



# *DoD Handbook for Perchlorate Sampling and Testing*

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# Topics

- Relevant DoD Policy
- Purpose
- Key Features
- Timeline for Development



# DoD Policy

## *Interim Policy on Perchlorate Sampling (Sept 2003)*

*Components must collect and compile perchlorate data for:*

- **Drinking water supplies** subject to Unregulated Contaminant Monitoring Rule (UCMR)
- **Wastewater discharges** permitted under National Pollutant Discharge Elimination System (NPDES)
- **Environmental restoration sites** where release may have occurred and complete human exposure pathway is likely to exist
- **Range assessments** conducted under Munitions Action Plan and Defense Planning Guidance

# DoD Policy

## *Interim Guidance on Sampling and Testing for Perchlorate (Feb 2004)*

- Laboratories shall comply with the DoD QSM
- Results above the regulatory limit must be verified using definitive technology
- Methods other than 314.0 must be used if target MRL <4ppb
- Ability to achieve MRL must be demonstrated in matrix of concern
- QA/QC for alternative methods must be equivalent to or more stringent than those of Method 314.0



# DoD Policy

## *DoD Information Quality Guidelines (Feb 2003)*

*DoD components should not disseminate substantive information that does not meet a basic level of quality.*

*The level of quality for influential scientific, financial, or statistical analytical results requires that such information be capable of being substantially reproduced.*



# DoD Handbook for Perchlorate Sampling and Testing

## *Purpose*

- Provide guidance for sampling and testing of environmental matrices of concern to DoD
- Promote systematic planning
- Guide selection of appropriate methods and qualified laboratories
- Implement DoD Quality Systems Policy  
UFP-QS, UFP-QAPP, DoD QSM
- Guide preparation of Quality Assurance Project Plan (QAPP) or Sampling/Analysis Plan (SAP)



# DoD Handbook for Perchlorate Sampling and Testing

## *General Perchlorate Information*

- Chemical properties
- Sources
- Behavior in the environment
- History of environmental concerns
- Regulatory history



# DoD Handbook for Perchlorate Sampling and Testing

## *Engaging regulators in the systematic planning process*

- Determining regulatory framework
- Determining concentrations of concern (i.e. decision/action levels)
- Discussing requirements for non-standard methods
- Developing and approving QAPPs/SAPs





# DoD Handbook for Perchlorate Sampling and Testing

## *Developing Conceptual Site Models (CSM)*

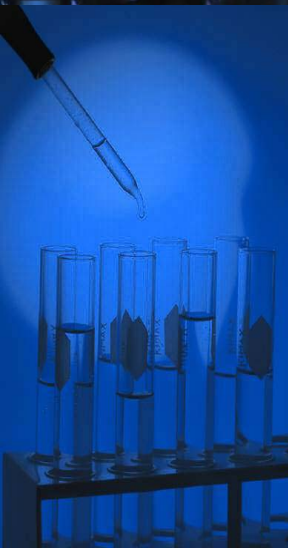
- A set of hypotheses about sources, pathways, and receptors based on data available at that time
- Used in SPP to evaluate whether:
  - A reasonable basis exists to suspect a perchlorate release has occurred as a result of DoD activities
  - A complete human health exposure pathway is likely to exist
- Facilitates development of Project Quality Objectives (PQOs)
- Facilitates communication with regulators



# DoD Handbook for Perchlorate Sampling and Testing



## *Sampling Designs and Sampling Considerations*

- Developing sample designs
  - Groundwater/soil sampling techniques
  - Well construction
  - Selecting equipment & materials
  - Avoiding sample contamination
  - Documentation
- 



# DoD Handbook for Perchlorate Sampling and Testing

## *Selecting Qualified Laboratories and Appropriate Analytical Methods*

- Minimum laboratory qualifications
- Currently available analytical technology, including advantages/limitations
- Management of matrix interferences
- Minimum method performance criteria
- Data flagging conventions
- Corrective action



# DoD Handbook for Perchlorate Sampling and Testing

## *Management and Review of Data*

- Field documentation requirements
- Minimum requirements for laboratory data deliverable packages
- Internal and third-party data review procedures

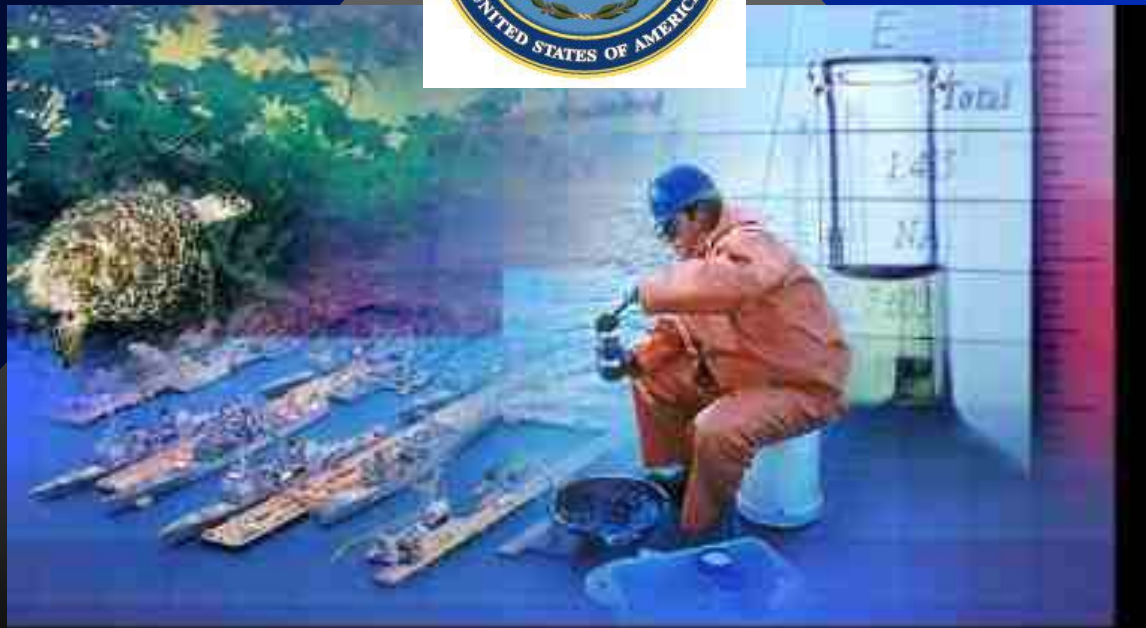
A vertical strip on the left side of the slide shows laboratory glassware. At the top, a hand holds a flask. Below it, a rack of test tubes is shown. At the bottom, a pipette is positioned over another rack of test tubes. The entire image has a blue tint.

# DoD Handbook for Perchlorate Sampling and Testing

## *Timeline for Completion*

- Complete review draft – 4<sup>th</sup> Qtr 04
- Complete DoD peer review – 4<sup>th</sup> Qtr 04
  - DoD EDQW
  - DoD Perchlorate Working Group
- Revise and issue for Formal DoD Concurrence – 1<sup>st</sup> Qtr 05

# *Improving Environmental Data Quality* *... Because the Right Decisions Require Quality Data*



[www.navylabs.navy.mil](http://www.navylabs.navy.mil)

[www.denix.osd.mil/denix/DOD/Working/EDQW/edqw.html](http://www.denix.osd.mil/denix/DOD/Working/EDQW/edqw.html)