

NOTICE OF PROPOSED RULEMAKING
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 11. DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY STANDARDS

PREAMBLE

1. Permission to proceed with this proposed rulemaking was granted under A.R.S. § 41-1039 by the governor on:

August 24, 2022, &

February 5, 2024

2. Article, Part, or Section Affected (as applicable)

R18-11-406

Rulemaking Action

Amend

3. Citations to the agency's statutory rulemaking authority to include the authorizing statute (general) and the implementing statute (specific):

Authorizing statute: A.R.S. §§ 49-221, and 49-223.

Implementing statute: A.R.S. §§ 49-221, and 49-223.

4. Citations to all related notices published in the Register that pertain to the current record of the proposed rule:

Notice of Rulemaking Docket Opening: 30 A.A.R. 2137, Issue Date: June 28, 2024, Issue Number: 26, File Number: R24-115.

5. The agency's contact person who can answer questions about the rulemaking:

Name: Jon Rezabek

Title: Legal Specialist

Division: Water Quality

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1110 W. Washington Ave.

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Website: <https://www.azdeq.gov/awqs-update-active-rulemaking>

6. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:

General Explanation of the Collective Rulemaking: The Arizona Department of Environmental Quality (ADEQ) is required under A.R.S. § 49-223(A) to open a rulemaking docket for the adoption of federal drinking water maximum contaminant levels (MCLs) as state aquifer water quality standards (AWQSS) within one year of the Environmental Protection Agency's (EPA's) establishment

of new or adjusted MCLs. MCLs for Arsenic, Bromate, Chlorite, Haloacetic Acids, Microbiological Contaminants, Total Trihalomethanes and Uranium are either unestablished as AWQs or are established but currently have a misaligned value as the standard. MCLs for the seven (7) pollutants can be viewed at 40 *Code of Federal Regulations* (C.F.R.) 141.60 *et seq.* A.R.S. § 49-223(A) requires ADEQ to move forward with the adoption of MCLs as AWQs through the rulemaking process unless substantial opposition to the adoption is received from stakeholders. Upon receipt of substantial opposition, ADEQ may adopt for that pollutant the verbatim MCL as an AWQ, but only upon a finding that the MCL is appropriate for adoption in Arizona as an AWQ. In making this finding, ADEQ must consider whether the assumptions used by the EPA in developing and implementing the MCLs are appropriate for establishing an Arizona state AWQs. The listed assumptions for consideration are technology, cost, sampling and analytical methodologies and public health risk reduction. If ADEQ determines the MCL is inappropriate as an AWQ, the Department may establish an alternative AWQ for the pollutant with an MCL. The alternative AWQ must be:

- (1) Based on the protection of human health and shall rely on technical protocols appropriate for the development of AWQs, and
- (2) Based on credible medical and toxicological evidence that has been subjected to peer review.

Subject Matter of this NPRM: This *Notice of Proposed Rulemaking* (NPRM) proposes to align the AWQ for Total Trihalomethanes with the MCL for Total Trihalomethanes. Additionally, this NPRM proposes to establish AWQs for Bromate, Chlorite and Haloacetic Acids that align with the MCLs for Bromate, Chlorite and Haloacetic Acids. The original MCLs for Total Trihalomethanes Bromate, Chlorite and Haloacetic Acids were established through Final Rules by the Environmental Protection Agency (EPA), published in the *Federal Register* at 71 *Federal Register* 388, 63 *Federal Register* 69390, 63 *Federal Register* 69390 and 71 388, respectively.

What are the MCLs for Bromate, Chlorite, Haloacetic Acids and Total Trihalomethanes that are proposed to be the new AWQs and what are the current AWQs for Bromate, Chlorite, Haloacetic Acids and Total Trihalomethanes?

| Pollutant | Current MCL / Proposed AWQs | Current AWQs |
|-----------------------|-----------------------------|--------------|
| Bromate | 0.010 mg/L | None |
| Chlorite | 1.0 mg/L | None |
| Haloacetic Acids | 0.060 mg/L | None |
| Total Trihalomethanes | 0.080 mg/L | 0.1 mg/L |

Substantial Opposition: ADEQ has not received substantial opposition from stakeholders on the proposal to adopt the MCLs for Bromate, Chlorite, Haloacetic Acids, nor Total Trihalomethanes as AWQs.

Associated Rulemakings: ADEQ proposes a total of five (5) NPRMs in the collective AWQs Update rulemaking. Three (3) of the

five (5) NPRMs, including this NPRM, propose to establish or align the AWQSs with the MCLs in *Arizona Administrative Code*, (A.A.C.) Title 18, Chapter 11, Article 4 for pollutants Arsenic, Bromate, Chlorite, Haloacetic Acids, Total Trihalomethanes and Uranium. This NPRM's scope is limited to four (4) disinfection byproducts: Bromate, Chlorite, Haloacetic Acids and Total Trihalomethanes. A second NPRM's scope includes Arsenic. A third NPRM's scope includes Uranium. A fourth NPRM's scope includes microbiological contaminants. A fifth and final NPRM includes in its scope a proposed new section and some amendments to A.A.C., Title 18, Chapter 9, Articles 1 and 2. With the fifth NPRM, ADEQ proposes a rule detailing implementation of new or adjusted AWQSs into existing Individual Aquifer Protection Program permits (APPs), along with adjacent amendments to existing rule to make way for this purpose.

What are Aquifer Water Quality Standards and what is their purpose? Aquifer Water Quality Standards or "AWQSs" are protective groundwater standards that were put in place and designated by the Arizona Legislature to preserve Arizona's aquifer quality for drinking water-protected use (See A.R.S. § 49-224(B)).

How are Aquifer Water Quality Standards Used? The AWQSs are used in ADEQ's Aquifer Protection Program (APP), remediation projects under the Water Quality Assurance Revolving Fund (WQARF), the Voluntary Remediation Program (VRP), and elsewhere.

Who are the stakeholders to this rulemaking? The stakeholders for this rulemaking include permittees of the APP, remediation projects under the Water Quality Assurance Revolving Fund (WQARF), the Voluntary Remediation Program (VRP), private well owners, community water systems and the constituents they serve, as well as all Arizonans who benefit from the state's aquifers being protected for drinking water use.

What has been the stakeholder process thus far for this rulemaking? ADEQ has conducted a number of general and specific stakeholder meetings, as well as tribal listening sessions, concerning this rulemaking. The dates of those events are as follows: 9/29/22, 6/8/23, 9/11/23, 12/12/23, 12/13/23, 4/29/24, 8/8/24 and others. A repository of stakeholder materials can be found published on ADEQ's website here: <https://www.azdeq.gov/rulemaking/awqs-update/resources>.

7. A reference to any study relevant to the rule that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

MCL Assumptions Report – Arsenic Aquifer Water Quality Standards Technical Support:

Summary: This report provides a review of the EPA assumptions used to change or establish the MCLs for the four Disinfectant Byproducts (DBPs) at 71 *Federal Register* 388 and 63 *Federal Register* 69390. The assumptions reviewed are listed in A.R.S. § 49-223(A) and include technologies, costs, sampling and analytical methodologies and public health risk reduction.

Study Resource: Provided review of the EPA assumptions used to establish the MCLs for the four DBPs at 71 *Federal Register* 388 and 63 *Federal Register* 69390 in order to inform ADEQ further on the subject matter and its applicability in the AWQS setting.

Public Review: The public may review this study or may obtain copies from the Department by request. Requests can be submitted to the Department by email at awqs@azdeq.gov or by mail to Arizona Department of Environmental Quality, 1110 W. Washington Ave. Phoenix, AZ 85007.

Reference: LaPat-Polasko, L., Hoagland-Stamatovski, B., and Brenton, H. (2023). MCL Assumptions Report – Disinfectant Byproducts Aquifer Water Quality Standards Technical Support. Matrix New World Engineering, Land Surveying and Landscape Architecture, PC.

Draft Economic Impact Statement for Arsenic Proposed AWQS:

Summary: This report provides the Department a draft economic impact statement on the proposed Arsenic AWQS modeled after the requirements of A.R.S. § 41-1055.

Study Resource: This report informs ADEQ on the economic impact of the subject matter of the rulemaking.

Public Review: The public may review this study or may obtain copies from the Department by request. Requests can be submitted to the Department by email at awqs@azdeq.gov or by mail to Arizona Department of Environmental Quality, 1110 W. Washington Ave. Phoenix, AZ 85007.

Reference: McClure Consulting LLC with The Natelson Dale Group, Inc. (2024). Draft Economic Impact Statement for Disinfectant Byproducts Proposed AWQS. McClure Consulting LLC with The Natelson Dale Group, Inc.

8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The preliminary summary of the economic, small business, and consumer impact:

Opening a rulemaking docket and pursuing the adoption of new or adjusted MCLs as AWQSs is a mandate the Arizona State Legislature has enshrined in statute for ADEQ to execute (*see* A.R.S. § 49-223). An identification of the proposed rulemaking can be found in Heading No. 6 above. The stakeholders to face the most significant burden by this rulemaking are the applicable APP permittees. The APP has around 500 individual permittees; however, only a fraction of them will be significantly burdened by the adjustment of the Total Trihalomethanes AWQS from 0.1 mg/L to 0.080 mg/L and the establishment of the AWQSs for Bromate, Chlorite and Haloacetic Acids (collectively, disinfectant byproducts or DBPs). This is because a portion of the APP permittees will not be discharging above the new or adjusted AWQSs for the DBPs and will; therefore, not need to incur expenses on the purchasing, installation, operation and maintenance of technologies designed to remove DBPs down to the new levels. Another portion of the APP permittees may be discharging DBPs at a level above the AWQS, but will be determined to be not further degrading the quality of the aquifer at the applicable point of compliance at the time of permit or amendment issuance (*See* A.R.S. § 49-243(B)(3)). This determination will be made pursuant to the AWQS implementation rule, which is being proposed in a concurrently filed NPRM with a scope of A.A.C., Title 18, Chapter 9, Articles 1 and 2. In these cases, Aquifer Quality Limits (AQLs) and/or a Discharge Limits (DLs) may be set above the AWQSs, which may involve less spending on DBP removal or mitigation technologies.

Generally, affected APP permittees can expect to see cost increases primarily related to compliance in the form of technological upgrades or installations into their facilities that may be required to meet the new AWQs, as well as any Departmental fees associated with meeting the higher standards through permit amendments. Compliance costs associated with the proposed adjusted AWQs for DBPs can be characterized as substantial. Compliance costs are expected to vary among permittees based on a number of factors, including a facility's treatment technologies, varying technology or process applicability according to specific water conditions, operational cost variance due to influent concentration and water quality, and the scale of operations (costs per unit of wastewater treated tend to decrease as the volume increases) (See Matrix and McClure Reports referenced in Heading No. 7 above). Benefits referred to in EPA's Final Rules for the DBP MCLs (71 *Federal Register* 388 and 63 *Federal Register* 69390) and other peer-reviewed studies show that a reduction in exposure to the DBPs with proposed AWQs in this NPRM can result in the avoidance of abnormal reproductive outcomes, neurological dysfunction in offspring, cancer mortality, endometrial cancer for postmenopausal women, increased cancer risk and increased risk of pediatric cancer (See Matrix Report referenced in Heading No. 7 above). Other benefits associated with a reduction of DBP exposure include the avoidance of hardships, both financial and otherwise, associated with DBP-caused disease (See McClure Report referenced in Heading No. 7 above).

In Arizona, all aquifers in the state are protected for drinking water use (See A.R.S. § 49-224(B)). Reducing DBP contribution to the aquifers of the state will help to mitigate the health risks listed above which directly correlates to economic hardships in treating disease related to DBP exposure (See Matrix and McClure Reports referenced in Heading No. 7 above). Millions of Arizonans stand to benefit as a result of the adjustment and establishment of the DBP AWQs (See Matrix and McClure Reports referenced in Heading No. 7 above). Two examples include a projected health risk reduction and treatment cost savings for private well owners and cost savings associated with public drinking water systems and their clientele due to a reduction of disinfection byproducts in the groundwater source that would otherwise need to be treated at the public drinking water facility (See Matrix and McClure Reports referenced in Heading No. 7 above).

ADEQ projects that stakeholders subject to the VRP and WQARF programs will see little to no impact from the scope of this AWQs rulemaking.

10. The agency's contact person who can answer questions about the economic, small business and consumer

impact statement:

Name: Jon Rezabek
Title: Legal Specialist
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1110 W. Washington Ave.
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Email: awqs@azdeq.gov

Website: <https://www.azdeq.gov/awqs-update-active-rulemaking>

11. The time, place, and nature of the proceedings to make, amend, repeal, or renumber the rule, or if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

The public comment period for this rulemaking will take place between November 15th, 2024 and December 16th, 2024. The public comment period will close on December 16th, 2024. Please submit comments on the rule in this *Notice of Proposed Rulemaking* (NPRM) at any time during the public comment period via the AWQS comment portal found at <https://www.azdeq.gov/awqs-update-active-rulemaking>. Comments may also be submitted via email at awqs@azdeq.gov or via mail at the following physical address:

ADEQ
Attn: Ophelia Begay
Cube 6190C
Groundwater Section
Water Quality Division
1110 W. Washington St.
Phoenix, AZ 85007

ADEQ will be holding a public hearing for the purpose of taking oral comments on the record. All interested parties may attend.

The public hearing will be held virtually. The access information is below:

Date: December 16th, 2024

Time: TBD Time

Location: GoToWebinar hosted by Arizona Department of Environmental Quality at:

<https://attendee.gotowebinar.com/register/473262133213561692>

You may also call in and listen to the meeting using your phone, but please note that phone-only access does NOT provide the option for the participant to speak.

PHONE: (562) 247-8422

Access Code: 705-628-496

Listen only; no ability to comment

Nature: Public hearing on the proposed rules.

ADEQ will take reasonable measures to provide access to department services to individuals with limited ability to speak, write or understand English and to those with disabilities. Requests for language translation, ASL interpretation, CART captioning services or disability accommodations must be made at least 48 hours in advance by contacting the Title VI Nondiscrimination Coordinator, Leonard Drago, at 602-771-2288 or Drago.Leonard@azdeq.gov. For a TTY or other device, Telecommunications Relay Services are available by calling 711.

12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

There are no other matters prescribed by statute applicable specifically to ADEQ or this specific rulemaking.

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

This rulemaking does not create a requirement for a permit.

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

Federal law is not applicable to the subject matter of the rule.

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

N/A

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:

N/A.

14. The full text of the rules follows:

Rule text begins on the next page.

TITLE 18. DEPARTMENT OF ENVIRONMENTAL QUALITY

CHAPTER 11. DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY STANDARDS

ARTICLE 4. AQUIFER WATER QUALITY STANDARDS

Section

R18-11-406. Numeric Aquifer Water Quality Standards: Drinking Water Protected Use

ARTICLE 4. AQUIFER WATER QUALITY STANDARDS

Section

R18-11-406. Numeric Aquifer Water Quality Standards: Drinking Water Protected Use

A. No Change

B. The following are the aquifer water quality standards for inorganic chemicals:

| Pollutant | (mg/L) |
|---------------------------|---|
| Antimony | 0.006 |
| Arsenic | 0.05 |
| Asbestos | 7 million fibers/liter (longer than 10 mm) |
| Barium | 2 |
| <u>Bromate</u> | <u>0.010</u> |
| Beryllium | 0.004 |
| Cadmium | 0.005 |
| <u>Chlorite</u> | <u>1.0</u> |
| Chromium | 0.1 |
| Cyanide (As Free Cyanide) | 0.2 |
| Fluoride | 4.0 |
| Lead | 0.05 |
| Mercury | 0.002 |
| Nickel | 0.1 |
| Nitrate (as N) | 10 |

| | |
|----------------------------|-------|
| Nitrite (as N) | 1 |
| Nitrate and nitrite (as N) | 10 |
| Selenium | 0.05 |
| Thallium | 0.002 |

C. The following are the aquifer water quality standards for organic chemicals:

| Pollutant | (mg/L) |
|----------------------------|------------------|
| Benzene | 0.005 |
| Benzo (a) pyrene | 0.0002 |
| Carbon Tetrachloride | 0.005 |
| o-Dichlorobenzene | 0.6 |
| para-Dichlorobenzene | 0.075 |
| 1,2-Dichloroethane | 0.005 |
| 1,1-Dichloroethylene | 0.007 |
| cis-1,2-Dichloroethylene | 0.07 |
| trans-1,2-Dichloroethylene | 0.1 |
| 1,2-Dichloropropane | 0.005 |
| Dichloromethane | 0.005 |
| Di (2-ethylhexyl) adipate | 0.4 |
| Di (2-ethylhexyl) pthalate | 0.006 |
| Ethylbenzene | 0.7 |
| <u>Haloacetic Acids</u> | <u>0.060</u> |
| Hexachlorobenzene | 0.001 |
| Hexachlorocyclopentadiene | 0.05 |
| Monochlorobenzene | 0.1 |
| Pentachlorophenol | 0.001 |
| Styrene | 0.1 |
| 2,3,7,8-TCDD (Dioxin) | 0.00000003 |
| Tetrachloroethylene | 0.005 |
| Toluene | 1 |
| Trihalomethanes (Total) | <u>0.100.080</u> |
| 1,2,4-Trichlorobenzene | 0.07 |
| 1,1,1-Trichloroethane | 0.20 |

| | |
|-----------------------|-------|
| 1,1,2-Trichloroethane | 0.005 |
| Trichloroethylene | 0.005 |
| Vinyl Chloride | 0.002 |
| Xylenes (Total) | 10 |

D. No Change

E. No Change

F. No Change

G. No Change

Pre-Publication