i>Maximum Tolerable Level Concentration</i>	<i>Maximum Acceptable Level Concentration</i>	<i>Maximum Desirable Level Concentration</i>	<i>Reference</i>
Ground-level Ozone	Canada-wide Standard (<i>new</i>)	Micrograms per cubic metre (parts per billion) of air	8 - hour average (see note 4)		128 (65)		18
Particulate Matter less than 2.5 µm in diameter (PM _{2.5})	Canada-Wide Standard (<i>new</i>)	Micrograms per cubic metre of air	24 - hour average (see note 5)		30		18
Particulate Matter less than 10 µm in diameter (PM ₁₀)	Guideline (<i>new</i>)	Micrograms per cubic metre of air	24 - hour average		50		19
Phenol	Guideline	Micrograms per cubic metre (parts per billion) of air	1 - hour average		63 (16)		15
Styrene	Guideline	Micrograms per cubic metre (parts per billion) of air	24 - hour average		400 (94)		17
Sulphur Dioxide	Objective	Micrograms per cubic metre (parts per million) of air	1 - hour average 24 - hour average Annual arithmetic mean	800 (0.31)	900 (0.34) 300 (0.11) 60 (0.02)	450 (0.17) 150 (0.06) 30 (0.01)	5,9
Sulphuric Acid Mist	Guideline	Micrograms per cubic metre (parts per million) of air	1 - hour average		100 (0.025)		10
Suspended Particulate Matter	Objective	Micrograms per cubic metre of air	24 - hour average Annual geometric mean	400	120 70	60	5
Zinc	Guideline (<i>new</i>)	Micrograms per cubic metre of air	24 - hour average		120		20

All measurements of air quality are corrected to a reference temperature of 25 °C and to a reference pressure of 101.3 kilopascals.

note 1: Nuisance odours from environmentally-regulated developments are managed using a strategy based on the prevention/minimization of odour releases and the use of a community based standard to determine the acceptability of the ambient odour in the community. It is intended that the odour unit limits be used only for evaluating potential impacts on a community during the environmental impact assessment of new or modified developments.

note 2: One volume of odorous air diluted with one volume of odour free air.

note 3: One volume of odorous air diluted with six volumes of odour free air.

note 4: The 8-hour average objective for ozone is the national Canada-wide Standard (CWS) for ozone. (See www.ccme.ca/initiatives/standards.html for more details.)

note 5: The 24-hour average objective for PM_{2.5} is the national CWS for PM_{2.5}. (See www.ccme.ca/initiatives/standards.html for more details.)

REFERENCES

- 1 Environmental Health Laboratory, 1971. Internal Committee. Manitoba Department of Health.
- 2 Hazardous Contaminants Branch, October 1993. *Rationale for the Development of Soil, Drinking Water, and Air Quality Criteria for Lead*. Ontario Ministry of Environment and Energy.
- 3 Federal - Provincial Committee on Air Pollution, 1975. Environment Canada. Unpublished.
- 4 Federal - Provincial Committee on Air Pollution, 1976. Environment Canada. Unpublished.
- 5 Fisheries and Environment Canada, November 1976. *Criteria for National Air Quality Objectives*. Federal - Provincial Committee on Air Pollution. 41 pp.
- 6 Environment Management Division, 1978. *Internal Guideline*. Manitoba Department of Mines, Resources and Environmental Management.
- 7 Campbell, A. M., May 1982. *Proposed Manitoba Ambient Air Guideline for Ammonia*. Manitoba Environmental Management Division. 28 pp.
- 8 Environment Management Division, 1982. *Internal Tentative Guideline*. Manitoba Department of Environment and Workplace Safety and Health.
- 9 Federal - Provincial Committee on Air Pollution, 1982. Environment Canada. Unpublished.
- 10 Environment Management Division, 1983. *Internal Tentative Guideline*. Manitoba Department of Environment and Workplace Safety and Health.
- 11 Environment Management Division, 1985. *Internal Tentative Guideline*. Manitoba Department of Environment and Workplace Safety and Health.
- 12 Federal - Provincial Committee Advisory Committee on Air Quality, 1985. Environment Canada. Unpublished.
- 13 Van Dusen, J., 1996. *Ambient Air Quality Guidelines for Hydrogen Cyanide*. Manitoba Department of Environment.
- 14 Van Dusen, J., 1996. *Ambient Air Quality Guidelines for Methylene Diphenyl Diisocyanate (MDI)*. Manitoba Department of Environment.

- 15 Van Dusen, J., 1996. *Ambient Air Quality Guidelines for Phenol*. Manitoba Department of Environment.
- 16 Air Quality Criteria Task Group, 1999. *Interim Ambient Air Quality Guideline for Formaldehyde*. Manitoba Department of Environment.
- 17 Air Quality Criteria Task Group, 1999. *Ambient Air Quality Guideline for Styrene*. Manitoba Department of Environment.
- 18 Canadian Council of Ministers of the Environment (CCME), 2000. *Canada-Wide Standards for Particulate Matter (PM) and Ozone*. CCME.
- 19 Ontario Ministry of Environment and Energy, 1997. *Interim Ambient Air Quality Criterion – PM10*. EBR Registry Number: PA7E0006.
- 20 Ontario Ministry of the Environment, September 2001. *Summary of Point of Impingement Standards, Point of Impingement Guidelines, and Ambient Air Quality Criteria (AAQCs)*. Standards Development Branch.