

CEDEN 2.0 Vocabulary Business Rules

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CEDEN 2.0
CALIFORNIA ENVIRONMENTAL DATA EXCHANGE NETWORK



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Overview

This document provides rules and guidance governing the addition of new vocabulary to the California Environmental Data Exchange Network (CEDEN). These rules promote consistency in vocabulary format and content across the system and enhance searchability of the data.

These vocabulary conventions are intended to provide guidance to users who are requesting new vocabulary in the CEDEN 2.0 Data System using the CEDEN_Chemistry and CEDEN_Project_Activation Electronic Data Deliverable (EDD) templates. The vocabulary conventions are arranged to mirror the grouping and ordering of those templates.

For a comprehensive guide for the preparation and submission of chemistry data to CEDEN, refer to the CEDEN 2.0 Chemistry Data Submission Guidance Document.

Vocabulary Rules and Conventions

CEDEN Project Activation Template

Agency Tab

AgencyCode

A text code representing the organization or agency

AgencyName

The name of the organization or agency

- A. Use Title Case, as is used in publication titles
- B. Use Title Case for abbreviations and all capitals for acronyms
- C. To separate elements of a name, use dashes (-) instead of underscores (_)
- D. For an agency with a sub lab, use a dash (-) between the two
- E. The following table contains rules specific to different organization types:

Counties	Always state the name of the county first, as in “ <i>San Luis Obispo County</i> ” followed by department names, such as “ <i>Highway Dept</i> ”. Abbreviate “department” as “ <i>Dept</i> ” but no periods after abbreviations.
Cities	Always use city name (e.g. <i>Sacramento City, Monterey City</i>) followed by department names (e.g. <i>Los Angeles City Dept of Public Works</i>). For cities with the word city in their name (e.g. <i>Yuba City, Foster City</i>), enter the name of the city followed by department names (e.g. <i>Yuba City Dept of Public Works</i>). Do not use the word city twice (e.g. <i>Yuba City City Dept of Public Works</i>).

Federal Agencies	Abbreviate “US” without periods but spell out the agency name in full with no other abbreviations. Examples: <i>US Air Force, US Postal Service, US Army Corps of Engineers, US Bureau of Reclamation</i>
California State Agencies	Abbreviate the State California to CA before the name of the agency, such as <i>CA Dept of Water Resources</i> spelled out in full (Department must be abbreviated, no period after the abbreviation). Do not use ampersand, i.e., <i>CA Dept of Parks and Recreation</i>. Use <i>CA Dept of Transportation</i> instead of CALTRANS.
Utilities	Spell out the name of utilities in full, no abbreviations. Examples: <i>Pacific Gas and Electric</i> <i>Southern California Edison</i> <i>East Bay Municipal Utility District</i>
Public Universities	University of California should be abbreviated as UC followed by name of city: <i>UC Davis, UC Los Angeles, UC Berkeley</i> California State Universities should be abbreviated as CSU followed by name of city: <i>CSU Sacramento</i> <i>CSU Northridge</i>
Private Universities	Spell out full legal name. Abbreviate “University” as Univ: <i>Loyola Marymount Univ</i> <i>Univ of the Pacific</i> If the name of a company has the word University in it i.e. University Towing, full name must be spelled out, no abbreviations.
Numbers in Business Names	Use number characters in a company name when appropriate (as represented in its legal name): <i>Motel 6, Century 21 Real Estate</i>
Initials in Business Names	If the legal name of the business consists of initials and an ampersand (&) use the initials with spaces between the initials and “and” i.e. <i>A and A Carpets, E and J Gallo</i>. If the name consists of initials or initials and numbers with no ampersand, do not include any spaces i.e. <i>CB Richard Ellis Real Estate, A1 Transmission</i>

Project Tab

General Guidance/Rules for Program, ParentProject, and Project

- The level of specificity and detail should increase from Program to ParentProject to Project. In other words, Program should be more general, ParentProject should be more specific than Program, and finally Project should be more specific than ParentProject.
 - Example:

ProgramName	ParentProjectName	ProjectName
Humboldt Waterkeeper Citizen Monitoring	HW Humboldt County Bacteria Monitoring	HW Humboldt Bay First Flush Bacteria Mon 2007-2013

- Within each of the three vocabulary types, the code, name, and description should have increased specificity in that order. They should build on each other, incorporating the same information and order but with increasing detail.
 - Examples:

	Code	Name	Description
Program	HW_CM	Humboldt Waterkeeper Citizen Monitoring	Humboldt Waterkeeper Citizen Monitoring involves scientists, boaters, fishermen, birdwatchers, students, and other concerned citizens in the important work of protecting and enhancing water quality in Humboldt County
Parent Project	HW_HCBM	HW Humboldt County Bacteria Monitoring	Humboldt Waterkeeper - Humboldt County Bacteria Monitoring
Project	HW_HBFF_BM_2007-2013	HW Humboldt Bay First Flush Bacteria Mon 2007-2013	Humboldt Waterkeeper - Humboldt Bay First Flush Bacteria Monitoring, 2007-2013

ProjectCode

A text code representing the project associated with the sample(s)

- A. Cannot be the same as any ParentProjectCode
- B. Match the formatting patterns of previous years if part of an ongoing monitoring effort
- C. Include reference to the watershed being monitored
- D. Include a year at the end of the code
 - Calendar year, fiscal year, water year, or other year reference

ProjectName

A name representing the project associated with the sample(s)

- A. Cannot be the same as any ParentProjectName
 - Can be the same as a ParentProjectName, but differentiated by adding a year
- B. Match the formatting patterns of previous years if part of an ongoing monitoring effort
- C. Include reference to the watershed being monitored
- D. Start project name with the agency code or name
- E. Include a year at the end of the name
 - Calendar year, fiscal year, water year, or other year reference

ProjectDescription

A description of the project

ParentProjectCode

A text code representing the parent project under which the sampling occurs. A code that can be given to a group of projects.

- A. Cannot be the same as any ProjectCode
- B. Should not be the same as any ProgramCode, however it may make sense for some smaller projects
- C. Should be more general than the ProjectCode
- D. Does not need to include a year

ParentProjectName

A name representing the parent project under which the sampling occurs

- A. Cannot be the same as any ProjectName
- B. Should not be the same as any ProgramName, however it may make sense for some smaller projects
- C. Should be more general than the ProjectName
- D. Does not need to include a year

ParentProjectDescription

A description of the parent project

ProjectAgency

The agency or organization that is ultimately responsible for the project, typically that is implementing or overseeing the project.

- Typically, the Project Agency should not be a consultant or contractor, but rather the organization that hired a consultant/contractor and is required to or choosing to do the monitoring project.

QAPPName_PDF

The title of the Quality Assurance Project Plan (QAPP) document, shortened if necessary.

QAPPDescription_PDF

The full complete title of the Quality Assurance Project Plan (QAPP) document.

ProjectManager

The contact person for the project at the project agency.

ProjectManagerPhone

Project manager phone number.

ProjectManagerEmail

Project manager email address.

ProgramCategory

The Program Category describes the framework under which the monitoring program was initiated.

Valid options include:

- 1** – Permittee or regulated entity program
 - Monitoring programs that fulfill, at least in part, regulatory monitoring requirements
 - Programs should be categorized as **1** (Permittee or regulated entity program), if any part of the monitoring program fulfills regulatory monitoring requirements (e.g., regional monitoring programs), even if some of the monitoring is not done for the purpose of fulfilling regulatory requirements.
- 2** – State/federal/tribal agency program (not as a regulated entity)

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- Monitoring programs undertaken by a government agency to fulfill their mission, not because they are regulated by another agency
- 3 – Community and/or volunteer program**
- Monitoring programs that are implemented by non-governmental organizations, such as community organizations and volunteer-run programs
- 4 – Other**

ProgramCode

A text code representing the program under which the sampling occurs

- A. If ParentProject or Project can fit under an existing Program, then that Program must be used
- B. Reference an existing Program that likely has a webpage or some form of documentation
- C. Typically does not include a year

ProgramName

A name representing the program under which the sampling occurs

- A. If ParentProject or Project can fit under an existing Program, then that Program must be used
- B. Reference an existing Program that likely has a webpage or some form of documentation
- C. Typically does not include a year

eQAPPName_xlsx

Electronic version of a QAPP, including control limits for quality control samples, holding times, and batch completeness requirements.

- Defaults to CEDEN eQAPP, which includes limits and requirements determined to be acceptable to support the use of data for water quality assessment by the Water Boards.
- To request a custom eQAPP based on the limits and requirements in the project QAPP, submitters will need to start by emailing CEDEN@waterboards.ca.gov.

Station Tab

StationCode

A text code representing a unique sampling site in a sampling design. A single waterbody may have multiple stations.

StationName

A name representing a unique sampling site in a sampling design. A single waterbody may have multiple stations.

- A. Must be a unique value, unless a program is trying to sample a location that has already been sampled by another program, returning to old SWAMP site.
- B. Must begin with the name of the waterbody followed by a descriptor of location where applicable
 - Example: *Snow Corral Creek ~1.2mi above Deer Cr.*
- C. No extra spaces at front, middle, or end of name
- D. No special characters that do not show up in web views or do not match when queried, including: !"#\$%&'*<=>?@[]^_`{|}
- E. No reference to the date, sampling type, replicate number, or sampling effort
- F. If name is not unique, add program code to end of name

StationDescription

Description of the station.

TargetLatitude

The targeted latitude for the sample site.

- A. In decimal degrees
- B. Must be reported to at least the 4th decimal place, and can report up to 6th decimal place
- C. Trailing zeros should be included
- D. Null values or “-88” will not be accepted

TargetLongitude

The targeted longitude for the sample site.

- A. In decimal degrees
- B. Must be reported to at least the 4th decimal place, and can report up to 6th decimal place
- C. Trailing zeros should be included
- D. Must be a negative number
- E. Null values or “-88” will not be accepted

Datum

The model of the Earth from which reference points are used to calculate position measurements.

- Must be either “NAD83” or “WGS84”

CoordinateSource

Describes the source from which the coordinate was derived.

- Must be either “DigitalMap” or “GPS” unless selected on the Map tool in the

Station Vocabulary Request window, which defaults to “Map.”

- Digital Map: includes GoogleEarth, GIS maps, and any other digital map
- GPS: coordinates were determined in the field using a GPS device

CEDEN Chemistry EDD Template

Constituent_Index Tab

Matrix Code

The sample matrix. If necessary, a shortened version of the matrix name to fit the character limit.

MatrixName

The sample matrix – full name.

MatrixDescription

A description of the matrix, which is required only if a new matrix is being requested.

MethodName and MethodDescription

The name and description of the analysis method used by the laboratory to analyze the sample.

- The goal is to allow someone to identify the method that was used.
- If an entry is being added to both Method and Digest Extract, use the exact same entry for both lists.
- Use the nomenclature of the publishing organization except as noted, below.
- Entries may need to be abbreviated or truncated. Be sure to use abbreviations that still allow the viewer to understand or search for the value that is being abbreviated. If the entry must be truncated, use a plus symbol (+) as the last character in the area that is being truncated.
 - Example: *Modification of Solvent-Extractable Nonvolatile Compounds by High-Performance Liquid Chromatography/Thermospray/Mass Spectrometry (HPLC/TS/MS) or Ultraviolet (UV) Dete+*
- The name of the method should include the number, if there is one.
 - Example: *EPA 150.1*
- The description field should be the title of the method (in title case).
 - Example: *pH in Water by Electrometric Method*
- Include a citation of the edition, revision, or other type of versioning number in both the name and the description. Abbreviate the type of version (“Rev,” “Ed,” etc.) and add the number or letter of the update.

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- Examples
 - Revisions
 - **Name:** AXYS MLA-007 Rev 13
Description: *Determination of Aroclors, PCBs, Pesticides, Toxaphene and Chlorobenzenes, Rev 13*
 - Volumes/Editions
 - **Name:** SM 5310 B-2014
Description: *Total Organic Carbon by High-Temperature Combustion Method, SM Edition 23, method version 2014*
 - H. Start the name with an acronym of the entity that established the method, unless it was published in a journal article or paper
 - Use the acronym in the description as well for widely recognized entities (EPA, ASTM, SM, USGS), otherwise, spell out the name of the entity
 - Examples
 - Standard entities
 - **Name:** ASTM D4464-15 (20)
Description: *Standard Test Method for Particle Size Distribution of Catalytic Materials by Laser Light Scattering, Published 2015, Re-approved 2020*
 - Non-standard entities
 - **Name:** CELA SOP ECO157-01R3
Description: *CEL Analytical SOP for Detection of Escherichia coli O157:H7 in water and sediment (SOP ECO157-01, Rev. 3)*
 - I. Standard Methods of Water and Wastewater collections should be in the following format:
 - Name: **SM** {Method number} {Section letter indicating the specific analytical technique used}-{Year the method or editorial revision was approved}
Description: {Overall method name} {Name of section}, **SM edition** {##}, **method version** {YYYY}
 - Note that the method approval year is different and separate from the specific print edition of *Standard Methods of Water and Wastewater*; different print editions may contain the same analytical method.
 - Examples:
 - **Name:** SM 3120 B-2011
Description: *Metals by Plasma Emission Spectroscopy, Inductively Coupled Plasma (ICP) Method, SM Edition 23, method version 2011*
 - **Name:** SM 4500-NH3 E-2011
Description: *Nitrogen as Ammonia by Ammonia-Selective Electrode Method Using Known Addition, SM Edition 23, method version 2011*
 - Notable Exceptions:
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- For molecular based methods in Section 3500 or 4500, the section number is followed by the molecular or atomic shorthand, but should not include the charge of the ion (if applicable)
 - Example: **SM 4500-CI D-2011**
- The Method Name should not use superscript or subscript
- For enzyme substrate methods with distinct media, the media will be listed following the revision year, shortened to fit character limits.
 - Example: **SM 9223 B-2016 *Coli***
 - Example: **SM 9223 B-2016 *Co18***

J. ASTM methods should be named in the following format:

- Name: **ASTM** {Letter and number indicating the specific analytical standard that is searchable in ASTM's online repository}--{Number indicating the year the method was initially published} ({the year the method was re-approved by the ASTM subcommittee, which may include editorial changes})({A letter indicating the specific analytical technique utilized and referencing the final analytical step used to provide the result})
Description: {Method title} by {Title of analytical technique, if applicable}, **Published** {YYYY}, **Re-approved** {YYYY, if applicable}
- Note that not all ASTM methods contain additional parentheses for re-approval or specific analytical technique.
- Examples:
 - **Name:** ASTM D4464-15 (20)
Description: Standard Test Method for Particle Size Distribution of Catalytic Materials by Laser Light Scattering, Published 2015, Re-approved 2020
 - **Name:** ASTM D1426-15 (B)
Description: Standard Test Methods for Ammonia Nitrogen in Water by Ion Selective Electrode, Published 2015

K. For journal articles and papers, the description field may need to be truncated. While following the rules specified below, consider the following truncation prioritization: 1. first author, 2. year, 3. full article title, 4. journal, 5. issue, 6. pages, 7. Additional author last names as will fit into with the name section of the entry.

- For one author, the name and description should contain the last name of the author and the publication date. The description should also contain the full title of the article or paper and the name of the journal with volume, issue and page numbers, if applicable. (Author names may be truncated to accommodate this.)
 - Example
 - **Name:** Campana, 2001
Description: Campana, 2001, "Marginal Increment Analysis: Accuracy, Precision and Quality Control in Age Determination, Including a Review of the Use and Abuse of Age Validation Methods," *Journal of Fish Biology* 59: 197-242

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- For two authors, the name and description should start with the last names of the two authors, separated with “and” and the publication date. The description should also contain the full title of the article or paper and the name of the journal with volume, issue and page numbers (volume.issue: page numbers), if applicable. (Author names may be truncated to accommodate this.)
 - Example
 - **Name:** *Foss and Aubel, 2015*
Description: *Foss and Aubel, 2015. Using the MMPB technique to confirm microcystin concentrations in water measured by ELISA and HPLC (UV, MS, MS/MS). Toxicon 104, 91-101*
 - For multiple authors the method name should start with the last name of the first author followed by a comma and “et al.,” and the publication date. The description should contain the last names of all the authors, up to five (or less, if character length is an issue), and the publication date. If there are more, follow the fifth one with a comma and “et al.” The description should also contain the full title of the article or paper and the name of the journal with volume, issue and page numbers, if applicable. (Author names may be truncated to accommodate this.)
 - Example
 - **Name:** *Capper, et al., 2005*
Description: *Capper, Tibbetts, O’Neil, Shaw, 2005, “The fate of Lyngbya Majuscula Toxins in Three Potential Consumers,” Journal of Chemical Ecology 31.7: 1595-1606*
 - Example (Truncated Description):
 - *Wood, Holland, MacKen+, 2010, “Development of solid phase adsorption toxin tracking (SPATT) for monitoring anatoxin-a and homoanatoxin-a in river water” Chemosphere, 82: 888-894*
 - L. For SOPs (as determined by the lab)
 - The name should be formatted as follows: {Agency code} {Agency’s number for the SOP}{Version or revision number}
 - Example: *BendGX qPCR SOP V3.0*
 - The description should be formatted as follows: {Agency name or code if there are column length restrictions}, SOP {SOP number} for {Title of SOP}, {revision number}
 - Example: *BendGX BG-PCR-0001-SOP Quantification of Total and Toxigenic Cyanobacteria by Real-Time Quantitative Polymerase Chain Reaction (QPCR), Version 3.0.*
 - M. If draft, use “DRAFT” in both name and description
 - Example
 - **Name:** *AXYS MLA-800 DRAFT*
-

Description: *AXYS Analytical Procedure for the Analysis of Alkylphenols and Alkylphenol Ethoxylates in Tissue by LC-MS/MS, DRAFT*

- N. US EPA Methods: EPA toxicity methods should include the manual or publication number
- Example: *EPA 600/4-91-003: Freshwater Chronic Test: Ceriodaphnia, Pimephales, Selenastrum*
- O. When multiple methods are used for a single analysis, separate with a backslash (/) and specify method type (ASTM, EPA, SM, etc.). List them alpha-numerically. If multiple methods of the same type are referenced, repeat the type for each number. If the number of characters in the descriptions sum to be more than 255, split the field evenly according to the number of methods being referenced. If there are descriptions that don't take up the allocated number of characters, the longer descriptions can be increased until the character limit is reached. (This does not pertain to cases where two methods are equivalent.)
- It is rare for multiple methods to be used for a single analyte, typically only one method is used per analyte.
 - The combined methods must be used for a single analysis. If two separate methods were run for a project, each with their own separate analyte lists, then they should be reported separately, not as a combined method.
 - Example
 - **Name:** *SM 4500NC-97/NO3E-00*
Description: *Nitrogen: Persulfate Method, SM Edition 21 method version 1997 and Nitrate as Nitrogen by Cadmium Reduction Method, SM Edition, method version 2000*
- P. If modified,¹ include "M" at the end of the name and "Modification of" at the beginning of the description (do not include how it was modified in the name or description).
- Example
 - **Name:** *EPA 1638M*
Description: *Modification of Determination of Trace Elements in Ambient Waters by ICPMS*
- Q. When a variant of a method is referenced in the actual method number, add an acronym describing the variation in the name, separated from the method number with an underscore.
- Example: *EPA 8270M_NCI*
- R. Polymerase Chain Reaction (PCR) methods (including Microbial Source Tracking (MST)) should describe the analytical procedure, not the identification of specific primer sets. In addition to all other business rules, the description of PCR methods should include the type of analytical equipment (i.e., qPCR or ddPCR), target organism the assay was developed for (e.g., bacteroidales, human

¹ The Code of Federal Regulations, Title 40, Part 136.6 provides guidance on when it is appropriate to consider a change in procedure a "modification" to a method. Please see [Appendix A – Modification Guidance](#) for additional information.

bacteroidales, HF183, etc.), and the type of assay used if applicable (e.g., TaqMan, CyberGreen, etc.). If the type of analytical equipment, target organism, or type of assay is not included in the title of the method, it should be included in the description after the title.

- Example

- **Name:** *EPA 1696*

- **Description:** *Characterization of Human Fecal Pollution in Water by HF183/BacR287 TaqMan Quantitative Polymerase Chain Reaction (qPCR) Assay*

CAS_RN

The Chemistry Abstract Service Registry Number (CAS RN) is assigned by the American Chemical Society to uniquely identify specific chemicals. However, some analytes do not have a CAS RN. CEDEN 2.0 uses the CAS RN as a unique identifier for each analyte and therefore a CAS RN is required for all analytes submitted to CEDEN 2.0.

- A. The submitter should check if the analyte is already in CEDEN or CEDEN 2.0. If it is, the CAS RN already established in the CEDEN databases must be used.
- B. If the analyte they wish to submit is not already in the database, the submitter must determine if the analyte has an established CAS RN that is generally recognized by the chemistry community. If the analyte does have a widely recognized CAS RN, that must be used.
- C. For analytes that do not have a CAS RN in either CEDEN or the chemical community, the submitter should propose a CAS RN of their own creation. Values must be alpha-numeric, cannot exceed 15 characters (including spaces), and need not follow the same dash formatting as official CAS RNs. It must also be unique within CEDEN at the time of submission. Keep in mind that the CAS RN you create may also be used by other submitters when submitting their data, so do not use words or numbers specific to your program or project and do not use random character strings. Instead, the CAS RN should be based on the analyte itself. Oftentimes truncation or abbreviation of the analyte name can serve as a good CAS RN.

- Examples

- **Analyte Name:** *Bisphenol F-13C12*

- **CAS RN:** *BPF-13C12*

- **Analyte Name:** *PCB 112/119*

- **CAS RN:** *PCB112/116*

- **Analyte Name:** *Adsorbable Organic Fluorine*

- **CAS RN:** *AOF*

AnalyteName and AnalyteDescription

The name and description of the analyte or parameter being measured. See analyte business rules in below table.

Situation	AnalyteName	AnalyteDescription
General	Analytes must be spelled out, except for PCBs, PBDEs, and Dioxins	Consists of AnalyteName followed by any synonyms in parentheses Ex.: <i>alpha-Hexachlorocyclohexane (HCH) (alpha-BHC)</i>
Multiple Isomers	Analytes with multiple isomers that cannot be separated must be reported with commas (,) Ex.: <i>Benzo(g,h,i)perylene</i>	
Coeluting Analytes	Names for coeluting analytes must be separated by a forward slash (/). Ex.: • <i>Benzo(b/j)fluoranthene</i> • <i>Benz(a)anthracenes/Chrysenes</i>	Descriptions for coeluting analytes must spell out the entire analyte name separated by a forward slash (/). Ex.: <i>Benzo(b)fluoranthene/Benzo(j)fluoranthene</i>
Formulas		Do not include formulas in analyte descriptions.
Multiple Words	If analyte name or description consists of more than one word, each word must be capitalized with the exceptions of cis, trans, alpha, beta, di, etc.	
Totaled Peaks, Isomers, or Components	Names for analytes that have peaks, isomers, or components totaled will be formatted as "Analyte, Total" Ex.: <i>Cypermethrin, Total</i>	Descriptions of summed analytes should include what is included in the sum. Ex.: <i>Total Cypermethrin, sum peaks 1,2,3 & 4</i>
Total	Results should only be reported for individual analytes, not a sum of multiple analytes. For example, "Total PCBs" is not a valid analyte.	

Situation	AnalyteName	AnalyteDescription
Organism	Organism names that are only reported as identifications (benthic results) will be stored in the Organism lookup table. Organism names can also be added to the Analyte list if results are reported as concentrations. Ex.: <i>Enterococcus</i> reported in unit <i>MPN/100 mL</i>	No Rule Specified
Coeluting PCB Congeners	For coeluting PCB congeners, only include leading zero for the first congener Ex.: <i>PCB 012/13</i>	No Rule Specified
PCB Congeners	Use three-digit numbers with a leading zero(s) for numbers smaller than 100. Ex.: <i>PCB 012</i>	Do not include a leading zero(s). Ex.: <i>PCB 12 Congener</i>
Analytes Preceded by Numbers	Formatted as in the examples below.	
	Ex.: <i>Dichlorophenoxyacetic Acid, 2,4-</i>	Ex.: <i>2,4-Dichlorophenoxyacetic Acid, (2,4-D)</i>
Surrogates	Do not include "Surrogate" language in name or description. Formatted as in the examples below.	
	Ex.: <i>PCB 101-13C12</i>	Ex.: <i>PCB 101-13C12</i>
Isotope Dilution Analogues	Do not include Isotope Dilution Analogue (IsoDilAnalogue) language in name or description. Formatted as in the examples below.	
	Ex.: <i>Perfluorooctanesulfonic acid-13C8</i>	Ex.: <i>Perfluorooctanesulfonic acid-13C8</i>

Situation	AnalyteName	AnalyteDescription
Microbial Source Tracking (MST) Analytes	Formatted as follows: <i>{Target microbial population}, {Host of target microbial population} ({Assay name or primer set})</i> Ex.: <i>Bacteroidales, Porcine (Pig2Bac)</i>	Formatted as follows: <i>{Host of target microbial population} {Target microbial population}, Assay Name: {Assay Name}, {forward primer sequence}, {reverse primer sequence}</i> Ex.: <i>Porcine Bacteroidales, Assay Name: Pig2Bac, 5' GCATGAATTTAGCTTGCTAAATTTGAT 3', 5' ACCTCATACGGTATTAATCCGC 3'</i>
PFAS Analytes (Per- and Polyfluoroalkyl Substances)	Follows the EPA naming conventions (e.g., those given in Method EPA 1633), which primarily refer to the acidic forms, rather than the anionic forms. Ex.: <i>Perfluorodecanoic Acid</i>	Should include the acronym of the analyte, if given in the method or used in another reliable source. Do not include the conjugate base name of an acidic PFAS, as it is a distinct chemical. Anion forms of PFAS will generally not be added to CEDEN if the acidic form is already in CEDEN. Ex.: <i>Perfluorodecanoic Acid (PFDA)</i>
Species-Specific PCR Analytes	Formatted as follows. The DNA Source must be either Mitochondrial, Nuclear, Chloroplast or Prokaryotic DNA: <i>{Target organism}, {DNA Source} ({Assay name or target gene})</i> Ex.: <i>Chicken/Duck, Mitochondrial DNA (cytb)</i>	Formatted as follows: <i>{Target organism} {DNA Source}, Assay Name or Target Gene: {Assay Name or Target Gene}, {forward primer sequence}, {reverse primer sequence}, {probe primer sequence (if available)}</i> Ex.: <i>Chicken/Duck Mitochondrial DNA, Target gene: Cytochrome b, 5'-AAATCCCACCCCCTACTAAAAATAAT-3', 5'-CAGATGAAGAAGAATGAGGCG-3', 5'-FAM-ACAACCTCCCTAATCGACCTNFQ-MGB-3'</i>

UnitName

The unit of measurement for the result.

UnitDescription

Full description of the unit of measurement.

Advanced_Vocabulary_Request Tab

PrepPreservationName

Preparation or preservation method performed on samples prior to analysis.

PrepPreservationDescription

Full description of the preparation or preservation method.

DigestExtractMethod and DigestExtractMethodDescription

Digestion or extraction method performed on the sample prior to analysis.

- A. Rules are the same as for Methods. Please see the [MethodName and MethodDescription](#) section, above.

SampleTypeCode

Type of sample collected or analyzed.

SampleTypeDescription

Full description of sample type code.

FractionName

Fraction of the sample analyzed, a specific descriptor of the analyte.

FractionDescription

Full description of fraction name.

QACode

Value applied to the result to describe any special conditions or situations that occurred during or prior to the analysis to achieve the result.

QACodeName

Full description of QA code.

LabAgencyCode

The organization, agency or laboratory that performed the analysis on the sample.

LabAgencyName

Full description of lab agency code.

Appendix A – Modification Guidance

As described in Chemistry EDD Template > MethodName and MethodDescription > Part [P](#), above, a method that has been modified must be marked as such. The following guidance is given in the [Code of Federal Regulations, Title 40, Part 136.6](#) on when it is acceptable to consider a change in procedure a modification to a method.

- (4) *Allowable changes.* Except as noted under paragraph (b)(3) of this section, an analyst may modify an approved test procedure (analytical method) provided that the underlying reactions and principles used in the approved method remain essentially the same, and provided that the requirements of this section are met. If equal or better performance can be obtained with an alternative reagent, then it is allowed. A laboratory wishing to use these modifications must demonstrate acceptable method performance by performing and documenting all applicable initial demonstration of capability and ongoing QC tests and meeting all applicable QC acceptance criteria as described in §136.7. Some examples of the allowed types of changes, provided the requirements of this section are met include:
- (i) Changes between manual method, flow analyzer, and discrete instrumentation.
 - (ii) Changes in chromatographic columns or temperature programs.
 - (iii) Changes between automated and manual sample preparation, such as digestions, distillations, and extractions; in-line sample preparation is an acceptable form of automated sample preparation for CWA methods.
 - (iv) In general, ICP-MS is a sensitive and selective detector for metal analysis; however isobaric interference can cause problems for quantitative determination, as well as identification based on the isotope pattern. Interference reduction technologies, such as collision cells or reaction cells, are designed to reduce the effect of spectroscopic interferences that may bias results for the element of interest. The use of interference reduction technologies is allowed, provided the method performance specifications relevant to ICP-MS measurements are met.
 - (v) The use of EPA Method 200.2 or the sample preparation steps from EPA Method 1638, including the use of closed-vessel digestion, is allowed for EPA Method 200.8, provided the method performance specifications relevant to the ICP-MS are met.
 - (vi) Changes in pH adjustment reagents. Changes in compounds used to adjust pH are acceptable as long as they do not produce interference. For example, using a different acid to adjust pH in colorimetric methods.
 - (vii) Changes in buffer reagents are acceptable provided that the changes do not produce interferences.
 - (viii) Changes in the order of reagent addition are acceptable provided that the change does not alter the chemistry and does not produce an interference. For example, using the same reagents, but adding them in different order, or preparing them in combined or separate solutions (so they can be added

separately), is allowed, provided reagent stability or method performance is equivalent or improved.

- (ix) Changes in calibration range (provided that the modified range covers any relevant regulatory limit and the method performance specifications for calibration are met).
- (x) Changes in calibration model. (A) Linear calibration models do not adequately fit calibration data with one or two inflection points. For example, vendor-supplied data acquisition and processing software on some instruments may provide quadratic fitting functions to handle such situations. If the calibration data for a particular analytical method routinely display quadratic character, using quadratic fitting functions may be acceptable. In such cases, the minimum number of calibrators for second order fits should be six, and in no case should concentrations be extrapolated for instrument responses that exceed that of the most concentrated calibrator. Examples of methods with nonlinear calibration functions include chloride by SM4500-Cl-E-1997, hardness by EPA Method 130.1, cyanide by ASTM D6888 or OIA1677, Kjeldahl nitrogen by PAI-DK03, and anions by EPA Method 300.0.