

Frederick County has a moderate risk profile. Arsenic is detected in ~50% of wells, driven by geological sources. Contamination is often invisible — testing is the only way to confirm your well's safety.

N/A
HOUSEHOLDS ON
PRIVATE WELLS

Varies
PRIMARY
AQUIFER TYPE

MODERATE
OVERALL
RISK LEVEL

YOUR TOP WATER QUALITY RISKS

CONTAMINANT	HOW COMMON	RISK LEVEL	SOURCE & CONTEXT
Arsenic	~50% of wells	High	Geological — Naturally dissolves from bedrock and glacial sediment
Radon†	~100% of wells	Advisory	Geological — Radioactive gas dissolved from uranium-bearing rock
Nitrate	~8% above limit	Moderate	Agricultural — Fertilizer, manure, and septic systems leaching into groundwater
Chloride*	~7% above aesthetic limit	Moderate	Road/Geological — Road salt application and natural mineral deposits
Fluoride	~50% of wells	Low–Moderate	Geological — Naturally elevated in some deep or volcanic aquifers

* Secondary standard — an aesthetic limit for taste, odor, or staining. Not a health-based EPA limit.

† No finalized EPA primary MCL. Figure shows detection frequency, not regulatory exceedance.

WHAT TO DO NEXT

- Order a water test.**
Test for Arsenic, Radon, Nitrate, Chloride, coliform bacteria. Bacteria annually; others every 3–5 years.
- Get your free county report.**
See full data, treatment options, and certified labs at <https://yourwaterreport.com/states/va/frederick-county/>
- Upload your lab results.**
We'll interpret them, flag anything above limits, and recommend next steps — free.

KNOW YOUR WELL

Well age / year drilled _____

Last water test date _____

Treatment systems installed _____

Well driller / service contact _____

WHAT YOUR RESULTS MEAN

Use this to interpret your lab report — match the contaminant to your result.

IF YOUR TEST SHOWS	WHAT IT MEANS	CONSIDER
Bacteria detected	Immediate concern	Shock chlorination; add UV system
Arsenic > 10 µg/L	EPA limit exceeded — chronic cancer risk	Reverse osmosis or activated alumina filter
Radon > 4,000 pCi/L	EPA proposed limit; also affects indoor air	Aeration system; test indoor air
Nitrate > 10 mg/L	EPA limit exceeded — risk for infants	RO filter; avoid for bottle-fed infants
Fluoride > 4 mg/L	EPA limit exceeded — skeletal risk	RO filter or activated alumina

WHO SHOULD USE THIS

- Homeowners on private wells — not covered by public water testing
- Home buyers doing due diligence before closing
- Families with infants, elderly, or immunocompromised members
- Anyone who hasn't tested their well in the past 3 years

LOCAL RESOURCES

Full county report
<https://yourwaterreport.com/states/va/frederick-county/>

Free personalized well water report at
<https://yourwaterreport.com/states/va/frederick-county/>

Data: EPA ECHO · USGS NWIS · Water Quality Portal · U.S. Census ACS
For informational purposes only. Contact a licensed professional for testing and treatment.