

**SEDD VERSION 5.0
DATA ELEMENT DICTIONARY
(August 2003)**

DATA ELEMENT	DESCRIPTION
<hr/>	
AcidReaction	
Format:LimitedList	
Category:Description	
Definition:	The reaction of the sample to acid.
Applicable Node(s):	
SamplePlusMethod	The reaction of the sample as received by the lab to acid. Example: Yes, No
Handling	The reaction of the sample after the handling described by this node to acid. Example: Yes, No
<hr/>	
AliquotAmount	
Format:Numeric	
Category:Measurement	
Definition:	The amount (weight or volume) of sample subjected to an analysis. The final results for any given analysis are based on the AliquotAmount used.
Applicable Node(s):	
Analysis	The amount of sample used for this analysis.
PreparationPlusCleanup	If the analytical method requires the prior use of an independent preparative method, then the AliquotAmount is the amount of sample subjected to the preparative method prior to actual analysis of the sample.
<hr/>	
AliquotAmountUnits	
Format:Limited list	
Category:Measurement	
Definition:	Units for AliquotAmount.
Applicable Node(s):	
Analysis	
PreparationPlusCleanup	
<hr/>	
AlternateLabAnalysisID	
Format:Identifier	
Category:Identification	
Definition:	Alternate lab identifier for an analysis.
Applicable Node(s):	
Analysis	This value is for information purposes only to facilitate tracking

back into the lab's systems.

AlternateLabSampleID

Format:Identifier

Category:Identification

Definition: Alternate lab identifier for a sample.

Applicable Node(s):

SamplePlusMethod

This value is for information purposes only to facilitate tracking back into the lab's systems. It might be used when the lab has both a lab-wide sample id and a different, department specific one for particular methods.

AmountAdded

Format:Numeric

Category:Measurement

Definition: The amount (weight or volume) of an analyte that has been spiked into an aliquot at any time during the analysis process.

Applicable Node(s):

Analyte

Specifies a known weight or volume of analyte that has been spiked into the aliquot. The StandardConcentration data element must also be used to fully define the amount of analyte added. Used with method QC samples of QC Category Spike, Blank_Spike, Spike_Duplicate and Blank_Spike_Duplicate. In addition, AmountAdded can now refer to spikes, surrogates, tracers, standard additions, and calibration standards where known amounts have been added to samples for QC purposes. 'AnalyteType=Spike' should be specified for spiked analytes unless some other AnalyteType is more appropriate or which analytes were spiked is known based on a QCType associated with this data.

AmountAddedUncertainty

Format:Numeric

Category:Measurement

Definition: The estimated error in the AmountAdded.

Applicable Node(s):

Analyte

AmountAddedUncertaintyType

Format:Limited list

Category:Measurement

Definition: The confidence interval for the AmountAddedUncertainty (e.g., 1 sigma, 2 sigma, 3 sigma).

Applicable Node(s):

Analyte

AmountAddedUncertaintyUnits

Format:Limited list

Category:Measurement

Definition: Units for AmountAddedUncertainty.

Applicable Node(s):

Analyte

AmountAddedUnits

Format:Limited list

Category:Measurement

Definition: Units for AmountAdded.

Applicable Node(s):

Analyte

Analysis

Format:

Category:

Definition: Parent Element. Contains elements related to analysis.

Applicable Node(s)

Analysis

AnalysisBatch

Format:Identifier

Category:Batch

Definition: A lab defined identifier for a batch of analyses done on one instrument associated with the level of detail at which the instrument is checked to be in control. If multiple analysis batches are used in a continuous sequence, this represents the start of any given analysis batch.

Applicable Node(s):

Analysis

Example: Analyses QC'd by the same continuing calibration, continuing calibration verification or similar InstrumentQC.

AnalysisBatchEnd

Format:Identifier

Category:Batch

Definition: If multiple analysis batches are used in a continuous sequence, this represents the end of any given analysis batch.

Applicable Node(s):

Analysis

AnalysisDuration

Format:Numeric
Category:Measurement
Definition: The length of time of the instrumental analysis.
Applicable Node(s):
Analysis Example: Radiochemical count time, ICP integration time.
Analyte The duration of the instrumental analysis for this analyte.

AnalysisDurationUnits

Format:Limited list
Category:Measurement
Definition: Units for AnalysisDuration.
Applicable Node(s):
Analysis
Analyte

AnalysisGroup

Format:
Category:
Definition: Parent Element. Contains elements related to analysis groups.
Applicable Node(s):
AnalysisGroup

AnalysisGroupID

Format:Identifier *Required*
Category:Identification
Definition: A lab defined identifier that is used to link together multiple analyses on one instrument to generate a single analyte result that is dependent upon each individual analysis.
Applicable Node(s):
AnalysisGroup Example: Analysis groups are used during initial calibration to determine average response factors or other calibration curve characteristics. Analysis groups are used when the Method of Standard Additions is used to determine the concentration of a given analyte in a sample. Analysis groups are used when an average result is to be reported for multiple analyses.
Analysis The AnalysisGroup this analysis is part of.
ReportedResult If there is any ambiguity about which analyses underlie this result, the AnalysisGroup that identifies these analyses.

AnalysisRequestID

Format:Identifier
Category:Tracking
Definition: A client defined identifier for the paperwork that authorizes the analyses of specific samples by listed methods.

Applicable Node(s):
SamplePlusMethod Can refer to a 'Request for Analysis' form that is usually different from the Chain-of-Custody form. Sometimes this is identical to the chain of custody identifier.

AnalysisType

Format:Limited list *Conditionally Required*

Category:Identification

Definition: A client defined code used to define the type of analysis. This code is used to identify a single analysis from multiple analyses that are used to generate a single result.

Applicable Node(s):

Analysis

Examples:

1. During multipoint initial calibrations, this code would be used to identify the individual analyses performed (i.e., ICAL1, ICAL2, ICAL3, etc. or RRF005, RRF010, RRF020, etc.)
 2. If multiple analyses are averaged to produce a single final result, this code would be used to identify the individual analyses performed (i.e., first, second, third, etc.).
 3. During use of the Method of Standard Additions, this code would be used to identify the individual analyses performed (i.e., MSA1, MSA2, etc.).
 4. When dilutions or reanalyses are performed, this code could be used to identify the individual analyses performed (i.e., DL1, DL2, DL3, etc. for dilutions or RE1, RE2, RE3, etc. for reanalyses).
- Client's code to define the type of AnalysisGroup. This code is only needed if more than one type of AnalysisGroup applies to one SamplePlusMethod or InstrumentQC nodes.

AnalysisGroup

Analyst

Format:Text

Category:Tracking

Definition: Name or initials for the analyst doing the work.

Applicable Node(s):

Handling

Analysis

PreparationPlusCleanup

Analyte

Format:

Category:

Definition: Parent Element. Contains elements related to analytes.

Applicable Node(s):

Analyte

AnalyteComparison

Format:

Category:

Definition: Parent Element. Contains elements related to the comparison of two or more analytes.

Applicable Node(s):

AnalyteComparison

AnalyteName

Format:Limited list

Category:Identification

Definition: A common name for an analyte.

Applicable Node(s):

ReportedResult**Analyte****AnalyteComparison** AnalyteName for the analyte to compare to.**PeakComparison** AnalyteName for the analyte to compare to.

AnalyteType

Format:Limited list

Category:Identification

Definition: *Conditionally Required*
A client defined code that identifies the type of analyte reported.

Applicable Node(s):

ReportedResult

In Results, required values, ignoring case, are Spike and TIC (a non-routine analyte that is tentatively identified). This field is not used for a routine analyte.

AnalyteSame as in Results with the following required values, ignoring case, in addition to Spike and TIC are Internal_Standard, Surrogate, System_Monitoring_Compound, and Tracer (Like an internal standard except it is added at the beginning of sample preparation, rather than just before analysis).

AnalyzedAmount

Format: Numeric

Category: Measurement

Definition: The amount (weight or volume) of a prepared extract that is used for an analysis.

Applicable Node(s):

Analysis

If the analytical method requires the prior use of preparative or cleanup step(s), then the AnalyzedAmount is the actual amount of this final extract that is used for the analytical method. This would most often be used where a prepared extract is split and used for analysis by two or more techniques.

AnalyzedAmountUnits

Format: Limited list

Category: Measurement

Definition: Units for AnalyzedAmount.

Applicable Node(s):

Analysis

AnalyzedDate

Format: Date

Category: Tracking

Definition: The date (and time, if required) of analysis of an aliquot. If analyzed over a range of dates, this is the start date.

Applicable Node(s):

Analysis

AnalyzedEndDate

Format: Date

Category: Tracking

Definition: If the aliquot was analyzed over a range of dates (and times, if required), the end of the analysis period.

Applicable Node(s):

Analysis

ApparatusID

Format: Identifier

Category: Tracking

Definition: The lab defined code for the apparatus used to process the sample or aliquot.

Applicable Node(s):

Analysis Example: An identifier for a Purge and Trap device.**Handling** Example: An identifier for a TCLP device.**PreparationPlusCleanup** Example: An identifier for a GPC device.

Artifacts

Format: Text

Category: Description

Definition: A method defined concept used to report anomalies in the sample.

Applicable Node(s):

SamplePlusMethod Method defined concept used to report anomalies in the sample as received by the laboratory.**Handling** Method defined concept used to report anomalies in the sample after the handling described by this node.

Autosampler

Format:Limited list
Category:Description
Definition: Whether or not an autosampler was used.
Applicable Node(s):
Analysis Example: Yes, No.

BackgroundCorrection

Format:Limited list
Category:Description
Definition: Whether or not background correction was done?
Applicable Node(s):
Analysis Example: Yes, No.

BackgroundRawData

Format:Limited list
Category:Description
Definition: Whether or not raw data was generated when background correction was done?
Applicable Node(s):
Analysis Example: Yes, No

BackgroundType

Format:Limited list
Category:Identification
Definition: The type of background correction done during an analysis.
Applicable Node(s):
Analysis Example: Graphite Furnace AA distinguishes between Smith_Hieftje, Deuterium_Arc, and Zeeman types of background correction.

Analyte Peak

BiasErrorRatio

Format:Numeric
Category:Measurement
Definition: The difference between the Result and ExpectedResult as a fraction of the square root of sum of squares of the ResultUncertainty and ExpectedResultUncertainty.
Applicable Node(s):
ReportedResult For method QC of QCCategory Blank_Spike and Blank_Spike_Duplicate, the difference between the Result and ExpectedResult as a fraction of the square root of sum of squares of the ResultUncertainty and ExpectedResultUncertainty. For

method QC of QCCategory Spike and Spike_Duplicate, the spiked Result minus the original Result and the ExpectedResult as a fraction of the square root of sum of squares of the ResultUncertainty of the Results and the ExpectedResultUncertainty.

Analyte Same as in ReportedResult except applied to the results of analyses in an analysis group rather than a QC sample and original pair.

Peak Same as in Analyte when results are measured per peak.

BillingID

Format:Identifier

Category:Tracking

Definition: A client defined code to submit with the data for billing purposes.

Applicable Node(s):

SamplePlusMethod

BiologicalClassName

Format:Limited list

Category:Description

Definition: A broad classification of a sample organism.

Applicable Node(s):

SamplePlusMethod Not necessarily intended to be the taxonomic class, but that is a possible value.
Example: Animal, Commercial Animal, Fish, or Plant.

BoilingPoint

Format:Numeric

Category:Measurement

Definition: The boiling point of the sample.

Applicable Node(s):

SamplePlusMethod
Handling The boiling point of the sample after the handling described by this node.

BoilingPointUnits

Format:Limited list

Category:Measurement

Definition: Units for BoilingPoint.

Applicable Node(s):

SamplePlusMethod
Handling

Bottles

Format:Numeric
Category:Description
Definition: The number of sample bottles received by the lab.
Applicable Node(s):
SamplePlusMethod

BottleID
Format:Identifier
Category:Tracking
Definition: An identifier for the bottle containing the sample being analyzed.
Applicable Node(s):
SamplePlusMethod
Analysis
Handling
PreparationPlusCleanup

BottleType
Format:Limited list
Category:Description
Definition: The size and type of bottle used to contain the sample.
Applicable Node(s):
SamplePlusMethod Example: 1-L_Amber_Glass

CalibrationFactor
Format:Numeric
Category:Measurement
Definition: The ratio of the detector response to the amount (mass or concentration) of analyte. It is a factor that is used to convert a detector response to an analyte result.
Applicable Node(s):
Analyte The calibration factor for this analyte.
Peak Same as in Analyte, except applied per peak.

CalibrationFactorUnits
Format:Limited list
Category:Measurement
Definition: Units for CalibrationFactor.
Applicable Node(s):
Analyte
Peak

CalibrationType
Format:Limited list
Category:Description

Definition: The calibration model used to define the initial calibration curve for a method (e.g., Average_Response_Factor, Average_Calibration_Factor, Linear_Regression, Linear_Regression_With_Zero_Force, Quadratic_Regression, Quadratic_Regression_With_Zero_Force).

Applicable Node(s):

Analyte

The calibration type for this analyte.

Peak

Same as in Analyte, except applied per peak.

CASRegistryNumber

Format:Identifier

Category:Identification

Definition:

The Chemical Abstract Service number for the analyte.

Applicable Node(s):

ReportedResult

Analyte

AnalyteComparison

CASRegistryNumber for the analyte to compare to.

PeakComparison

CASRegistryNumber for the analyte to compare to.

Checksum

Format:Numeric

Category:Tracking

Definition:

A value based on all other data in a node that can be used to check the integrity of an electronic data deliverable.

Applicable Node(s):

All

This field can be used in any node. Its value applies to the node it is in. The required algorithm to compute the data for this field is as follows: For all data in a node, starting with the first data element line, ending before the next node or end of the data stream, and ignoring: 1) The carriage return and linefeed at the end of each line. 2) Any optional leading spaces in data element lines. 3) The entire line with the checksum field. Compute the sum of the ASCII codes of all non-ignored characters. Report this sum as an integer following <Checksum>.

Clarity

Format:Limited list

Category:Description

Definition:

Clarity of the sample or aliquot.

Applicable Node(s):

SamplePlusMethod

Clarity of the sample as received.

Examples: Clear, Cloudy, Opaque.

Handling

Clarity of the sample after the handling described in this node.

Analysis

Clarity of the aliquot after preparation described in this node.

PreparationPlusCleanup Clarity of the aliquot after the preparation or cleanup described in this node.

CleanedUpDate

Format:Date

Category:Tracking

Definition: Date (and time, if required) of cleanup of this aliquot. If cleaned up over a range of dates, this is the start date.

Applicable Node(s):

PreparationPlusCleanup

CleanedUpEndDate

Format:Date

Category:Tracking

Definition: If the aliquot was cleaned up over a range of dates (and times, if required), the end of the cleanup period.

Applicable Node(s):

PreparationPlusCleanup

CleanupBatch

Format:Identifier

Category:Batch

Definition: A lab defined identifier for a batch of aliquots that are cleaned up together for processing by one method. Together can imply similarity of time, place, and manner of cleanup.

Applicable Node(s):

PreparationPlusCleanup The definition of a cleanup batch depends on the method but might be linked to cleanup specific QC samples such as GPC calibrations.

Example: All analyses associated with one GPC calibration would be in one CleanupBatch of ClientMethodID SW846_3640A. The InstrumentQC in the batch might have QCType GPC_Calibration.

CleanupID

Format:Identifier

Category:Identification

Definition: A lab defined identifier for this cleanup event for this aliquot.

Applicable Node(s):

PreparationPlusCleanup

CleanupType

Format:Limited list *For Portability*

Category:Identification

Definition: A client defined code used to define the type of cleanup. This

code is used to identify the specific cleanup procedure used.

Applicable Node(s):

PreparationPlusCleanup

This code is used to specify which cleanup method was used when such cleanup method details are part of the analysis (instrumental) method. When client cleanup method codes are available, this code can be used to identify what method options were used within the cleanup method.

Example: Florisil or Sulfur cleanup for EPA Method 608, Mercury or Copper option used for a sulfur cleanup for SW846_3660B.

InstrumentQC

For Instrument QC with QCLinkage 'CleanupBatch', a code that identifies the type of cleanup this QC pertains to. The field's value must match that specified as the CleanupType for cleanups of associated samples.

ClientAnalysisID

Format:Identifier

Category:Identification

Definition:

A client defined identifier for this analysis.

Applicable Node(s):

Analysis

ClientAnalyteID

Format:Identifier

Required

Category:Identification

Definition:

A client defined code for an analyte.

Applicable Node(s):

ReportedResult

Analyte

AnalyteComparison

ClientAnalyteID for the analyte to compare to.

PeakComparison

ClientAnalyteID for the analyte to compare to. If not specified, it is assumed to be the same as the analyte for the Peak element this PeakComparison element is in.

ClientID

Format:Limited list

For Portability

Category:Identification

Definition:

An identifier for the person or organization ordering the analysis.

Applicable Node(s):

SamplePlusMethod

This identifier is often client defined. This value is necessary to allow one client to read data reported in a format specified by another. To be fully reliable, ClientID's must be unique across all potential clients.

Examples: EPA Region, AFCID (Air Force Client ID)

InstrumentQC Same as in SamplePlusMethod.

ClientMethodID

Format:Limited list

Required

Category:Identification

Definition:

A client defined code for the method used by the lab to analyze the sample. The complete code for each method may be a composite of the method source along with the method number.

Applicable Node(s):

SamplePlusMethod

Valid values for the combination of ClientMethodID and MatrixID must be specified in the client's Data Quality Objectives (DQOs). The ClientMethodID would normally be a recognized, published method with a generic method number (e.g., from EPA, Standard Methods, ASTM, etc.) or it could be a client specific method as developed by a given client or as developed by the lab for the client. When nonstandard methods are used, the ClientMethodName data element should also be used.
Example: SW846_3520C (A method for extraction of a water sample, SW846_8270C (A method for analysis of a sample)

InstrumentQC

Handling

PreparationPlusCleanup

Analysis

ClientMethodName

Format:Text

Category:Identification

Definition:

A client defined descriptive name for this method.

Applicable Node(s):

SamplePlusMethod

InstrumentQC

Handling

PreparationPlusCleanup

Analysis

ClientMethodType

Format:Limited list

Category:Identification

Definition:

A client defined code used to define the method type or technology (e.g., GCMS GCMS_SIM, ICP, IR).

Applicable Node(s):

SamplePlusMethod

InstrumentQC

Handling

The type of technology being used to analyze this sample.

PreparationPlusCleanup Analysis

ClientName

Format:Text

Category:Identification

Definition: Descriptive name for the person or organization ordering the analysis.

Applicable Node(s):

SamplePlusMethod
InstrumentQC Examples: EPA Region, AFCID (Air Force Client ID).

ClientReanalysisType

Format:Limited list

Conditionally Required

Category:Identification

Definition: A client defined code to identify the reanalysis if the client wants results for reanalyses done by this method to be reported separately.

Applicable Node(s):

SamplePlusMethod The ClientMethodID, ClientSampleID, and ClientReanalysisType together should uniquely identify the data associated with this element. Reanalysis is defined as generally as possible to include notions such as reextraction, dilution, and rework.
Example: DL (for dilution), RE (for reextraction).

ClientSampleID

Format:Identifier

Required

Category:Identification

Definition: A client defined identifier for a sample.

Applicable Node(s):

SamplePlusMethod This should be the basis on which the client identifies the sample. However, not all clients define values for lab generated QC samples.

Coeffa0

Format:Numeric

Category:Measurement

Definition: Value for the zeroth order coefficient in a polynomial or regression equation. This term is sometimes referred to as the 'b' value or 'y-intercept' for a linear regression.

Applicable Node(s):

Analyte
Peak

Coeffa1

Format:Numeric

Category:Measurement

Definition: Value for the first order coefficient in a polynomial or regression equation. This term is sometimes referred to as the 'slope' for a linear regression.

Applicable Node(s):

Analyte
Peak

Coeffa2

Format:Numeric

Category:Measurement

Definition: Value for the second order coefficient in a polynomial equation.

Applicable Node(s):

Analyte
Peak

Coeffa3

Format:Numeric

Category:Measurement

Definition: Value for the third order coefficient in a polynomial equation.

Applicable Node(s):

Analyte
Peak

CoeffOfDetermination

Format:Numeric

Category:Measurement

Definition: Coefficient of Determination. The goodness of fit for a polynomial equation.

Applicable Node(s):

Analyte Used for an analyte in AnalysisGroup.
Peak Same as in Analyte, except applied per peak.

CoeffOfDeterminationLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the CoeffOfDetermination.

Applicable Node(s):

Analyte
Peak

CoeffOfDeterminationLimitType

Format:Numeric
Category:Measurement
Definition: The source for the CoeffOfDetermination limits.
Applicable Node(s):
Analyte
Peak

CollectedDate
Format:Date
Category:Tracking
Definition: Date (and time, if required) the sample was collected. If collected over a range of dates, this is the start date.
Applicable Node(s):
SamplePlusMethod

CollectedEndDate
Format:Date
Category:Tracking
Definition: If the sample was collected over a range of dates (and times, if required), the end of the collection period.
Applicable Node(s):
SamplePlusMethod

Color
Format:Limited list
Category:Description
Definition: Color of the sample or aliquot.
Applicable Node(s):
SamplePlusMethod Color of the sample as received.
Handling Color of the sample after the handling described by this node.
Analysis Color of the aliquot after the preparation described by this node.
PreparationPlusCleanup Color of the aliquot after the preparation or cleanup described by this node.

Column
Format:Text
Category:Description
Definition: Name of the column or cartridge used by this method.
Applicable Node(s):
Analysis
PreparationPlusCleanup

ColumnInternalDiameter
Format:Numeric

Category:Description

Definition: Internal diameter of the column or cartridge.

Applicable Node(s):

Analysis

PreparationPlusCleanup

ColumnInternalDiameterUnits

Format:Limited list

Category:Description

Definition: Units for ColumnInternalDiameter.

Applicable Node(s):

Analysis

PreparationPlusCleanup

ColumnLength

Format:Numeric

Category:Description

Definition: Length of the column or cartridge used by this method.

Applicable Node(s):

Analysis

PreparationPlusCleanup

ColumnLengthUnits

Format:Limited list

Category:Description

Definition: Units for ColumnLength.

Applicable Node(s):

Analysis

PreparationPlusCleanup

Comment

Format:Text

Category:Description

Definition: A free-form comment that can occur in any parent data element.

Applicable Node(s):

All

Its value applies to the data in the node it is in. The exact location of a Comment field is not significant. Comment fields, as opposed to ‘;comments’, are meant to be related to data reported in other fields in the same node. Readers are not required to take any action based on these comments, but they may choose to record them as text comments in their database.

Composite

Format:Limited list

Category:Description
Definition: Whether or not the sample as received by the lab is a composite.
Applicable Node(s):
SamplePlusMethod Example: Yes, No

Conductance
Format:Numeric
Category:Measurement
Definition: The conductance of the sample.
Applicable Node(s):
SamplePlusMethod

ConductanceUnits
Format:Limited list
Category:Measurement
Definition: Units for Conductance.
Applicable Node(s):
SamplePlusMethod

ConfirmationAnalysisID
Format:Identifier
Category:Identification
Definition: A lab defined identifier for an analysis that confirms the results of this analysis.
Applicable Node(s):
Analysis The LabAnalysisID (or AlternateLabAnalysisID) for the confirmation analysis.
AnalysisGroup Same as Analysis except confirming results from this AnalysisGroup.

Consolidation
Format:Limited list
Category:Description
Definition: Degree of consolidation of the sample.
Applicable Node(s):
SamplePlusMethod Example: Weak, Moderate, Etc.

CoolerID
Format:Identifier
Category:Tracking
Definition: A client defined code for the cooler or other shipping container used to transport the sample to the lab.
Applicable Node(s):
SamplePlusMethod

CorrectionFactor

Format:Numeric

Category:Measurement

Definition: The correction factor for the peak this element is in, based on interanalyte effects from the analyte named in this node.

Applicable Node(s):

AnalyteComparison

CorrelationCoeff

Format:Numeric

Category:Measurement

Definition: The correlation coefficient (r) resulting from linear regression of data.

Applicable Node(s):

Analyte

Used for an analyte in AnalysisGroup.

Peak

Example: The method of standard additions or initial calibrations. Same as in Analyte, except applied per peak.

CorrelationCoeffLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the CorrelationCoeff.

Applicable Node(s):

Analyte**Peak**

CorrelationCoeffLimitType

Format:Numeric

Category:Measurement

Definition: The source for the CorrelationCoeff limits.

Applicable Node(s):

Analyte**Peak**

CountingError

Format:Numeric

Category:Measurement

Definition: For methods based on counting discrete events, such as are common in radiochemistry, the error in the net count rate, usually scaled to the same units as the result.

Applicable Node(s):

ReportedResult**Analyte**

Extended to anything considered to be the result of any analysis. Within an AnalysisGroup node, applies to a mean or other value

Peak

computed from several analyses.

Same as in an Analyte node when results are measured per peak.

CountingErrorType

Format:Limited list

Category:Measurement

Definition:

The confidence interval for the CountingError (e.g., 1 sigma, 2 sigma, 3 sigma).

Applicable Node(s):

ReportedResult

Analyte

Peak

CountingErrorUnits

Format:Limited list

Category:Measurement

Definition:

Units for CountingError.

Applicable Node(s):

ReportedResult

Analyte

Peak

CreatedDate

Format:Date

Category:Tracking

Definition:

The date (and time, if required) a QC sample was generated or derived in the lab.

Applicable Node(s):

SamplePlusMethod

CustodyID

Format:Identifier

Category:Tracking

Definition:

A client defined code for the chain of custody document associated with receipt of this sample in the lab.

Applicable Node(s):

SamplePlusMethod

DateFormat

Format:Limited list

Category:Identification

Definition:

A value that specifies the format of all date/time values in an electronic data deliverable.

Applicable Node(s):

Header

A value that specifies the format of all date/time values that follow this Header node. Allowed values for this field are listed with the description of allowed date formats for field values. A required DateFormat value may be specified by the client or implementation.

Density

Format:Numeric

Category:Measurement

Definition: The density of the sample.

Applicable Node(s):

**SamplePlusMethod
Handling**

The density of the sample after the handling described by this node.

DensityUnits

Format:Limited list

Category:Measurement

Definition: Units for Density.

Applicable Node(s):

**SamplePlusMethod
Handling**

DetectionLimit

Format:Numeric

Category:Measurement

Definition: Detection limit for the analyte being measured. Detection limits are defined in terms of the presence or absence of the analyte.

Applicable Node(s):

**ReportedResult
Analyte**

Within AnalysisGroup, applies to a mean or other value computed from several analyses. For InstrumentQC, the value might be an instrument detection limit.

Peak

Same as in Analyte when results are measured per peak.

DetectionLimitType

Format:Limited list

Category:Measurement

Definition: One of a list of client defined acronyms that specify the type of detection limit.

Applicable Node(s):

**ReportedResult
Analyte
Peak**

Examples: CRDL, MDA, MDL, IDL.

DetectionLimitUnits

Format:Limited list

Category:Measurement

Definition: Units for DetectionLimit.

Applicable Node(s):

ReportedResult**Analyte****Peak**

DetectorID

Format:Identifier

Category:Tracking

Definition: A lab defined code for a detector.

Applicable Node(s):

Analysis

DetectorType

Format:Limited list

Category:Identification

Definition: The type of detector used in the instrumental analysis.

Applicable Node(s):

AnalysisExamples: FID, MS.

DifferenceErrorRatio

Format:Numeric

Category:Measurement

Definition: The absolute value of the difference of two values as a fraction of the square root of sum of squares of their ResultUncertainties.

Applicable Node(s):

ReportedResult

Used with method QC of QCCategory Duplicate, Serial_Dilution, Spike_Duplicate, and Blank_Spike_Duplicate.

Analyte

Same as in ReportedResult except applied to the results of analyses in an analysis group rather than a QC sample and original pair.

PeakSame as in Analyte when results are measured per peak.

DilutionFactor

Format:Numeric

Category:Measurement

Definition: The overall dilution of the aliquot subjected to this analysis. A value of one corresponds to nominal conditions for the method. Values greater than one correspond to dilutions. Values less than one correspond to concentrations.

Applicable Node(s):

Analysis Exactly which factors are included in the DilutionFactor may depend on the method. The most common useage involves dilution of a prepared extract immediately prior to analysis.

Drift

Format:Numeric

Category:Measurement

Definition: The difference between the actual location of a peak and its predicted position.

Applicable Node(s):

Analysis

Example: For alpha spectroscopy, Drift is computed using the tracer peak.

Analyte

Same except applied to a specific analyte.

Peak

Same except applied to a specific peak.

DriftUnits

Format:Limited list

Category:Measurement

Definition: Units for Drift.

Applicable Node(s):

Analysis

Analyte

Peak

EDDID

Format:Limited list

Required

Category:Identification

Definition: A value that specifies the format of an electronic data deliverable.

Applicable Node(s):

Header

Must have the value SEDD. It can be checked by readers to determine that following data are in a SEDD compatible format. Since this field need not be the first line in Header, readers need to be prepared to read all the Header lines before making this check.

EDDIImplementationID

Format:Limited list

Required

Category:Identification

Definition: A value that identifies the specific implementation of an electronic data deliverable.

Applicable Node(s):

Header

A value specified in a SEDD implementation document as the identifier of the implementation. This value should be checked by readers to determine that following data are in a processible format. For example, an implementation might specify what data

elements are required in the EDD, including any implementation defined fields. Since this field need not be the first line in Header, readers need to be prepared to read all the fields in Header before checking this value.

EDDImplementationVersion

Format:Limited list

Required

Category:Identification

Definition:

A value that identifies the version of the specific implementation of an electronic data deliverable.

Applicable Node(s):

Header

A value specified in each revision of a SEDD implementation document. The value in an EDD indicates the version of the implementation that following data is compatible with. Reader programs may have to adapt their behavior based on this value. In particular, the list of implementation defined fields may change with version number. Implementors should assign version numbers so that later versions have later alphanumeric version numbers.

EDDVersion

Format:Limited list

Required

Category:Identification

Definition:

A value that specifies the version of the format of an electronic data deliverable.

Applicable Node(s):

Header

Specified in each revision of the SEED Specification. Specified by the writer of an EDD to indicate the version of SEDD that following data is compatible with. Reader programs may have to adapt their behavior based on this value. In particular, the list of SEDD defined fields may change with version number.

Efficiency

Format:Numeric

Category:Measurement

Definition:

Efficiency of the instrument as a percent. Usually used in radiochemistry to mean the counts detected as a percentage of the decays actually occurring.

Applicable Node(s):

Analysis

Analyte

Peak

Efficiency as applied to a specific analyte.

Efficiency as applied to a specific analyte and peak.

Energy

Format:Numeric
Category:Description
Definition:

The energy of an emission.

Applicable Node(s):

Peak

For example, decay energy as used in radiochemistry.

PeakComparison

EnergyUnits

Format:Limited list
Category:Description
Definition:

Units for Energy.

Applicable Node(s):

Peak

PeakComparison

EquipmentBatch

Format:Identifier
Category:Batch
Definition:

An identifier for a batch of samples collected using the same equipment in a defined period of time. Operationally, this batch associates a field equipment blank with a group of samples.

Applicable Node(s):

SamplePlusMethod

This value is currently often not known to the lab. It might be merged with lab data by a validator.

ExpectedResult

Format:Numeric
Category:Measurement
Definition:

The expected final result of an analyte that has been spiked into an aliquot at any time during the analysis process or the true value of an analyte in the sample analyzed.

Applicable Node(s):

ReportedResult

Specifies the expected final result of analyte that has been spiked into the aliquot. Used with method QC samples of QCcategory Blank_Spike, Spike, Spike_Duplicate and Blank_Spike_Duplicate. Spike analytes should have AnalyteType=Spike. Can also specify the actual true value of an analyte in a sample.

Analyte

Same as in the ReportedResult node extended so ExpectedResult can now refer to spikes, surrogates, tracers, standard additions, and calibration standards where known amounts have been added to samples for QC purposes. AnalyteType=Spike should be specified for spiked analytes unless some other AnalyteType is more appropriate or which analytes were spiked is known based on a QCType associated with this data.

ExpectedResultUncertainty

Format:Numeric

Category:Measurement

Definition: The estimated error in the ExpectedResult.

Applicable Node(s):

**ReportedResult
Analyte**

ExpectedResultUncertaintyType

Format:Limited list

Category:Measurement

Definition: The confidence interval for the ExpectedResultUncertainty (e.g., 1 sigma, 2 sigma, 3 sigma).

Applicable Node(s):

**ReportedResult
Analyte**

ExpectedResultUncertaintyUnits

Format:Limited list

Category:Measurement

Definition: Units for ExpectedResultUncertainty.

Applicable Node(s):

**ReportedResult
Analyte**

ExpectedResultUnits

Format:Limited list

Category:Measurement

Definition: Units for ExpectedResult.

Applicable Node(s):

**ReportedResult
Analyte**

FieldSampleID

Format:Identifier

Category:Identification

Definition: An identifier assigned to a sample by the sampler, not the client.

Applicable Node(s):

SamplePlusMethod This value is currently often not known to the lab. It could be useful as link into the sampling records system.

Filtered

Format:Limited list

Category:Description

Definition: Whether or not the sample as received by the lab was field filtered.
Applicable Node(s):
SamplePlusMethod Example: Yes, No

FinalAmount

Format:Numeric

Category:Measurement

Definition: The amount (weight or volume) of material (i.e., digestate, extract, distillate, etc.) generated as the outcome of processing the sample through the sample preparation and/or cleanup steps.

Applicable Node(s):

Analysis

PreparationPlusCleanup

FinalAmountUnits

Format:Limited list

Category:Measurement

Definition: Units for FinalAmount.

Applicable Node(s):

Analysis

PreparationPlusCleanup

FlowRate

Format:Numeric

Category:Description

Definition: Rate of flow of a gas or liquid mobile phase as often used in chromatography.

Applicable Node(s):

Analysis

FlowRateUnits

Format:Limited list

Category:Description

Definition: Units for FlowRate.

Applicable Node(s):

Analysis

Frequency

Format:Numeric

Category:Description

Definition: The frequency of an emission or absorption.

Applicable Node(s):

Peak

PeakComparison

FrequencyUnits

Format:Limited list

Category:Description

Definition: Units for Frequency.

Applicable Node(s):

Peak**PeakComparison**

GeneratingSystemID

Format:Identifier

Category:Tracking

Definition: A lab defined value that identifies the software system used to generate an electronic data deliverable.

Applicable Node(s):

HeaderThis value may be built into commercial software. The reader may use this value to adapt to known quirks of the generating system.

GeneratingSystemVersion

Format:Text

Category:Tracking

Definition: A lab defined version number for the software system used to generate an electronic data deliverable.

Applicable Node(s):

Header

Gradient

Format:Numeric

Category:Description

Definition: Temperature gradient for GC or mobile phase gradient for HPLC.

Applicable Node(s):

Analysis

GradientUnits

Format:Limited list

Category:Description

Definition: Units for Gradient.

Applicable Node(s):

Analysis

HandledDate

Format:Date

Category:Tracking

Definition: Date (and time, if required) of Handling of this sample. If handled over a range of dates, this is the start date.

Applicable Node(s):

Handling

HandledEndDate

Format:Date

Category:Tracking

Definition:

If the sample was handled over a range of dates (and times, if required), the end of the handled period.

Applicable Node(s):

Handling

Handling

Format:

Category:

Definition:

Parent Element. Contains elements related to sample handling.

Applicable Node(s)

Handling

HandlingBatch

Format:Identifier

Category:Batch

Definition:

A lab defined identifier for a batch of samples that are handled together. Together can imply similarity of time, place, and manner of handling.

Applicable Node(s):

Handling

The definition of a handling batch depends on the method but might be linked to handling specific QC samples.
Example: All samples associated with one TCLP apparatus blank would be in one HandlingBatch of ClientMethodID SW846_1311. The method QC sample in the batch might have QCType TCLP_Blank.

HandlingDuration

Format:Numeric

Category:Measurement

Definition:

The duration of the handling.

Applicable Node(s):

Handling

Example: TCLP leaching time.

HandlingDurationUnits

Format:Limited list

Category:Measurement

Definition:

Units for HandlingDuration.

Applicable Node(s):

Handling

HandlingFactor

Format:Numeric

Category:Measurement

Definition:

A factor that reflects processing done early in sample handling.

Applicable Node(s):

Handling

For example, used in radiochemistry with a hot lab that does preliminary processing prior to more routine activities.

HandlingFactorUnits

Format:Limited list

Category:Measurement

Definition:

Units for HandlingFactor.

Applicable Node(s):

Handling

HandlingID

Format:Identifier

Category:Identification

Definition:

A lab defined identifier for this handling event for this sample.

Applicable Node(s):

Handling

HandlingType

Format:Limited list

Category:Identification

Definition:

A client defined code used to define the type of preliminary processing done to a sample prior to aliquotting. This code is used to identify the specific handling procedure used.

Applicable Node(s):

Handling

This code is used to specify which handling method was used when such handling method details are part of the analysis (instrumental) method. When client cleanup method codes are available, this code is used to identify what method options were used within the handling method.

Example: Ashed, Dried, Filtered, Decanted, Etc.

SamplePlusMethod

For a method QC sample with QCLinkage 'HandlingBatch', a code that identifies the type of handling this QC pertains to. The field's value must match that specified as the HandlingType for handlings of associated samples.

Header

Format:

Category:
Definition: Parent Element. Contains elements relating to submitted data file.
Applicable Node(s):
Header

HeatedPurge

Format:Limited list
Category:Description
Definition: Whether or not volatiles analysis used a heated purge.
Applicable Node(s):
Analysis Example: Yes, No

InitialAmount

Format:Numeric
Category:Measurement
Definition: The amount (weight or volume) of material used for processing the sample through any handling and/or cleanup steps.
Applicable Node(s):
Handling The amount of material used for this handling method.
PreparationPlusCleanup The amount of material used for this cleanup method.

InitialAmountUnits

Format:Limited list
Category:Measurement
Definition: Units for InitialAmount.
Applicable Node(s):
Handling
PreparationPlusCleanup

InjectionVolume

Format:Numeric
Category:Measurement
Definition: The volume of sample injected into the instrument.
Applicable Node(s):
Analysis

InjectionVolumeUnits

Format:Limited list
Category:Measurement
Definition: Units for InjectionVolume.
Applicable Node(s):
Analysis

InstrumentID

Format:Identifier
Category:Tracking
Definition: A lab defined code for an instrument.
Applicable Node(s):
Analysis

InstrumentQC

Format:
Category:
Definition: Parent Element. Contains elements related to instrument QC.
Applicable Node(s):
InstrumentQC

InstrumentSerialNumber

Format:Text
Category:Tracking
Definition: The serial number of the instrument used for this analysis.
Applicable Node(s):
Analysis

InterelementCorrection

Format:Limited list
Category:Description
Definition: Whether or not ICP interelement correction factors were applied.
Applicable Node(s):
Analysis Example: Yes, No

LabAddress1

Format:Text
Category:Description
Definition: Primary address of the lab doing this analysis.
Applicable Node(s):
SamplePlusMethod

LabAddress2

Format:Text
Category:Description
Definition: Secondary address of the lab doing this analysis.
Applicable Node(s):
SamplePlusMethod

LabAnalysisID

Format:Identifier
Category:Identification
Required

Definition: A lab defined identifier for an analysis that uniquely identifies a single run for a single aliquot.

Applicable Node(s):

Analysis This value should be unique at least for all analyses in one lab reporting batch in the context of one method.
Example: A LIMS assigned value or a value manually assigned by lab personnel. It could reference a run number or a page number from a lab notebook.

ReportedResult If there is any ambiguity about which analysis underlies this result, the LabAnalysisID of this analysis.
Example: To identify from which of several dilutions the reported result is chosen.

LabAnalyteID
Format:Identifier *For Traceability*
Category:Identification
Definition: A lab defined code for the analyte.
Applicable Node(s):

ReportedResult This code gives traceability into the lab's systems.
Analyte
PeakComparison LabAnalyteID for the analyte to compare to. If not specified, it is assumed to be the same as the analyte for Peak this PeakComparison is in.
AnalyteComparison LabAnalyteID for the analyte to compare to.

LabCity
Format:Text
Category:Description
Definition: Primary address (City) of the lab doing this analysis.
Applicable Node(s):
SamplePlusMethod

LabContact
Format:Text
Category:Description
Definition: The person at the lab to contact with questions about this data.
Applicable Node(s):
SamplePlusMethod

LabContract
Format:Text
Category:Tracking
Definition: A client defined contract number under which the lab analyzes the samples.

Applicable Node(s):
SamplePlusMethod

LabDataPackageID

Format:Identifier

Category:Tracking

Definition:

A lab defined code for this data deliverable package.

Applicable Node(s):

Header

This code applies to a single deliverable.

For example, a document number the lab assigns to the physical data package or a file name for an electronic deliverable. Use LabReportingBatch for the logical notion of a group of samples reported as a unit.

SamplePlusMethod

LabDataPackageName

Format:Text

Category:Tracking

Definition:

A lab defined title for this data deliverable package.

Applicable Node(s):

Header

SamplePlusMethod

LabDataPackageVersion

Format:Text

Category:Tracking

Definition:

If the lab resubmits a data package, this field can be used to distinguish the different versions.

Applicable Node(s):

Header

SamplePlusMethod

LabFileID

Format:Identifier

Category:Identification

Definition:

The path and file name where the raw data from the analysis is stored.

Applicable Node(s):

Analysis

LabID

Format:Limited list

Required

Category:Identification

Definition:

Identifier for the lab doing this analysis.

Applicable Node(s):
SamplePlusMethod Often client defined.
InstrumentQC

LabInstrumentQCID
Format:Identity *Required*
Category:Identification
Definition: A lab defined identifier that uniquely identifies a single InstrumentQC analysis (i.e., Instrument_Performance_Check, Continuing_Calibration_Verification, etc.) or group of analyses (i.e., Initial_Calibration, etc.).

Applicable Node(s):
InstrumentQC

LabManager
Format:Text
Category:Description
Definition: The person at the lab who takes final responsibility for this data.
Applicable Node(s):
SamplePlusMethod

LabManagerTitle
Format:Text
Category:Description
Definition: The corporate title of the LabManager.
Applicable Node(s):
SamplePlusMethod

LabMethodID
Format:Identifier *For Traceability*
Identification
Definition: A lab defined code for the method(s) used by the lab to analyze the sample.
Applicable Node(s):
SamplePlusMethod
InstrumentQC
Handling
PreparationPlusCleanup
Analysis

LabMethodName
Format:Text
Category:Identification
Definition: The lab defined descriptive name for this method.

Applicable Node(s):
SamplePlusMethod
InstrumentQC
Handling
PreparationPlusCleanup
Analysis

LabName

Format:Text

Category:Identification

Definition: Descriptive name for the lab doing this analysis.

Applicable Node(s):
SamplePlusMethod Often lab defined.
InstrumentQC

LabNarrativeID

Format:Identifier

Category:Tracking

Definition: A lab defined code for any narrative document associated with this data.

Applicable Node(s):
SamplePlusMethod

LabQualifiers

Format:Limited list

Category:Description

Definition: A lab assigned string of single letter result qualifiers, based on client defined rules and values.

Applicable Node(s):
ReportedResult
Analyte
Peak
AnalyteComparison
PeakComparison

LabReanalysisSuffix

Format:Identifier *For Traceability*

Category:Identification

Definition: The lab defined code to identify the reanalysis, if the client wants results for reanalyses done by this method to be reported separately.

Applicable Node(s):
SamplePlusMethod The ClientMethodID, LabSampleID, and LabReanalysisSuffix together should uniquely identify the data associated with this data

element.

LabReceiptDate

Format:Date

Category:Tracking

Definition: Date (and time, if required) the sample was received in the lab.

Applicable Node(s):

SamplePlusMethod

LabReportedDate

Format:Date

Category:Tracking

Definition: Date (and time, if required) this data package was reported by the lab to the client.

Applicable Node(s):

Header

SamplePlusMethod

LabReportingBatch

Format:Identifier

Category:Batch

Definition: A lab defined identifier for a batch of samples reported as a group by the lab. In addition, this batch can be used to link certain QC samples to regular ones.

Applicable Node(s):

SamplePlusMethod

LabResultStatus

Format:Limited list

Category:Tracking

Definition: Lab assigned status for results for this sample and method.

Applicable Node(s):

SamplePlusMethod

ReportedResult

Example: Preliminary, Final

LabSampleID

Format:Identifier

For Traceability

Category:Identification

Definition: A lab defined identifier for a sample that uniquely identifies a single sample that is subjected to an analysis.

Applicable Node(s):

SamplePlusMethod

This code is the primary link into the lab's record keeping system. It is not necessarily one-to-one with the ClientSampleID.

LabState

Format:Text

Category:Description

Definition: Primary address (State) of the lab doing this analysis.

Applicable Node(s):

SamplePlusMethod

LabZipcode

Format:Text

Category:Description

Definition: Primary address (Zipcode) of the lab doing this analysis.

Applicable Node(s):

SamplePlusMethod

LocationID

Format:Identifier

Category:Tracking

Definition: Identifier for the sampling location at a site.

Applicable Node(s):

SamplePlusMethod

Often client defined.

Examples: Operable_Unit, Well, Tank, Station, Facility (building), Installation, Aggregate_Area.

LocationName

Format:Text

Category:Tracking

Definition: Descriptive name for the sampling location at a site.

Applicable Node(s):

SamplePlusMethod

May be lab defined.

Examples: Operable_Unit, Well, Tank, Station, Facility (building), Installation, Aggregate_Area.

LotNumber

Format:Text

Category:Description

Definition: A manufacturer assigned batch number for something used in this analysis.

Applicable Node(s):

Analyte

Example: The vendor/manufacturer assigned lot number for a purchased standard.

PreparationPlusCleanup

Example: Florisil cartridge lot number.

ManualIntegration

Format:Limited list

Category:Description

Definition: Whether or not manual integration was used.

Applicable Node(s):

Analyte
Peak

Example: Yes, No.

MassChargeRatio

Format:Numeric

Category:Description

Definition: The mass/charge relationship recorded in MS detection.

Applicable Node(s):

Peak
PeakComparison

MatrixID

Format:Limited list

Required

Category:Identification

Definition: A client defined code for the sample matrix or media (e.g., soil, water).

Applicable Node(s):

SamplePlusMethod

Examples: Soil, Water, Sludge, Ash, Air, Waste, Effluent, Core, Filter, Biota, and Tissue.

MatrixName

Format:Text

Category:Identification

Definition: A description of the sample matrix or media.

Applicable Node(s):

SamplePlusMethod

MeanCalibrationFactor

Format:Numeric

Category:Measurement

Definition: The average or mean Calibration Factor.

Applicable Node(s):

Analyte
Peak

The mean calibration factor for this analyte.
Same as in Analyte, except applied per peak.

MeanCalibrationFactorUnits

Format:Limited list

Category:Measurement

Definition: Units for MeanCalibrationFactor.

Applicable Node(s):

Analyte

Peak

MeanRelativeResponse

Format:Numeric

Category:Measurement

Definition: The average or mean Relative Response.

Applicable Node(s):

Analyte The mean relative response for this analyte.

MeanRelativeResponseLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the MeanRelativeResponse.

Applicable Node(s):

Analyte

MeanRelativeResponseLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the MeanRelativeResponse.

Applicable Node(s):

Analyte

MeanRelativeResponseLimitType

Format:Numeric

Category:Measurement

Definition: The source for the MeanRelativeResponse limits.

Applicable Node(s):

Analyte

MeanRetentionTime

Format:Numeric

Category:Measurement

Definition: The average or mean Retention Time.

Applicable Node(s):

Analyte The mean retention time for this analyte.

Peak Same as in Analyte, except applied per peak.

MeanRetentionTimeLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the mean Retention Time.

Applicable Node(s):

Analyte

Peak

MeanRetentionTimeLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the mean Retention Time.

Applicable Node(s):

Analyte

Peak

MeanRetentionTimeLimitType

Format:Numeric

Category:Measurement

Definition: The source for the MeanRetentionTime limits

Applicable Node(s):

Analyte

Peak

MeanRetentionTimeUnits

Format: Limited List

Category: Measurement

Definition: Units for MeanRetentionTime

Applicable Node(s):

Analyte

Peak

MeanRRF

Format:Numeric

Category:Measurement

Definition: The average or mean Relative Response Factor.

Applicable Node(s):

Analyte

The mean relative response factor for this analyte.

Peak

Same as in Analyte, except applied per peak.

PeakComparison

MeanRRFLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the MeanRRF.

Applicable Node(s):

Analyte

Peak

PeakComparison

MeanRRFLimitType

Format:Numeric

Category:Measurement

Definition: The source for the MeanRRF limits.

Applicable Node(s):

Analyte**Peak****PeakComparison**

MeltingPoint

Format:Numeric

Category:Measurement

Definition: The temperature at which the sample melts.

Applicable Node(s):

SamplePlusMethod

MeltingPointUnits

Format:Limited list

Category:Measurement

Definition: Units for MeltingPoint.

Applicable Node(s):

SamplePlusMethod

MethodBatch

Format:Identifier

Category:Batch

Definition: A lab defined identifier for a batch of samples analyzed by one method and treated as a group for QC purposes. A method batch should group samples with similar matrices and potential interferences.

Applicable Node(s):

SamplePlusMethod

This is a broader grouping than a preparation batch. In particular, a reanalysis of a sample stays in the same method batch, while it is likely to be in a different preparation batch. Operationally, this batch associates sample dependent QC such as duplicates and matrix spikes with a group of samples that may or may not be prepared at the same time.

MethodLevel

Format:Limited list

Category:Description

Definition: Approximate level of analytes in the sample, usually specified in client defined concentration ranges and determined via a screening procedure.

Applicable Node(s):
SamplePlusMethod Examples: Low, Medium, High.

MobilePhase

Format:Text

Category:Description

Definition: The mobile phase composition used for HPLC, or other similar procedures.

Applicable Node(s):
Analysis

NumberDilutions

Format:Numeric

Category:Description

Definition: Number of dilutions done to this aliquot.

Applicable Node(s):
Analysis

NumberPhases

Format:Numeric

Category:Description

Definition: The number of phases observed for the sample.

Applicable Node(s):
SamplePlusMethod

OrganismLength

Format:Numeric

Category:Measurement

Definition: Length of an Organism.

Applicable Node(s):
SamplePlusMethod

OrganismLengthUnits

Format:Limited list

Category:Measurement

Definition: Units for OrganismLength.

Applicable Node(s):
SamplePlusMethod

OrganismPortion

Format:Limited list

Category:Description

Definition: Portion of an organism used for analysis.

Applicable Node(s):

SamplePlusMethod

OrganismSex

Format:Limited list

Category:Description

Definition: Sex of an organism:

Applicable Node(s):

SamplePlusMethod Example: Male or Female.

OriginalClientReanalysisType

Format:Limited list *Conditionally Required*

Category:Identification

Definition: A client defined code to identify the reanalysis of the original sample if the client wants results for reanalyses done by this method to be reported separately.

Applicable Node(s):

SamplePlusMethod For a method QC sample with QCcategory Duplicate, Serial_Dilution, Spike, or Spike_Duplicate there must be an associated regular sample the QC sample is derived from. This sample is called the original. The value of OriginalClientReanalysisType matches that of the ClientReanalysisType for this original sample.

OriginalClientSampleID

Format:Identifier *Conditionally Required*

Category:Identification

Definition: The client sample ID number of the original regular sample from which the QC sample was derived.

Applicable Node(s):

SamplePlusMethod For a method QC sample of QCcategory Duplicate, Serial_Dilution, Spike, or Spike_Duplicate there must be an associated regular sample the QC sample is derived from. This sample is called the original. The value of OriginalClientSampleID matches that of the ClientSampleID for this original sample.

OriginalLabReanalysisSuffix

Format:Identifier *For Traceability of QC*

Category:Identification

Definition: The lab defined code to identify the reanalysis of the original sample, if the client wants results for reanalyses done by this method to be reported separately.

Applicable Node(s):

SamplePlusMethod For a method QC sample with QCcategory Duplicate,

Serial_Dilution, Spike, or Spike_Duplicate there must be an associated regular sample the QC sample is derived from. This sample is called the original. The value of OriginalLabReanalysisSuffix matches that of the LabReanalysisSuffix for this original sample.

OriginalLabSampleID

Format:Identifier

For Traceability of QC

Category:Identification

Definition:

The lab sample ID number of the original regular sample from which the QC sample was derived.

Applicable Node(s):

SamplePlusMethod

For a method QC sample with QCCategory Duplicate, Serial_Dilution, Spike or Spike_Duplicate there must be an associated regular sample the QC sample is derived from. This sample is called the original. The value of OriginalLabSampleID matches that of the LabSampleID for this original sample. For a method QC sample with QCCategory Blank_Spike_Duplicate, the value of OriginalLabSampleID matches that of the LabSampleID for the associated Blank_Spike.

Peak

Format:

Category:

Definition:

Parent Element. Contains elements related to analyte peaks.

Applicable Node(s):

Peak

PeakComparison

Format:

Category:

Definition:

Parent element. Contains elements relating to the comparison of multiple peaks.

Applicable Node(s):

PeakComparison

PeakID

Format:Identifier

Conditionally Required

Category:Identification

Definition:

A lab specified value, possibly based on client specified rules, that identifies a peak associated with an analyte. Its value should be unique among all peaks for one analyte, but not necessarily have physical meaning.

Applicable Node(s):

Peak	Examples: Nominal mass for GCMS peaks, integer wavelength for ICP peaks, sequence number (1, 2, ...) for multicomponent GC peaks. PeakID is conceptually similar to ClientAnalyteID, except it identifies a peak rather than an analyte.
ReportedResult	If there is any ambiguity about which peak underlies this result, the PeakID of that peak.
Analyte	If there is any ambiguity about which peak underlies this analyte's result, the PeakID of that peak.
PeakComparison	Peak identifier for the peak to compare to. It is combined with the LabAnalyteID (or ClientAnalyteID) in the same PeakComparison node to fully specify the peak to compare to.

PeakRatio

Format:Numeric

Category:Measurement

Definition:

The ratio of the response of two peaks.

Applicable Node(s):

PeakComparison

The response of the peak this PeakComparison node is in as a ratio of the response of the peak identified by the PeakID and LabAnalyteID (or ClientAnalyteID) in this node.

PeakRatioLimitHigh

Format:Numeric

Category:Measurement

Definition:

The upper limit for the PeakRatio.

Applicable Node(s):

PeakComparison

PeakRatioLimitLow

Format:Numeric

Category:Measurement

Definition:

The lower limit for the PeakRatio.

Applicable Node(s):

PeakComparison

PeakRatioLimitType

Format:Numeric

Category:Measurement

Definition:

The source for the PeakRatio limits.

Applicable Node(s):

PeakComparison

PeakRatioUnits

Format:Numeric

Category:Measurement
Definition: The units for the PeakRatio.
Applicable Node(s):
PeakComparison Sometimes expressed as percent when used for tunes. Otherwise, PeakRatio is often unitless.

PercentBreakdown

Format:Numeric
Category:Measurement
Definition: The percent breakdown of an analyte.
Applicable Node(s):
Analyte Example: DDT breakdown as reported for pesticide methods.
Peak The percent breakdown of an analyte when results are measured per peak.

PercentBreakdownLimitHigh

Format:Numeric
Category:Measurement
Definition: The upper limit for the PercentBreakdown.
Applicable Node(s):
Analyte
Peak

PercentBreakdownLimitType

Format:Numeric
Category:Measurement
Definition: The source for the PercentBreakdown limits.
Applicable Node(s):
Analyte
Peak

PercentDifference

Format:Numeric
Category:Measurement
Definition: The difference between two measured values as a percentage of one of them. The denominator value is usually the more certain one, although details can be method specific.
Applicable Node(s):
ReportedResult
Analyte Can be applied to the results of analyses in an analysis group rather than a QC sample and original pair.
Peak Can be used when results are measured per peak.
PeakComparison Can be used to compare values in two PeakComparison elements.

PercentDifferenceLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the PercentDifference.

Applicable Node(s):

ReportedResult

Analyte

Peak

PeakComparison

PercentDifferenceLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the PercentDifference.

Applicable Node(s):

ReportedResult

Analyte

Peak

PeakComparison

PercentDifferenceLimitType

Format:Numeric

Category:Measurement

Definition: The source for the PercentDifference limits.

Applicable Node(s):

ReportedResult

Analyte

Peak

PeakComparison

PercentMatch

Format:Numeric

Category:Measurement

Definition: Percent match of an analyte as compared with a library mass spectrum.

Applicable Node(s):

Analyte

PercentMoisture

Format:Numeric

Category:Measurement

Definition: Percent of sample composed of water.

Applicable Node(s):

SamplePlusMethod

Handling Percent of sample composed of water after the handling described by this node.

PercentPhase

Format:Numeric

Category:Measurement

Definition: Percent of sample in analyzed phase.

Applicable Node(s):

SamplePlusMethod This element may generalize ones like PercentSolids.

Handling Percent of sample in analyzed phase after the handling described by this node.

PercentPreparationUncertainty

Format:Numeric

Category:Measurement

Definition: The uncertainty introduced into the final result by all lab activities other than instrumental analysis expressed as a percentage of the result value.

Applicable Node(s):

ReportedResult
Analysis Same except applies to all results from this analysis.

Analyte

PercentRatio

Format:Numeric

Category:Measurement

Definition: The ratio, expressed as a percentage, of the response of two peaks.

Applicable Node(s):

PeakComparison The response of the peak this PeakComparison node is in as a percentage of the response of the peak identified by the PeakID and ClientAnalyteID in this node. Example: Used with mass spectral peaks in System Monitoring Compounds.

PercentRatioLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the PercentRatio.

Applicable Node(s):

PeakComparison

PercentRatioLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the PercentRatio.

Applicable Node(s):
PeakComparison

PercentRatioLimitType

Format:Numeric

Category:Measurement

Definition: The source for the PercentRatio limits.

Applicable Node(s):
PeakComparison

PercentRecovery

Format:Numeric

Category:Measurement

Definition: The recovery of an analyte expressed as a percentage of the amount added.

Applicable Node(s):

ReportedResult

For method QC of QCcategory Blank_Spike and Blank_Spike_Duplicate, the result as a percentage of the amount added. For method QC of QCcategory Spike and Spike_Duplicate, the spiked result minus the original result as a percentage of the ExpectedResult.

Analyte

Same as in ReportedResult except applied to the results from an analysis or analyses in an analysis group rather than a QC sample and original pair.

Peak

Same as in Analyte when results are measured per peak.

PercentRecoveryLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the PercentRecovery. Units are the same as for PercentRecovery.

Applicable Node(s):

ReportedResult

Analyte

Peak

PercentRecoveryLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the PercentRecovery. Units are the same as for PercentRecovery.

Applicable Node(s):

ReportedResult

Analyte

Peak

PercentRecoveryLimitType

Format:Limited list

Category:Measurement

Definition: The source for the PercentRecovery limits.

Applicable Node(s):

ReportedResult Example: Method, Client, Lab

Analyte

Peak

PercentRelativeAbundance

Format:Numeric

Category:Measurement

Definition: The response of this peak as a percentage of the largest peak response for this analyte.

Applicable Node(s):

Peak

PeakComparison

PercentRSD

Format:Numeric

Category:Measurement

Definition: The standard deviation as a percentage of the mean (percent relative standard deviation).

Applicable Node(s):

Analyte Used for an analyte in AnalysisGroup.

Peak Used for an analyte, except applied per peak.

PeakComparison Same as in Peak except applied to PeakComparison values.

PercentRSDLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the PercentRSD.

Applicable Node(s):

Analyte

Peak

PeakComparison

PercentRSDLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the PercentRSD.

Applicable Node(s):

Analyte
Peak
PeakComparison

PercentRSDLimitType

Format:Numeric

Category:Measurement

Definition: The source for the PercentRSD limits.

Applicable Node(s):

Analyte

Peak

PeakComparison

PercentSolids

Format:Numeric

Category:Measurement

Definition: Percent of the sample composed of solid material.

Applicable Node(s):

SamplePlusMethod

Handling

Percent of the sample composed of solid material after the handling described by this node.

PercentValley

Format:Numeric

Category:Measurement

Definition: The valley between this analyte and another one, as a percentage of the shorter one. The second analyte is assumed to be known based on the method.

Applicable Node(s):

Analyte

Peak

PeakComparison

The valley between the peak this PeakComparison node is in and the peak identified by the PeakID and LabAnalyteID in this node as a percentage of the height of the shorter one.

PercentValleyLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the PercentValley.

Applicable Node(s):

Analyte

Peak

PeakComparison

PercentValleyLimitType

Format:Numeric

Category:Measurement

Definition: The source for the PercentValley limits.

Applicable Node(s):

Analyte**Peak****PeakComparison**

pH

Format:Numeric

Category:Measurement

Definition: The negative of the logarithm of the hydrogen ion potential.

Applicable Node(s):

SamplePlusMethod**Handling**The negative of the logarithm of the hydrogen ion potential after the handling described by this node.

PhaseAnalyzed

Format:Limited list

Category:Description

Definition: That portion or fraction of a multiphase sample actually analyzed.

Applicable Node(s):

SamplePlusMethodExample: Upper, Middle, Lower.

PreparationBatch

Format:Identifier

Category:Batch

Definition: A lab defined identifier for a batch of aliquots that are prepared together for analysis by one method. Together can imply similarity of time, place, and manner of preparation.

Applicable Node(s):

AnalysisMethod blanks or lab control samples are often used to demonstrate the lab's process is in control in each PreparationBatch. For methods with no processing prior to analysis, the preparation batch can be simply a group of aliquots selected for analysis at roughly the same time.

PreparationPlusCleanup

PreparationID

Format:Identifier

Category:Identification

Definition: A lab defined identifier for this preparation event for this aliquot.

Applicable Node(s):

PreparationPlusCleanup

PreparationPlusCleanup

Format:

Category:

Definition: Parent element. Contains elements relates to preparations and cleanups.

Applicable Node(s):

PreparationPlusCleanup

PreparationType

Format:Limited list *For Portability*

Category:Identification

Definition: A client defined code used to define the type of preparation. This code is used to identify the specific preparation procedure used.

Applicable Node(s):

Analysis

This code is used to specify which preparation method was used when such preparation method details are part of the analysis (instrumental) method. When client preparation method codes are available, this code is used to identify what method options were used within the preparation method.

Example: Separatory_Funnel or Continuous_Extraction for EPA Method 625. For method SW846_3520C, whether the extraction performed was Acid_Base, Acid only, or Base only.

PreparationPlusCleanup

PreparedDate

Format:Date

Category:Tracking

Definition: Date (and time, if required) of preparation of this aliquot. Preparation is used generally to include method specific techniques such as extraction, digestion, and separation. If prepared over a range of dates, this is the start date.

Applicable Node(s):

Analysis

PreparationPlusCleanup

PreparedEndDate

Format:Date

Category:Tracking

Definition: If the aliquot was prepared over a range of dates (and times, if required), the end of the preparation period.

Applicable Node(s):

Analysis

PreparationPlusCleanup

Preservative

Format:Text

Category:Description

Definition: Preservative added to the sample.

Applicable Node(s):

SamplePlusMethod

PreservedBy

Format:Text

Category:Description

Definition: Organization that added preservative to the sample.

Applicable Node(s):

SamplePlusMethod

PriorityID

Format:Limited list

Category:Tracking

Definition: A client defined code that identifies the priority assigned to this data. The priority may affect the desired turn around time and the cost of the analysis.

Applicable Node(s):

SamplePlusMethod Example: Rush or quick turn around work.

ProcedureID

Format:Identifier

Category:Identification

Definition: A lab defined identifier for the lab's standard operating procedure (SOP) for this method.

Applicable Node(s):

Analysis
Handling
PreparationPlusCleanup

ProcedureName

Format:Text

Category:Identification

Definition: Description of the lab's standard operating procedure (SOP) for this method.

Applicable Node(s):

Analysis
Handling
PreparationPlusCleanup

ProjectID

Format:Identifier

Category:Tracking

Definition:

A client defined identifier for the project this sample is part of. Typically, a project consists of samples from one site collected over some defined period of time.

Applicable Node(s):

SamplePlusMethod

Example: Case no., Episode, Sampling Round.

ProjectName

Format:Text

Category:Tracking

Definition:

Descriptive name for the project this sample is a part of.

Applicable Node(s):

SamplePlusMethod

Examples: Case no., Episode, Sampling Round.

QCCategory

Format:Limited list

Category:Identification

Definition:

For Portability of QC

A generic code that specifies the basic properties or category of a method QC sample.

Applicable Node(s):

SamplePlusMethod

Allowed values, with case ignored, are:

Blank -- A QC sample with 'nothing' in it. Examples: Field, equipment, method (reagent), sulfur and storage blanks.

Blank_Spike -- A QC sample with a known amount added to a Blank. Examples: lab control samples, QC check samples, and interference check samples.

Duplicate -- A reanalysis of a regular sample done for QC purposes. Examples: duplicates and splits.

Blank_Spike_Duplicate -- A reanalysis of a BlankSpike.

Serial_Dilution -- A dilution and reanalysis of a regular sample done for QC purposes.

Spike -- A reanalysis of a regular sample with a known amount added and done for QC purposes. Examples: matrix spikes, post digestion spikes, and analytical spikes.

Spike_Duplicate -- A second reanalysis of a regular sample with a known amount added and done for QC purposes. There must be another sample with QCcategory 'Spike' with the same original sample.

Non-Client_Sample -- A sample analyzed in the same batch but from another client. This type of sample is often tracked to verify an analysis sequence for a given method.

QCLinkage

Format:Limited list

For Portability of QC

Category:Identification

Definition:

For a QC sample, specifies which batch is the basis for the association between the QC sample and the regular samples.

Applicable Node(s):

SamplePlusMethod

Allowed values, ignoring case, include the following fields that define batches: SamplingBatch, EquipmentBatch, ShippingBatch, LabReportingBatch, MethodBatch, HandlingBatch, PreparationBatch, AnalysisBatch, CleanupBatch, StorageBatch. If QCLinkage is 'HandlingBatch', there should be a HandlingType element in the SamplePlusMethod node whose value clarifies which type of handling batch is intended.

Example: In SamplePlusMethod, if the QCType is Duplicate, the QCCategory is Duplicate and the QCLinkage is MethodBatch, a reader knows that this data is for a client defined type of QC called a Duplicate, that it is processed with rules typical for Duplicates and that it is to be associated with other SamplePlusMethod elements with the same value for the MethodBatch field.

QCLinkage is most useful if the batch it names is a required element, based on implementation rules. The correct linkage for a field QC sample may not be known to the lab, so must be merged with lab data at a later time.

InstrumentQC

Same as in SamplePlusMethod except allowed values for instrument QC, ignoring case, are CleanupBatch, PreparationBatch, AnalysisBatch, and RunBatch. If QCLinkage is 'CleanupBatch', there should be a CleanupType element in InstrumentQC whose value clarifies which type of cleanup batch is intended.

QCType

Format:Limited list

Conditionally Required

Category:Identification

Definition:

The client defined code for the specific type of QC sample used.

Applicable Node(s):

SamplePlusMethod

In the context of the ClientMethodID and MatrixID, this code determines all special processing rules for the QC sample. The presence of this field in SamplePlusMethod with a value allowed by the implementation defines the sample as a method QC sample. A lab may not know that certain samples are field QC. In this case the lab reports them as regular samples and their type is changed later, possibly by the validator.

InstrumentQC

For instrument QC, a client defined code that specifies what type of instrument QC data follows. In the context of the

ClientMethodID, the value must imply enough detail for the reader to understand the method specific details of the following AnalysisGroup, Analysis, PrepPlusCleanup, Analyte, Peak, PeakComparison, and AnalyteComparison elements.

QuantitationLimit

Format:Numeric

Category:Measurement

Definition:

Quantitation limit for the analyte being measured. Quantitation limits are defined in terms of a specified degree of uncertainty for results at this level.

Applicable Node(s):

ReportedResult
Analyte

Within AnalysisGroup, applies to the mean or other value computed from several analyses.

Peak

Same as in Analyte when results are measured per peak.

QuantitationLimitType

Format:Limited list

Category:Measurement

Definition:

One of a list of client defined acronyms that specify the type of quantitation limit.

Applicable Node(s):

ReportedResult
Analyte
Peak

Examples: CRQL, PQL, SQL, Low_Standard.

QuantitationLimitUnits

Format:Limited list

Category:Measurement

Definition:

Units for QuantitationLimit.

Applicable Node(s):

ReportedResult

If the client specifies that the QuantitationLimitUnits must be the same as the ResultUnits, the QuantitationLimitUnits need not be specified.

Analyte

Same as in ReportedResult.

Peak

Same as in ReportedResult.

Quench

Format:Numeric

Category:Measurement

Definition:

Result of quench calculation for scintillation counters.

Applicable Node(s):

Analysis

RefractiveIndex

Format:Numeric

Category:Measurement

Definition: Refractive index of the sample.

Applicable Node(s):

SamplePlusMethod

RelativeResponse

Format:Numeric

Category:Measurement

Definition: The ratio of the response of one analyte to another.

Applicable Node(s):

AnalyteThe relative response for this analyte, based on the assumption that the method specifies the analyte to compare to and which peaks to use.

RelativeRetentionTime

Format:Numeric

Category:Measurement

Definition: The ratio of two retention times. A relative retention time is the ratio of the retention time of a compound to another.

Applicable Node(s):

Analyte

The relative retention time for this analyte, based on the assumption that the method specifies the analyte to compare to and which peaks to use.

Peak

The relative retention time for this peak, based on the assumption that the method specifies the peak to compare to.

PeakComparisonThe relative retention time of the peak this PeakComparison node is in compared to the peak identified by the PeakID and LabAnalyteID (or ClientAnalyteID) in this node.

RelativeRetentionTimeLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the RelativeRetentionTime.

Applicable Node(s):

Analyte**Peak****PeakComparison**

RelativeRetentionTimeLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the RelativeRetentionTime.

Applicable Node(s):

Analyte
Peak
PeakComparison

RelativeRetentionTimeLimitType

Format:Numeric

Category:Measurement

Definition: The source for the RelativeRetentionTime limits.

Applicable Node(s):

Analyte
Peak
PeakComparison

ReportedResult

Format:

Category:

Definition: Parent element. Contains elements related to final reportable results.

Applicable Node(s):

ReportedResult

ReportingLimit

Format:Numeric

Category:Measurement

Definition: Reporting limit for the analyte being measured. Reporting limits are defined in terms of a number below which data is reported as not detected.

Applicable Node(s):

ReportedResult
Analyte
Peak

ReportingLimitType

Format:Limited list

Category:Measurement

Definition: One of a list of client defined acronyms that specify the type of reporting limit.

Applicable Node(s):

ReportedResult Example: MDL, PQL, SQL, Low_Standard.
Analyte
Peak

ReportingLimitUnits

Format:Limited list
Category:Measurement
Definition: Units for ReportingLimit.
Applicable Node(s):
ReportedResult If the client specifies that the ReportingLimitUnits must be the same as the ResultUnits, the ReportingLimitUnits need not be specified.
Analyte Same as in ReportedResult.
Peak Same as in ReportedResult.

RequestorID
Format:Identifier
Category:Tracking
Definition: An identifier for the organization that requested that this sample be analyzed.
Applicable Node(s):
SamplePlusMethod May not be the same as the client, which specifies the SOW to follow.

RequesterName
Format:Text
Category:Tracking
Definition: A name for the organization that requested that this sample be analyzed.
Applicable Node(s):
SamplePlusMethod

RequiredDetectionLimit
Format:Numeric
Category:Measurement
Definition: A contractually specified upper limit for the detection limit for the analyte being measured.
Applicable Node(s):
ReportedResult Depending on client and method specific rules, required detection limits might be scaled by factors such as dilution and percent moisture prior to reporting.
Analyte
Peak

RequiredDetectionLimitUnits
Format:Limited list
Category:Measurement
Definition: Units for RequiredDetectionLimit.
Applicable Node(s):

ReportedResult If the client specifies that the RequiredDetectionLimitUnits must be the same as the ResultUnits, the RequiredDetectionLimitUnits need not be specified.

Analyte Same as in ReportedResult.

Peak Same as in ReportedResult.

Residue

Format:Numeric

Category:Measurement

Definition: Solid material remaining after preparation of an aliquot.

Applicable Node(s):

Analysis

ResidueUnits

Format:Limited list

Category:Measurement

Definition: Units for Residue.

Applicable Node(s):

Analysis

Resolution

Format:Numeric

Category:Measurement

Definition: A sample and method dependent estimate of the resolution of the instrument used in the analysis.

Applicable Node(s):

Analysis For example, in isotopic alpha spectroscopy, the width of the tracer peak.

Analyte A possibly sample and method dependent estimate of the resolution of the instrument that applies to the analysis and analyte.

Peak Resolution for this peak. Details of how resolution is computed depend on the method.

ResolutionLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the Resolution. Units are the same as for Resolution.

Applicable Node(s):

Analysis

Analyte

Peak

ResolutionLimitType

Format:Numeric

Category:Measurement

Definition: The source for the Resolution limits.

Applicable Node(s):

Analysis**Analyte****Peak**

ResolutionUnits

Format:Limited list

Category:Measurement

Definition: Units for Resolution.

Applicable Node(s):

Analysis**Analyte****Peak**

Response

Format:Numeric

Category:Measurement

Definition: Response from a detector. These are often unitless numbers relating to a signal from the detector.

Applicable Node(s):

Analyte**Peak****PeakComparison**

Example: Area, Height, Count_Rate.

ResponseLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the Response. Units are the same as for Response.

Applicable Node(s):

Analyte**Peak****PeakComparison**

ResponseLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the Response. Units are the same as for Response.

Applicable Node(s):

Analyte
Peak
PeakComparison

ResponseLimitType

Format:Limited list

Category:Measurement

Definition: The source for the Response limits.

Applicable Node(s):

Analyte

Example: Method, Client, Lab

Peak

PeakComparison

ResponseUnits

Format:Limited list

Category:Measurement

Definition: Units for Response.

Applicable Node(s):

Analyte

Peak

PeakComparison

Result

Format:Numeric

Category:Measurement

Definition: Reportable result for the analyte.

Applicable Node(s):

ReportedResult

The final result for a method accounting for all aliquot amounts, dilutions, moisture determinations, etc.

Analyte

The result for an analysis, not a method and can be expressed as either an intermediate or final result. Within AnalysisGroup, applies to the mean or other value computed from several analyses.

Peak

Same as in Analyte when results are measured per peak.

ResultBasis

Format:Limited list

Category:Measurement

Definition: The basis upon which the results were calculated.

Applicable Node(s):

Analysis

Example: Dry, Wet, Total, Dissolved

ReportedResult

ResultLimitHigh

Format:Numeric

Category:Measurement

Definition:

The upper limit for a result. Units are the same as for Result.

Applicable Node(s):

ReportedResult

Analyte

Peak

ResultLimitLow

Format:Numeric

Category:Measurement

Definition:

The lower limit for a result. Units are the same as for Result.

Applicable Node(s):

ReportedResult

Analyte

Peak

ResultLimitType

Format:Limited list

Category:Measurement

Definition:

The source for the Result limits.

Applicable Node(s):

ReportedResult

Analyte

Peak

Example: Method, Client, Lab

ResultType

Format:Limited list

Category:Measurement

Definition:

Specifies whether the result is equal to (=), greater than (>), or less than (<) the value reported. Can also be used to report method non-numeric results such PASS or FAIL, etc.

Applicable Node(s):

ReportedResult

Analyte

Peak

This field would only be used if the analyte was being reported as a positive detection.

Same as ReportedResult.

ResultUncertainty

Format:Numeric

Category:Measurement

Definition:

The estimated error in the result due to all effects related to analysis by the lab.

Applicable Node(s):

ReportedResult

Analyte	Extended to anything considered to be the result of any analysis. Within AnalysisGroup, applies to a mean or other value computed from several analyses.
Peak	Same as in Analyte when results are measured per peak.

ResultUncertaintyType

Format:Limited list

Category:Measurement

Definition: The confidence interval for the ResultUncertainty (e.g., 1 sigma, 2 sigma, 3 sigma).

Applicable Node(s):

ReportedResult

Analyte

Peak

ResultUncertaintyUnits

Format:Limited list

Category:Measurement

Definition: Units for ResultUncertainty.

Applicable Node(s):

ReportedResult

If the client specifies that the ResultUncertaintyUnits must be the same as the ResultUnits, the ResultUncertaintyUnits need not be specified.

Analyte

Same as in ReportedResult.

Peak

Same as in ReportedResult.

ResultUnits

Format:Limited list

Category:Measurement

Definition: Units for Result.

Applicable Node(s):

ReportedResult

Analyte

Peak

RetentionTime

Format:Numeric

Category:Measurement

Definition: The time between injection and detection for a target analyte using chromatography or other techniques.

Applicable Node(s):

ReportedResult

In Results, this is the retention time from the analysis underlying this result.

Analyte

Same as in ReportedResult. Used when there is a well defined

Peak

retention time for the analyte, not just for a peak measurement for the analyte. For example, this applies to GCMS analyses. Same as in ReportedResult except for a single peak. Used with techniques like GC where there can be multiple peaks with different retention times for one analyte.

RetentionTimeLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for a retention time window. Units are the same as for RetentionTime.

Applicable Node(s):

Analyte
Peak

RetentionTimeLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for a retention time window. Units are the same as for RetentionTime.

Applicable Node(s):

Analyte
Peak

RetentionTimeLimitType

Format:Limited list

Category:Measurement

Definition: The source for the RetentionTime limits.

Applicable Node(s):

Analyte Example: Method, Client, Lab
Peak

RetentionTimeUnits

Format:Limited list

Category:Measurement

Definition: Units for RetentionTime.

Applicable Node(s):

Results
Analyte
Peak

RPD

Format:Numeric

Category:Measurement

Definition: The relative percent difference. The absolute value of the difference of two values as a percentage of their average.

Applicable Node(s):

ReportedResult

Used with method QC of QC Category Duplicate, Spike_Duplicate, and Blank_Spike_Duplicate.

Analyte

Same as in ReportedResult except applied to the results of analyses in an analysis group rather than a QC sample and original pair.

Peak

Same as in Analyte when results are measured per peak.

PeakComparison

Same as in ReportedResult except used to compare values in two PeakComparison elements.

RPDLimitHigh

Format:Numeric

Category:Measurement

Definition:

The upper limit for the RPD.

Applicable Node(s):

Analyte

ReportedResult

Peak

PeakComparison

RPDLimitLow

Format:Numeric

Category:Measurement

Definition:

The lower limit for the RPD.

Applicable Node(s):

Analyte

ReportedResult

Peak

PeakComparison

RPDLimitType

Format:Limited list

Category:Measurement

Definition:

The source for the RPD limits.

Applicable Node(s):

Analyte

Example: Method, Client, Lab

ReportedResult

Peak

PeakComparison

RRF

Format:Numeric

Category:Measurement

Definition: The relative response factor. The ratio of two response factors. A response factor is the ratio of a response to an amount added.

Applicable Node(s):

Analyte

The relative response factor for this analyte, based on the assumption that the method specifies the analyte to compare to and which peaks to use.

Peak

The relative response factor for this peak, based on the assumption that the method specifies the peak to compare to.

PeakComparison

The relative response factor of the peak this PeakComparison node is in compared to the peak identified by the PeakID and LabAnalyteID (or ClientAnalyteID) in this node.

RRFLimitHigh

Format:Numeric

Category:Measurement

Definition: The upper limit for the RRF.

Applicable Node(s):

Analyte

Peak

PeakComparison

RRFLimitLow

Format:Numeric

Category:Measurement

Definition: The lower limit for the RRF.

Applicable Node(s):

Analyte

Peak

PeakComparison

RRFLimitType

Format:Numeric

Category:Measurement

Definition: The source for the RRF limits.

Applicable Node(s):

Analyte

Peak

PeakComparison

RunBatch

Format:Identifier

Category:Batch

Definition: A lab defined identifier for a batch of analyses done on one instrument that make up a sequence of analyses during which the

Applicable Node(s): instrument is continuously in control.
Analysis Example: A batch of samples analyzed on one instrument under the control of one initial calibration or similar InstrumentQC.

SampleAmount

Format:Numeric

Category:Measurement

Definition: The amount (weight or volume) of material as received by a laboratory or as produced by a handling process that will be aliquotted and processed as a sample for analysis.

Applicable Node(s):

SamplePlusMethod

Weight or volume of sample as received by the lab. The SampleAmount would not be directly used in the computation of a final result.

Example: When the TCLP method is used, the SampleAmount represents the final leachate volume generated by the TCLP method. In this case, it is the leachate itself that is treated as the sample, not the original material as received by the lab. The final results as reported by the lab would reflect the concentrations of analytes in the leachate, not in the original material.

Handling

Weight or volume of sample after the handling described by this node.

SampleAmountUnits

Format:Limited list

Category:Measurement

Definition: Units for SampleAmount.

Applicable Node(s):

SamplePlusMethod

Handling

SamplePlusMethod

Format:

Category:

Definition: Parent element. Contains elements related to field sample and analysis method.

Applicable Node(s):

SamplePlusMethod

SamplingBatch

Format:Identifier

Category:Batch

Definition: An identifier for a batch of samples collected together.

Operationally, this batch associates a field blank with a group of samples.

Applicable Node(s):
SamplePlusMethod This value is currently often not known to the lab. It might be merged with lab data by a validator.

ScreenValue

Format:Numeric

Category:Measurement

Definition: Result from a screening analysis of the sample.

Applicable Node(s):

SamplePlusMethod Example: As in an alpha particle screen.

ScreenValueUnits

Format:Limited list

Category:Measurement

Definition: Units for ScreenValue.

Applicable Node(s):

SamplePlusMethod

ServicesID

Format:Identifier

Category:Tracking

Definition: A client defined code for optional services performed for this data. This includes nonstandard work, such as modified detection limits, or changed QC requirements.

Applicable Node(s):

SamplePlusMethod

ShippingBatch

Format:Identifier

Category:Batch

Definition: An identifier for a batch of samples shipped together, such as in the same crate, cooler, or ice chest.

Applicable Node(s):

SamplePlusMethod Operationally, this batch associates a trip blank with a group of samples. This value, as defined by the shippers, is currently often not known to the lab. It might be merged with lab data by a validator.

SignalToNoiseRatio

Format:Numeric

Category:Measurement

Definition: The ratio of the analyte signal to the background signal.

Applicable Node(s):

Analyte

The method will often define how the analyte and background signals are to be measured.

Peak

SignalToNoiseRatioLimitLow

Format:Numeric

Category:Measurement

Definition:

The lower limit for the SignalToNoiseRatio.

Applicable Node(s):

Analyte

Peak

SignalToNoiseRatioLimitType

Format:Numeric

Category:Measurement

Definition:

The source for the SignalToNoiseRatio limits.

Applicable Node(s):

Analyte

Peak

Example: Method, Client, Lab

SiteID

Format:Identifier

Category:Tracking

Definition:

A client defined identifier for the broadly defined site where the sample was collected.

Applicable Node(s):

SamplePlusMethod

SiteName

Format:Text

Category:Tracking

Definition:

Descriptive name for the broadly defined site where the sample was collected.

Applicable Node(s):

SamplePlusMethod

StandardConcentration

Format:Numeric

Category:Description

Definition:

The actual concentration of the standard used.

Applicable Node(s):

Analyte

When spiking an aliquot, this represents the actual concentration of the spiking solution used. This does not represent the

concentration of the standard in the aliquot processed unless the standard solution itself represents the sample that will be directly processed as could be the case during calibration.

StandardConcentrationUnits

Format:Limited list

Category:Description

Definition: Units for StandardConcentration.

Applicable Node(s):

Analyte

StandardDeviation

Format:Numeric

Category:Measurement

Definition: The standard deviation of several measurements of one analyte.

Applicable Node(s):

Analyte

The standard deviation for this analyte.

Peak

Same as in Analyte, except applied per peak.

PeakComparison

StandardDeviationUnits

Format:Limited list

Category:Measurement

Definition: Units for StandardDeviation.

Applicable Node(s):

Analyte

If the client specifies that the StandardDeviationUnits must be the same as the ResultUnits, the StandardDeviationUnits need not be specified.

Peak

Same as in Analyte when results are measured per peak.

PeakComparison

Same as in Analyte except as applied to PeakComparison values.

StandardID

Format:Identifier

Category:Tracking

Definition: A lab defined identifier for a standard, such as a spiking material or SRM, used in this analysis.

Applicable Node(s):

Analyte

Analysis

StandardSource

Format:Text

Category:Tracking

Definition: The source for a standard used in this analysis.

Applicable Node(s):

**Analyte
Analysis**

StorageBatch

Format:Identifier

Category:Batch

Definition: An identifier for a batch of samples that are stored together in a defined period of time (e.g., samples stored in the same refrigerator or freezer).

Applicable Node(s):

SamplePlusMethod Operationally, this batch can associate a VOC refrigerator storage blank with a group of VOC samples.

SuspendedSolids

Format:Numeric

Category:Measurement

Definition: Solids remaining on the filter paper after filtration of a water or other liquid sample.

Applicable Node(s):

**SamplePlusMethod
Handling** Solids remaining on the filter paper after filtration of a water or other liquid sample after the handling described by this node.

SuspendedSolidsUnits

Format:Limited list

Category:Measurement

Definition: Units for SuspendedSolids.

Applicable Node(s):

**SamplePlusMethod
Handling**

TailingFactor

Format:Numeric

Category:Measurement

Definition: The unitless factor describing the amount of tailing observed in a chromatographic or other peak.

Applicable Node(s):

Analyte The exact equation or formula used may be method specific. The TailingFactor is normally calculated by dividing the peak tail distance by the peak front distance measured at a given peak height (usually at 10% of the peak height).

TailingFactorLimitHigh

Format: Numeric
Category: Measurement
Definition: The upper limit for the TailingFactor.
Applicable Node(s):
Analyte

TailingFactorLimitType

Format: Limited list
Category: Measurement
Definition: The source for the TailingFactor limit.
Applicable Node(s):
Analyte

Temperature

Format: Numeric
Category: Description
Definition: The temperature of the sample as received.
Applicable Node(s):
SamplePlusMethod

TemperatureUnits

Format: Limited list
Category: Description
Definition: Units for Temperature.
Applicable Node(s):
SamplePlusMethod

Texture

Format: Limited list
Category: Description
Definition: Descriptive information about a solid sample.
Applicable Node(s):
SamplePlusMethod Example: Fine, Medium, Coarse; or Boulder, Pebble, Sand; or Round, Angular; or Uniform, Irregular.
Handling Descriptive information about a solid sample after the handling described by this node.

Turbidity

Format: Numeric
Category: Measurement
Definition: The turbidity of the sample.
Applicable Node(s):
SamplePlusMethod

TurbidityUnits

Format:Limited list

Category:Measurement

Definition: Units for Turbidity.

Applicable Node(s):

SamplePlusMethod

ValidatedDate

Format:Date

Category:Validation

Definition: Date (and time, if required) the validation was completed.

Applicable Node(s):

SamplePlusMethod

ValidationQualifiers

Format:Limited list

Category:Validation

Definition: A validator assigned string of single letter result qualifiers, based on client defined rules and values.

Applicable Node(s):

ReportedResult This field is only used with results for regular samples.

ValidatorAddress1

Format:Text

Category:Validation

Definition: Primary address of the validator doing the validation.

Applicable Node(s):

SamplePlusMethod

ValidatorAddress2

Format:Text

Category:Validation

Definition: Secondary address of the validator doing the validation.

Applicable Node(s):

SamplePlusMethod

ValidatorCity

Format:Text

Category:Validation

Definition: Primary address (City) of the validator doing the validation.

Applicable Node(s):

SamplePlusMethod

ValidatorContact

Format:Text

Category:Validation

Definition: The person at the validator to contact with questions about this data.

Applicable Node(s):

SamplePlusMethod

ValidatorContract

Format:Text

Category:Validation

Definition: Contract number under which the validator validates the samples.

Applicable Node(s):

SamplePlusMethod

ValidatorDataPackageID

Format:Identifier

Category:Validation

Definition: A validator defined code for the data package this data is part of.

Applicable Node(s):

Header

SamplePlusMethod

ValidatorDataPackageName

Format:Text

Category:Validation

Definition: The validator defined title for the data package this data is part of.

Applicable Node(s):

Header

SamplePlusMethod

ValidatorDataPackageVersion

Format:Text

Category:Validation

Definition: If the validator resubmits a data package, this field can be used to distinguish the different versions.

Applicable Node(s):

Header

SamplePlusMethod

ValidatorID

Format:Limited list

Category:Validation

Definition: Identification for the validator doing the validation.

Applicable Node(s):

SamplePlusMethod This and other ‘Validator’ elements are not typically known to the lab. They are included for use by validators who might receive a lab EDD, validate it and pass on an updated EDD to the client.

ValidatorManager

Format:Text

Category:Validation

Definition: The person at the validator who takes final responsibility for this data.

Applicable Node(s):

SamplePlusMethod

ValidatorManagerTitle

Format:Text

Category:Validation

Definition: The corporate title of the ValidatorManager.

Applicable Node(s):

SamplePlusMethod

ValidatorMethodID

Format:Identifier

Category:Validation

Definition: The validator defined code for the work it does.

Applicable Node(s):

SamplePlusMethod

ValidatorMethodName

Format:Text

Category:Validation

Definition: The validator defined descriptive name for the work it does when validating data analyzed by this method.

Applicable Node(s):

SamplePlusMethod

ValidatorName

Format:Text

Category:Validation

Definition: Descriptive name for the validator doing the validation.

Applicable Node(s):

SamplePlusMethod

ValidatorNarrativeID

Format:Identifier

Category:Validation

Definition: A validator defined code for any narrative document associated with this data.

Applicable Node(s):
SamplePlusMethod

ValidatorReceiptDate

Format:Date

Category:Validation

Definition: Date (and time, if required) sample data was received by the validator.

Applicable Node(s):
SamplePlusMethod

ValidatorReportedDate

Format:Date

Category:Validation

Definition: Date (and time, if required) this work was reported by the validator.

Applicable Node(s):
Header
SamplePlusMethod

ValidatorState

Format:Text

Category:Validation

Definition: Primary address (State) of the validator doing the validation.

Applicable Node(s):
SamplePlusMethod

ValidatorZipcode

Format:Text

Category:Validation

Definition: Primary address (Zipcode) of the validator doing the validation.

Applicable Node(s):
SamplePlusMethod

Wavelength

Format:Numeric

Category:Description

Definition: The wavelength used for an analytical measurement.

Applicable Node(s):
Analysis
Analyte
Peak
e.g., for UV/VIS, GFAA, ICP.

PeakComparison

WavelengthUnits

Format:Limited list

Category:Description

Definition: Units for Wavelength.

Applicable Node(s):

Analysis

Analyte

Peak

PeakComparison

WeightingFactor

Format:Limited list

Category:Description

Definition: The factor used to define how the regression analysis was applied to an initial calibration curve for a method (e.g., Inverse_Of_Concentration, Inverse_Square_Of_Concentration).

Applicable Node(s):

Analyte

The weighting factor for this analyte.

Peak

Same as in Analyte, except applied per peak.

Yield

Format:Numeric

Category:Measurement

Definition: A measure of the success of the preparation part of the method as a percent.

Applicable Node(s):

Analysis

For radiochemistry, the number of atoms of interest making it through sample preparation as a percentage of the number in the aliquot.
