

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Nickel

Parameter 1: INORGANIC

Parameter 3: Metals

Water Quality for the Protection of Aquatic Life

Freshwater

Concentration (µg/L)

Equation

The CWQG for nickel is related to water hardness (as CaCO₃):

When the water hardness is 0 to ≤ 60 mg/L, the CWQG is 25 µg/L

At hardness > 60 to ≤ 180 mg/L the CWQG is calculated using this equation (see calculator below)

$$CWQG (\mu\text{g/L}) = e^{(0.76[\ln(\text{hardness})]+1.06)}$$

At hardness >180 mg/L, the CWQG is 150 µg/L

If the hardness is unknown, the CWQG is 25 µg/L

The online calculator (below) will return the correct value over the entire range of hardness.

Enter water hardness here:

mg/L CaCO₃

Calculated nickel guideline:

µg/L Ni

Note: No fact sheet created. For more information on this guideline, please refer to Canadian Water Quality Guidelines (CCREM 1987). Out of convenience, this guideline was presented as a range depending upon the water hardness in earlier versions of CCME (1999). It is now presented as an equation as it originally appears in CCREM (1987).

Date	1987
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Marine

Concentration (µg/L)	No data
Date	No data

Water Quality for the Protection of Agriculture

Irrigation

Concentration (µg/L)	200
No fact sheet created. For more information on this guideline, please refer to Canadian Water Quality Guidelines (CCREM 1987).	
Date	1987

Livestock

Concentration (µg/L)	1000
No fact sheet created. For more information on this guideline, please refer to Canadian Water Quality Guidelines (CCREM 1987).	
Date	1987

Sediment Quality for the Protection of Aquatic Life

Freshwater

Concentration (µg/kg dry weight) - ISQG	No data
Concentration (µg/kg dry weight) - PEL	No data
Date	No data

Marine

Concentration (µg/kg dry weight) - ISQG	No data
Concentration (µg/kg dry weight) - PEL	No data
Date	No data

Soil Quality for the Protection of Environmental and Human Health

Further documentation on these guidelines can be found in the Canadian Environment Quality Guidelines.

[Download
Factsheet](#)

Concentration (mg/kg dry weight) - Agricultural	45
<p>SQG_E = soil quality guideline for environmental health; SQG_{HH} = soil quality guideline for human health. ILCR = incremental lifetime cancer risk.</p> <p>Data are sufficient and adequate to calculate a SQG_{HH} and an SQG_E. Therefore the soil quality guideline is the lower of the two (CCME 2006). The original nickel soil quality guideline derived in 1999 (based on SQG_E only) and the interim soil quality criteria (CCME 1991) are superseded by the 2015 nickel soil quality guideline CCME (2015).</p>	
Concentration (mg/kg dry weight) - Residential / parkland	45
<p>SQG_E = soil quality guideline for environmental health; SQG_{HH} = soil quality guideline for human health. ILCR = incremental lifetime cancer risk.</p> <p>Data are sufficient and adequate to calculate a SQG_{HH} and an SQG_E. Therefore the soil quality guideline is the lower of the two (CCME 2006). The original nickel soil quality guideline derived in 1999 (based on SQG_E only) and the interim soil quality criteria (CCME 1991) are superseded by the 2015 nickel soil quality guideline CCME (2015).</p>	
Concentration (mg/kg dry weight) - Commercial	89
<p>SQG_E = soil quality guideline for environmental health; SQG_{HH} = soil quality guideline for human health. ILCR = incremental lifetime cancer risk.</p> <p>Data are sufficient and adequate to calculate only a Soil Quality Guideline for Environmental Health (SQG_E), which is less than the existing interim soil quality criterion (CCME, 1991) for this land use. Therefore the SQG_E becomes the soil quality guideline, which supersedes the interim soil quality criterion for this land use.</p>	
Concentration (mg/kg dry weight) - Industrial	89
<p>SQG_E = soil quality guideline for environmental health; SQG_{HH} = soil quality guideline for human health. ILCR = incremental lifetime cancer risk.</p> <p>Data are sufficient and adequate to calculate a SQG_{HH} and an SQG_E. Therefore the soil quality guideline is the lower of the two (CCME 2006). The original nickel soil quality guideline derived in 1999 (based on SQG_E only) and the interim soil quality criteria (CCME 1991) are superseded by the 2015 nickel soil quality guideline CCME (2015).</p>	
Date	2015
Tissue Residue Quality for the Protection of Wildlife Consumer of Aquatic Biota	
Concentration ($\mu\text{g/kg}$ diet wet weight)	No data
Date	No data