

Water Quality Portal Data – Nutrient ‘Crosswalk’

Handling Specific Characteristics in the Water Quality Portal

For all nutrient characteristic names, we ask that the GLTG display name be created by combining the fields ‘characteristic name’ and ‘result/sample/fraction/text’.

Ammonium

For all data with ‘characteristic name’ Ammonia and Ammonium, delete/hide duplicates. When field name ‘characteristic name’ is Ammonia and Ammonium, and field names ‘date’ and ‘result/sample/fraction/text’ are duplicates retain lower measurement.

For ‘characteristic name’ Ammonia and Ammonium, when field name ‘result/sample/fraction/text’ has a value of mg/l NH₄, display mg/l as N and transform the measurement.

Delete/hide all instances where ‘characteristic name’ is Ammonia as NH₃ and Ammonia that have a unit mg/kg. (29 records).

Logic

Data was entered once with “result measure/measure unit code” as N and a second time with “result measure/measure unit code” as NH₄. Data was entered once with mg/l and a second time mg/kg.

Displaying Ammonium

Ammonium and Ammonia as N Dissolved

Ammonium and Ammonia as N Total

Ammonia and Ammonium as N suspended

Ammonium Crosswalk

Combine fields ‘characteristic name’ and ‘result/sample/fraction/text’ and aggregate according to the following groups:

Ammonium and Ammonia as N Dissolved

Ammonia Dissolved

Ammonia and Ammonium Dissolved

Ammonia as NH₃ Dissolved

Ammonium and Ammonia as N Total

Ammonia Total

Ammonia and Ammonium Total

Ammonia-nitrogen Total

Ammonia-nitrogen as N Total

Ammonia as NH₃ Total

Kjeldhal Nitrogen Crosswalk

Kjeldhal Nitrogen Crosswalk

Combine fields 'characteristic name' and 'result/sample/fraction/text' and aggregate according to the following groups:

Kjeldahl Nitrogen as N Total

Kjeldahl Nitrogen as N Total

Kjeldahl Nitrogen Total

Kjeldahl Nitrogen Dissolved

Kjeldahl Nitrogen Suspended

Nitrate

For all data with 'characteristic name' Nitrate or Inorganic Nitrogen (Nitrate and Nitrite) delete/hide duplicates. When 'characteristic name' is Nitrate or Inorganic Nitrogen (Nitrate and Nitrite), and field names 'date' and 'result/sample/fraction/text' are duplicates retain lower measurement. Delete/ hide all instances where 'characteristic name' is Nitrate or Inorganic Nitrogen (Nitrate and Nitrite) that have a unit mg/kg. (6 records).

Logic

Data was entered once with 'result_measure/measure_unit_code' as N and a second time with 'result_measure/measure_unit_code' as mg/l. Data was entered once with mg/l and a second time mg/kg.

Nitrate Crosswalk

Combine fields 'characteristic name' and 'result/sample/fraction/text' and aggregate according to the following groups:

Nitrate as N Total

Nitrate as N Total

Nitrate Total

Nitrate as N Dissolved

Nitrate Dissolved

Nitrate and Nitrite Total

Inorganic Nitrogen (Nitrate and Nitrite)

Inorganic Nitrogen (Nitrate and Nitrite) as N

Nitrate and Nitrite dissolved

Inorganic Nitrogen (Nitrate and Nitrite)

Inorganic Nitrogen (Nitrate and Nitrite) as N

Nitrite

For all data with 'characteristic name' Nitrite, delete/hide duplicates when 'characteristic name' is Nitrite, 'date' and 'result/sample/fraction/text' are duplicates retain lower measurement.

Nitrite Crosswalk

Combine fields 'characteristic name' and 'result/sample/fraction/text' and aggregate according to the following groups:

Nitrite Total

Nitrite as N Total

Nitrite Dissolved

Nitrite Dissolved

Organic Nitrogen

Organic Nitrogen Crosswalk

Combine fields 'characteristic name' and 'result/sample/fraction/text' and aggregate according to the following groups:

Organic Nitrogen as N Total

Organic Nitrogen as N Total

Organic Nitrogen Total

Organic Nitrogen Dissolved

Total Nitrogen

For all data with 'characteristic name' is Nitrogen, mixed forms (NH_3), (NH_4), organic, (NO_2) and (NO_3), delete/hide duplicates when 'characteristic name' is Nitrogen, mixed forms (NH_3), (NH_4), organic, (NO_2) and (NO_3), date and 'result/sample/fraction/text' are duplicates retain lower measurement.

Total Nitrogen Crosswalk

Combine fields 'characteristic name' and 'result/sample/fraction/text' and aggregate according to the following groups:

Total Nitrogen

Nitrogen, mixed forms (NH_3), (NH_4), organic, (NO_2) and (NO_3) Total

Total Nitrogen (Dissolved)

Nitrogen, mixed forms (NH_3), (NH_4), organic, (NO_2) and (NO_3) Dissolved

Total Nitrogen (Suspended)

Nitrogen, mixed forms (NH_3), (NH_4), organic, (NO_2) and (NO_3) Suspended

Phosphorus

Phosphorus can be divided into two categories; **Orthophosphate** (dissolved and total) and **Phosphorus**, (dissolved and total).

For 'characteristic name' **Phosphate**, only for time periods 1968-11-12 through 1979-04-18 when the 'characteristic name' is **Phosphate** and the field 'result_measure/measure_unit_code' has a value of mg/l display mg/l as P transform the measurement.

For all data with 'characteristic name' **Phosphate**, delete/hide duplicates when 'characteristic name' is **Phosphate**, 'date' and 'result/sample/fraction/text' are duplicates retain lower measurement.

For 'characteristic name' **Phosphorus**, only for time periods 1951 – 1967-09-19 when the 'characteristic name' is **Phosphorus** and the field 'result_measure/measure_unit_code' has a value of mg/l PO⁴ display mg/l as P transform the measurement.

For all data with 'characteristic name' **Phosphorus**, delete/hide duplicates when 'characteristic name' is **Phosphorus**, 'date' and 'result/sample/fraction/text' are duplicates retain lower measurement.

For all data with 'characteristic name' **Phosphate-phosphorus as P** or **Phosphate-phosphorus**, delete/hide duplicates when 'characteristic name' is **Phosphate-phosphorus as P** or **Phosphate-phosphorus**, 'date' and 'result/sample/fraction/text' are duplicates retain lower measurement.

For all data with 'characteristic name' **Phosphate-phosphorus as PO⁴**, transform the measurement.

Phosphorus Crosswalk

Combine fields 'characteristic name' and 'result/sample/fraction/text' and aggregate according to the following groups:

Orthophosphate (dissolved)

Orthophosphate as P Dissolved

Phosphate-phosphorus Dissolved

Phosphate-phosphorus Dissolved

Phosphate Dissolved (Iowa Water Science Center, Minnesota water science center)

Phosphate-phosphorus Dissolved

Phosphate-phosphorus as P Dissolved

Phosphorus Dissolved

Phosphorus as P Dissolved

Phosphorus Total

Phosphorus as P Phosphorus Total

Phosphorus as P Total

Phosphate-phosphorus Total

Phosphate Total

Phosphate-phosphorus Total

Phosphate-phosphorus as P Total

Phosphate-phosphorus as PO⁴ Total

Phosphorus Particulate

Phosphorus Bed Sediment Phosphorus Suspended

Phosphate-Phosphorous

USGS-IA	USGS IA Water Sci Cntr	nwisia.01.95100095	1951-04-11		USGS-05474500	Nitrate	Dissolved	1.70	mg/l as N		
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7622543	1993-11-15	00:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1700.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7629227	1994-06-02	11:00:00	WIDNR_WQX-123016	Phosphate-phosphorus as P	Total	1200.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7629210	1994-06-02	14:00:00	WIDNR_WQX-633038	Phosphate-phosphorus as P	Total	880.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7503751	1994-11-15	11:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1100.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7530862	1995-06-06	11:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1000.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7397767	1995-11-01	11:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1100.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7426018	1996-06-05	10:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1100.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7310737	1996-11-05	10:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1200.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7332379	1997-06-03	13:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1100.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7184841	1998-11-03	10:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	1260.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7210800	1999-04-05	10:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	871.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-1095298	1999-11-08	11:00:00	WIDNR_WQX-483027	Phosphate-phosphorus	Total	1260.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-7101940	2000-04-05	12:00:00	WIDNR_WQX-483027	Phosphate-phosphorus as P	Total	945.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-170148	2000-11-03	10:00:00	WIDNR_WQX-483027	Phosphate-phosphorus	Total	1170.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-1158563	2001-08-28	12:00:00	WIDNR_WQX-483027	Phosphate-phosphorus	Total	1040.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-1244213	2002-04-01	10:00:00	WIDNR_WQX-483027	Phosphate-phosphorus	Total	1000.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-1426447	2003-04-01	11:00:00	WIDNR_WQX-483027	Phosphate-phosphorus	Total	981.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX-1495870	2003-08-25	10:00:00	WIDNR_WQX-483027	Phosphate-phosphorus	Total	1070.0	mg/kg	365.1	USEPA

Phosphate-Phosphorous cont.

WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX -1687038	2004-09-10	11:00:00	WIDNR_WQX -483027	Phosphate- phosphorus	Total	948.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX -9982614	2005-09-07	11:00:00	WIDNR_WQX -483027	Phosphate- phosphorus	Total	933.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX -15625501	2006-09-06	11:00:00	WIDNR_WQX -483027	Phosphate- phosphorus	Total	1210.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX -19173268	2007-04-03	11:00:00	WIDNR_WQX -483027	Phosphate- phosphorus	Total	1060.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX -21993041	2007-06-06	11:00:00	WIDNR_WQX -483027	Phosphate- phosphorus	Total	1090.0	mg/kg	365.1	USEPA
WIDNR_WQX	WI DPT NAT RES	WIDNR_WQX -22760036	2007-06-06	11:00:00	WIDNR_WQX -483027	Phosphate- phosphorus	Total	1230.0	mg/kg	365.1	USEPA

Unique Nutrient Combinations

Ammonia	Total	Ammonia Total
Ammonia	Dissolved	Ammonia Dissolved
Ammonia and Ammonium	Dissolved	Ammonia and Ammonium Dissolved
Ammonia and Ammonium	Total	Ammonia and Ammonium Total
Ammonia as NH ³	Dissolved	Ammonia as NH ³ Dissolved
Ammonia as NH ³	Total	Ammonia as NH ³ Total
Ammonia-nitrogen	Total	Ammonia-nitrogen Total
Ammonia-nitrogen as N	Total	Ammonia-nitrogen as N Total
Inorganic Nitrogen (Nitrate and Nitrite)	Total	Inorganic Nitrogen (Nitrate and Nitrite)Total
Inorganic Nitrogen (Nitrate and Nitrite)	Dissolved	Inorganic Nitrogen (Nitrate and Nitrite)Dissolved
Inorganic Nitrogen (Nitrate and Nitrite) as N	Total	Inorganic Nitrogen (Nitrate and Nitrite) as N Total
Inorganic Nitrogen (Nitrate and Nitrite) as N	Dissolved	Inorganic Nitrogen (Nitrate and Nitrite) as N Dissolved
Kjeldahl Nitrogen	Total	Kjeldahl Nitrogen Total
Kjeldahl Nitrogen	Dissolved	Kjeldahl Nitrogen Dissolved
Kjeldahl Nitrogen	Suspended	Kjeldahl Nitrogen Suspended
Kjeldahl Nitrogen as N	Total	Kjeldahl Nitrogen as N Total
Nitrate	Dissolved	Nitrate Dissolved
Nitrate	Total	Nitrate Total
Nitrate as N	Total	Nitrate as N Total
Nitrite	Total	Nitrite Total
Nitrite	Dissolved	Nitrite Dissolved
Nitrite as N	Total	Nitrite as N Total
Nitrogen	Suspended	Nitrogen Suspended
Nitrogen, mixed forms (NH ³), (NH ⁴), organic, (NO ²) and (NO ³)	Total	Nitrogen, mixed forms (NH ³), (NH ⁴), organic, (NO ²) and (NO ³)Total
Nitrogen, mixed forms (NH ³), (NH ⁴), organic, (NO ²) and (NO ³)	Dissolved	Nitrogen, mixed forms (NH ³), (NH ⁴), organic, (NO ²) and (NO ³)Dissolved
Nitrogen, mixed forms (NH ³), (NH ⁴), organic, (NO ²) and (NO ³)	Suspended	Nitrogen, mixed forms (NH ³), (NH ⁴), organic, (NO ²) and (NO ³)Suspended
Organic Nitrogen	Total	Organic Nitrogen Total
Organic Nitrogen	Dissolved	Organic Nitrogen Dissolved
Organic Nitrogen as N	Total	Organic Nitrogen as N Total
Orthophosphate	Dissolved	Orthophosphate Dissolved
Orthophosphate as P	Total	Orthophosphate as P Total
Orthophosphate as P	Dissolved	Orthophosphate as P Dissolved
Phosphate	Dissolved	Phosphate Dissolved
Phosphate	Total	Phosphate Total
Phosphate-phosphorus	Total	Phosphate-phosphorus Total

Unique Nutrient Combinations cont.

Phosphate-phosphorus	Dissolved	Phosphate-phosphorus Dissolved
Phosphate-phosphorus as P	Total	Phosphate-phosphorus as P Total
Phosphate-phosphorus as P	Dissolved	Phosphate-phosphorus as P Dissolved
Phosphate-phosphorus as PO ⁴	Total	Phosphate-phosphorus as PO ⁴ Total
Phosphorus	Total	Phosphorus Total
Phosphorus	Dissolved	Phosphorus Dissolved
Phosphorus	Bed Sediment	Phosphorus Bed Sediment
Phosphorus	Suspended	Phosphorus Suspended
Phosphorus as P	Total	Phosphorus as P Total
Phosphorus as P	Dissolved	Phosphorus as P Dissolved

Ammonia-Ammonium Summary

Characteristic Name: Ammonia

	Organizations	Method
Ammonia as NH ³	USGS Missouri Water Science Center	USGS 1983-1988 no method; Total
Ammonia-nitrogen	USGS Iowa Water Science Center	USGS 1983-1988 no method; Total
Ammonia-nitrogen as N	USGS Iowa Water Science Center Wisconsin Department of Natural Resources	USGS 1983-1988 no method; Total Captured as dissolved and total mg/kg and mg/L EPA method 350.1

Characteristic Name: Ammonia and Ammonium

Organizations

USGS Missouri Water Science Center

USGS Iowa Water Science Center
USGS Minnesota Water Science Center

ALGOR (algorithm); inconsistent nutrient reporting context - USGS Computation by NWIS algorithm sometimes as dissolved NH₄, other times as total N; sometimes dissolved milligrams as N, sometimes dissolved milligrams as NH₄

Characteristic Name: Ammonia as NH₃

Organizations

Wisconsin Department of Natural Resources

METHOD APHA 4500-NH₃(G) and EPA 350.1 and APHA 4500-NH₃(H)

Characteristic Name: Ammonia-nitrogen

Organizations

Illinois EPA

Method USEPA 350.3

Characteristic Name: Ammonia-nitrogen as N

Organizations

Minnesota Pollution Control Agency
Minnesota Pollution Control Agency

Method MNPCA LEG_P00610 METHOD 350.1; 4500-NH₃(G) AND hach 10205

Characteristic Name: Ammonium

Organizations

LTRM

Method - APHA 4500 NH(G)

Ammonia Crosswalk

Essentially three different Ammonia methods were used throughout results: APHA 4500-NH₃ (G) = EPA 350.1 = HACH 10205

USGS Methods http://help.waterdata.usgs.gov/codes-and-parameters/code/method_cd_query?fmt=html

Kjeldahl Nitrogen Summary

Characteristic Name: [Kjeldahl Nitrogen](#)

Organization M

USGS Missouri Water Science Center
USGS Iowa Water Science Center

USGS Missouri Water Science Center

USGS Iowa Water Science Center
Illinois EPA
Minnesota Pollution Control Agency
USGS Minnesota Water Science Center

USGS Minnesota Water Science Center

USGS Iowa Water Science Center

Method nutrient reporting context

No method 1973-1975
No method 1973-1976 (Total, Dissolved, Suspended)
NH³+org-N, wu, ASF block digest (Total); NH³+org-N, wf, Jirka; NH³+org-N, wu, micro kjeldahl ASF (total); NH⁴+org-N, wu, WCA, kjeldahl, CF (Total); NH⁴+org-N, wf, FCC, kjeldahl, CF (Dissolved); NH³+org-N, wf, Jirka (dissolved); NH³+org-N, wf, ASF block digest (dissolve)
NH³+org-N, wu, ASF block digest; NH⁴+org-N, wu, WCA, kjeldahl, CF (total); NH⁴+org-N, wf, FCC, kjeldahl, CF (dissolved)
Not available
LEG_P00625; EPA 351.2
No method 1973-1975 - TOTAL, DISSOLVED, SUSPENDED
NH⁴+org-N, wu, WCA, kjeldahl, CF (TOTAL); NH⁴+org-N, wf, FCC, kjeldahl, CF (DISSOLVED); NH³+org-N, wu, Jirka (TOTAL AND DISSOLVED); NH³+org-N, wf, ASF block digest (Dissolved); NH³+org-N, wu, microkjeldahl ASF (total)
NH³+org-N, wu, ASF block digest; NH³+org-N, wu, microkjeldahl ASF; NH⁴+org-N, wf, FCC, kjeldahl, CF (Dissolved) ; NH⁴+org-N, wu, WCA, kjeldahl, CF (total)

Characteristic Name: [Kjeldahl Nitrogen as N](#)

Organization

Minnesota Pollution Control Agency

LEG_P00625; EPA 351.2

Characteristic Name: [Kjeldahl Nitrogen as N](#)

Organization

LTRM

COLORIMETRY - not sure which exact method

Table of different Kjeldahl Nitrogen Methods (differentiation between suspended, dissolved and total)

KJ002	Ammonia plus Organic Nitrogen, filtered water, Kjeldahl digestion, continuous flow (CF) colorimetry
KJ008	Ammonia plus Organic Nitrogen, unfiltered water, acidified (WCA), Kjeldahl digestion, continuous flow colorimetry
CL083	Ammonia plus Organic Nitrogen in unfiltered water by automated segmented flow (ASF) block digestion with sulfuric acid-mercuric sulfate, reaction with salicylate-hypochlorite, and colorimetry
EPA 351.4	Nitrogen, Kjeldahl, Total (Potentiometric, Ion Selective Electrode)
EPA 351.2	DETERMINATION OF TOTAL KJELDAHL NITROGEN BY SEMIAUTOMATED COLORIMETRY
KJ006	Ammonia Plus Organic Nitrogen in Unfiltered Water by Micro kjeldahl Digestion, and ASF Gas Diffusion Cleanup and Colorimetry
KJ013	Ammonia and Organic Nitrogen in unfiltered water by small-volume (Jirka) semiautomated Kjeldahl method
KJ012	Ammonia and Organic Nitrogen in filtered water by small-volume (Jirka) semiautomated Kjeldahl method
CL051	Ammonia plus Organic Nitrogen in filtered water by automated segmented flow (ASF) block digestion with sulfuric acid/mercuric sulfate, reaction with salicylate/hypochlorite, and colorimetry (total)

USGS Methods http://help.waterdata.usgs.gov/codes-and-parameters/code/method_cd_query?fmt=html

Organic Nitrogen Summary

Characteristic Name: [Organic Nitrogen](#)

Organization

USGS Missouri Water Science Center
USGS Iowa Water Science Center
USGS Minnesota Water Science Center

Method nutrient reporting context

No method; Computation by NWIS algorithm (Total and Dissolved)
No method; Computation by NWIS algorithm (Total and Dissolved)
No method; Computation by NWIS algorithm (Total and Dissolved)

Characteristic Name: [Organic Nitrogen as N](#)

Organization

Minnesota Pollution Control Agency

LEG_P00605 (Total)

USGS Methods

http://help.waterdata.usgs.gov/codes-and-parameters/code/method_cd_query?fmt=html

Orthophosphate Summary

Characteristic Name: [Orthophosphate](#)

Organization

Wisconsin DNR

Method

APHA 4500-P-E; Dissolved

Characteristic Name: [Orthophosphate as P](#)

Organization

Minnesota DNR

HACH 10209; Total

LEG_P70507; Total

LEG_P00671; Dissolved

EPA 365.2

Wisconsin DNR

APHA 4500-P-E; Dissolved

USGS Methods http://help.waterdata.usgs.gov/codes-and-parameters/code/method_cd_query?fmt=html

Phosphate Summary

Characteristic Name: [Phosphate](#)

Organization

USGS Missouri	Computation by NWIS algorithm; Dissolved -mg/L CL054 Ortho-PO ⁴ , wf, ASF phosphom; Dissolved - mg/L as P
USGS	CL085 Ortho-PO ⁴ , wu,ASFphos/mol(Ocala) mg/L as P
USGS	PHM01 mg/L as P
USGS	CL053 Nutrients, phosphomolybdate, col
USGS	00048 Nutrients, wf, color, DA - mg/L as P
USGS	CL057 Nutrients, lowlvl, phosphomolybd
USGS Minnesota	Computation by NWIS algorithm; Dissolved -mg/L
USGS	CL053 Nutrients, phosphomolybdate, col
USGS	CL057 Nutrients, lowlvl, phosphomolybd
USGS	PHM01 mg/L as P
	No method Dissolved
	No method Total
USGS	CL054 Ortho-PO ⁴ , wf, ASF phosphom; Dissolved - mg/L as P
USGS	CL085 Ortho-PO, wu,ASFphos/mol(Ocala)
USGS Iowa	Computation by NWIS algorithm; Dissolved -mg/L
	No method Dissolved
USGS	CL057 Nutrients, lowlvl, phosphomolybd
USGS	00048 Nutrients, wf, color, DA - mg/L as P
USGS	PHM01 mg/L as P

Characteristic Name: [Phosphate-phosphorus](#)

Organization

USGS Missouri	Computation by NWIS algorithm – Total No Method - Total No Method – Total
USGS Iowa	No Method – Dissolved Computation by NWIS algorithm - Total Hach 10210 -mg/L No Method - mg/L
Minnesota State	Computation by NWIS algorithm - Total
Wisconsin DNR	USEPA 365.1 mg/L - Dissolved

Characteristic Name: Phosphate-phosphorus as P

Organization

Wisconsin DNR	USEPA 365.1 - Total
Minnesota state	Hach 10210 – Total All methods phosphate Computation by NWIS algorithm; Dissolved – mg/L
USGS	CL054 Ortho-P Orthophosphate in filtered water by automated segmented flow (ASF) phosphomolybdate colorimetry
USGS	CL085 Ortho-PO Orthophosphate in unfiltered water by automated segmented flow (ASF) phosphomolybdate formation and colorimetry (Ocala)
USGS	PHM01 mg/L as Orthophosphate in filtered water by discrete analyzer phosphomolybdate formation and colorimetry (NWQL Lab Code 3118; formerly Mcode 00048)
USGS	CL053 Nutrients Nutrients, filtered water, phosphomolybdate, colorimetric
USGS	CL057 Nutrients N00048 Nutrients Orthophosphate in filtered water by discrete analyzer phosphomolybdate formation and colorimetry
USGS	CL057 Nutrients Nutrients, low level (LL), filtered water, phosphomolybdate, colorimetric No method Dissolved No method Total
USGS	CL085 Ortho-PO Orthophosphate in unfiltered water by automated segmented flow (ASF) phosphomolybdate formation and colorimetry (Ocala) Computation by NWIS algorithm - Total No Method - Total No Method - dissolved F or determination of Reactive (ortho) and Total Phosphorus (phosphate) by the Ascorbic Acid method, using TNTplus vials Hach 10210 -mg/L No Method - mg/L Hach 10210 - Total F or determination of Reactive (ortho) and Total Phosphorus (phosphate) by the Ascorbic Acid method, using TNTplus vials

USGS Methods http://help.waterdata.usgs.gov/codes-and-parameters/code/method_cd_query?fmt=html

Phosphorus Summary

Characteristic Name: [Phosphorus](#)

Organization	Method
Missouri	No Method Total mg/l PO4 -Total No Method Total mg/l as P- Dissolved No Method Total mg/l as P- Total
USGS	CL084 Phosphorus, wu, ASF phosphomolyb - Total
USGS	CL052 Phosphorus, wf, auto phosphomoly - Dissolved
USGS	KJ015 Phosphorus, wf, modified Jirka dissolved mg/L
USGS	KJ014 Phosphorus, wu, modified Jirka mg/L Total
USGS	KJ010 Phosphorus, wu, microKJ ASF, Hg mg/L as P Total
USGS	L061 Phosphorus, wf,microkjeldahl ASF dissolved mg/L as P
USGS	KJ005 P, wf, FCC, kjeldahl, CF dissolved
USGS	KJ009 Phosphorus, wu, microKJ ASF, H+ total mg/L as P
USGS	CL020 P, wf, FCC, persulfate, CF dissolved mg/L as P
USGS	CL021 P, wu, WCA, persulfate, CF Total mg/L as P
Illinois EPA	USEPA 365.1 mg/L Total USEPA 365.1 mg/L dissolved USEPA 200.8 mg/L Total USEPA 200.8 mg/L dissolved USEPA 365.3 mg/L Total USEPA 365.3 mg/L Dissolved
USGS Iowa	No Method total mg/l as P- dissolved no method total mg/l as P- Total No method total mg/l PO4 -total
USGS	CL084 Phosphorus, wu, ASF phosphomolyb - Total
USGS	CL052 Phosphorus, wf, auto phosphomoly - Dissolved
USGS	AKP01 Nutrients, wu, WCA,persulfate,CF
USGS	CL020 P, wf, FCC, persulfate, CF dissolved mg/L as P
USGS	CL021 P, wu, WCA, persulfate, CF Total mg/L as P
USGS	KJ010 Phosphorus, wu, microKJ ASF, Hg mg/L as P total
USGS	CL061 Phosphorus, wf,microkjeldahl ASF dissolved mg/L as P No Method total mg/l as P- Suspended
Minnesota State	No Method total mg/l as P- Dissolved No method total mg/l as P- Total
USGS	KJ005 P, wf, FCC, kjeldahl, CF Dissolved

USGS	KJ009 Phosphorus, wu, microKJ ASF, H+ total mg/L as P
USGS	CL020 P, wf, FCC, persulfate, CF dissolved mg/L as P
USGS	CL021 P, wu, WCA, persulfate, CF Total mg/L as P
USGS	AKP01 Nutrients, wu, WCA,persulfate,CF
USGS	PLA02 Elements, geologic, by ICP-AES Bed Sediment
USGS	CL084 Phosphorus, wu, ASF phosphomolyb - Total
USGS	CL052 Phosphorus, wf, auto phosphomoly – Dissolved

Characteristic Name: [Phosphorus as P](#)

Organization

Minnesota state

LEG_P00665 - total mg/L
USEPA 365.1 total mg/L
APHA 4500-P-F Total mg/L
USEPA 365.4 dissolved mg/L
USEPA 365.4 total mg/L
All Methods phosphorus