

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.

Benzene

CASRN: 71432

Parameter 1: ORGANIC

Parameter 2: Monocyclic aromatic compounds

Water Quality for the Protection of Aquatic Life

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

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Factsheet](#)

Freshwater

Concentration (µg/L) 370

Interim guideline.

The technical document for the guideline is available from the Ontario Ministry of the Environment.

Substance has been re-evaluated since CCREM 1987 + Appendixes. Either a new guideline has been derived or insufficient data existed to derive a new guideline.

Date 1999

Marine

Concentration (µg/L) 110

Interim guideline.

The technical document for the guideline is available from the Ontario Ministry of the Environment.

Date 1999

Water Quality for the Protection of Agriculture

Irrigation

Concentration (µg/L) No data

Date No data

Livestock

Concentration (µg/L) No data

Concentration (µg/L)	No data
Date	No data

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.

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Concentration (mg/kg dry weight) - Agricultural

Table

Guideline	Coarse	Fine
Benzene (mg/kg)		
10-5 Incremental Risk – Surface (≤1.5m)	0.030	0.0068
10-5 Incremental Risk – Subsoil (>1.5m)	0.030	0.0068
10-6 Incremental Risk – Surface (≤1.5m)	0.0095	0.0068
10-6 Incremental Risk – Subsoil (>1.5m)	0.011	0.0068

Notes:

Data are sufficient and adequate to calculate a Soil Quality Guideline for Human Health (SQGHH) and a Soil Quality Guideline for Environmental health (SQGE). Therefore the soil quality guideline is the lower of the two and represents a fully integrated and de novo guideline for this land use.

This guideline value may be less than the common limit of detection in some jurisdictions.

Contact jurisdictions for guidance.

Free-phase formation, a circumstance deemed unacceptable by many jurisdictions, occurs when a substance exceeds its solubility limit in soil water. The concentration at which this occurs is dependent on a number of factors, including soil texture, porosity, and aeration porosity.

Under the assumptions used for this guideline, at concentrations greater than 910 mg·kg⁻¹ in coarse soil, or 910 mg·kg⁻¹ in fine soil, formation of free-phase benzene will likely occur.

Contact jurisdiction for guidance.

Concentration (mg/kg dry weight) - Residential / parkland

Table

Guideline	Coarse	Fine
Benzene (mg/kg)		
10-5 Incremental Risk – Surface (≤1.5m)	0.030	0.0068
10-5 Incremental Risk – Subsoil (>1.5m)	0.030	0.0068
10-6 Incremental Risk – Surface (≤1.5m)	0.0095	0.0068
10-6 Incremental Risk – Subsoil (>1.5m)	0.011	0.0068

Notes:

Data are sufficient and adequate to calculate a Soil Quality Guideline for Human Health

Data are sufficient and adequate to calculate a Soil Quality Guideline for Human Health (SQGHH) and a Soil Quality Guideline for Environmental health (SQGE). Therefore the soil quality guideline is the lower of the two and represents a fully integrated and de novo guideline for this land use.

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Free-phase formation, a circumstance deemed unacceptable by many jurisdictions, occurs when a substance exceeds its solubility limit in soil water. The concentration at which this occurs is dependent on a number of factors, including soil texture, porosity, and aeration porosity. Under the assumptions used for this guideline, at concentrations greater than 910 mg·kg⁻¹ in coarse soil, or 910 mg·kg⁻¹ in fine soil, formation of free-phase benzene will likely occur. Contact jurisdiction for guidance.

Concentration (mg/kg dry weight) - Commercial

Table

Guideline	Coarse	Fine
Benzene (mg/kg)		
10-5 Incremental Risk – Surface (≤1.5m)	0.030	0.0068
10-5 Incremental Risk – Subsoil (>1.5m)	0.030	0.0068
10-6 Incremental Risk – Surface (≤1.5m)	0.030	0.0068
10-6 Incremental Risk – Subsoil (>1.5m)	0.030	0.0068

Notes:

Data are sufficient and adequate to calculate a Soil Quality Guideline for Human Health (SQGHH) and a Soil Quality Guideline for Environmental health (SQGE). Therefore the soil quality guideline is the lower of the two and represents a fully integrated and de novo guideline for this land use.

This guideline value may be less than the common limit of detection in some jurisdictions. Contact jurisdictions for guidance.

Free-phase formation, a circumstance deemed unacceptable by many jurisdictions, occurs when a substance exceeds its solubility limit in soil water. The concentration at which this occurs is dependent on a number of factors, including soil texture, porosity, and aeration porosity. Under the assumptions used for this guideline, at concentrations greater than 910 mg·kg⁻¹ in coarse soil, or 910 mg·kg⁻¹ in fine soil, formation of free-phase benzene will likely occur. Contact jurisdiction for guidance.

Concentration (mg/kg dry weight) - Industrial

Table

Guideline	Coarse	Fine
Benzene (mg/kg)		
10-5 Incremental Risk – Surface (≤1.5m)	0.030	0.0068
10-5 Incremental Risk – Subsoil (>1.5m)	0.030	0.0068
10-6 Incremental Risk – Surface (≤1.5m)	0.030	0.0068
10-6 Incremental Risk – Subsoil (>1.5m)	0.030	0.0068

Notes:

Data are sufficient and adequate to calculate a Soil Quality Guideline for Human Health (SQGHH) and a Soil Quality Guideline for Environmental health (SQGE). Therefore the soil quality guideline is the lower of the two and represents a fully integrated and de novo guideline for this land use.

This guideline value may be less than the common limit of detection in some jurisdictions.

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Contact jurisdictions for guidance.

Free-phase formation, a circumstance deemed unacceptable by many jurisdictions, occurs when a substance exceeds its solubility limit in soil water. The concentration at which this occurs is dependent on a number of factors, including soil texture, porosity, and aeration porosity. Under the assumptions used for this guideline, at concentrations greater than 910 mg·kg⁻¹ in coarse soil, or 910 mg·kg⁻¹ in fine soil, formation of free-phase benzene will likely occur. Contact jurisdiction for guidance.

Date	2004
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Tissue Residue Quality for the Protection of Wildlife Consumer of Aquatic Biota

Concentration (µg/kg diet wet weight)	No data
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Date	No data
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