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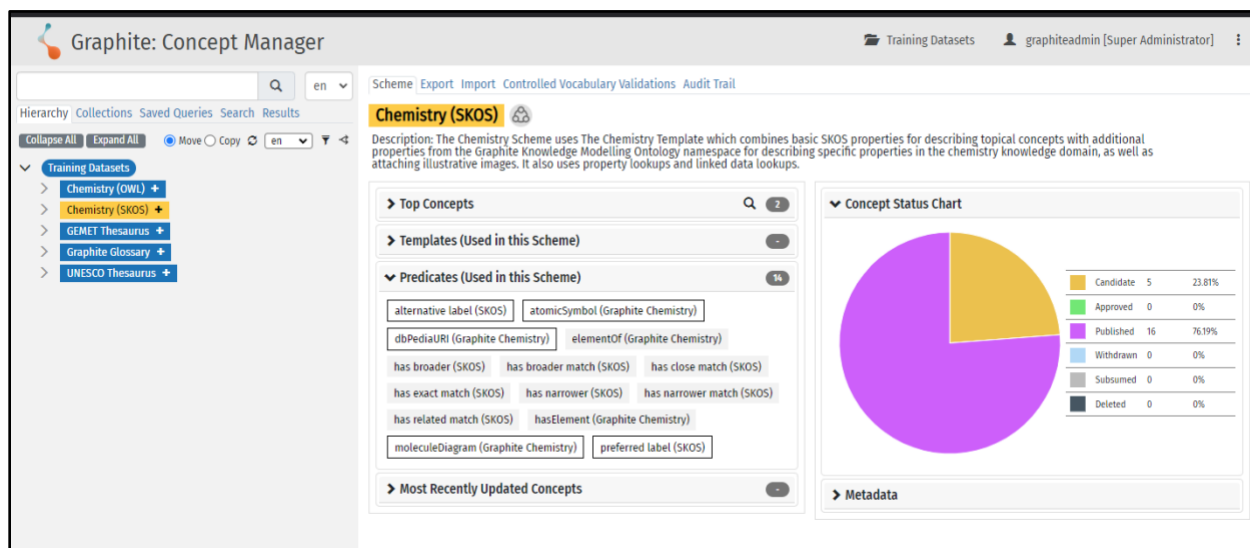
1 Importing into Graphite

Concepts and predicates (properties and relationships) can be imported into Graphite in a variety of formats. Importing namespace values provides a shortcut to setting up Namespaces, Templates, and Schemes as described in the **Graphite User Guide**.

Similarly, additional valid RDF Resource Types can be added, edited, or deleted when imported using the Namespace & Predicate Import Tool.

Prior to importing Concepts and predicates, containers must first be created in Graphite. See the **Graphite User Guide** on the steps required to create Namespaces, Templates, and Schemes in preparation for import.

One may access the Import tools while viewing a concept or complete Scheme in the Concept Manager. When using the Concept Manager, the workspace presents a Scheme tab, an Export tab, an Import tab, and an Audit Trail tab.



Status	Count	Percentage
Candidate	5	23.81%
Approved	0	0%
Published	16	76.19%
Withdrawn	0	0%
Subsumed	0	0%
Deleted	0	0%

Imports or updates may be made to individual records or to complete Schemes in various file formats. As a first step, the user will select which Concept/Scheme to which they wish to import or update records within.

Note: When updating existing concepts with additional information or associating alternate labels or other properties, concepts are matched based on the URI in Graphite and the URI in the import file when using an RDF file.

The following file types may be imported into Graphite KOS:

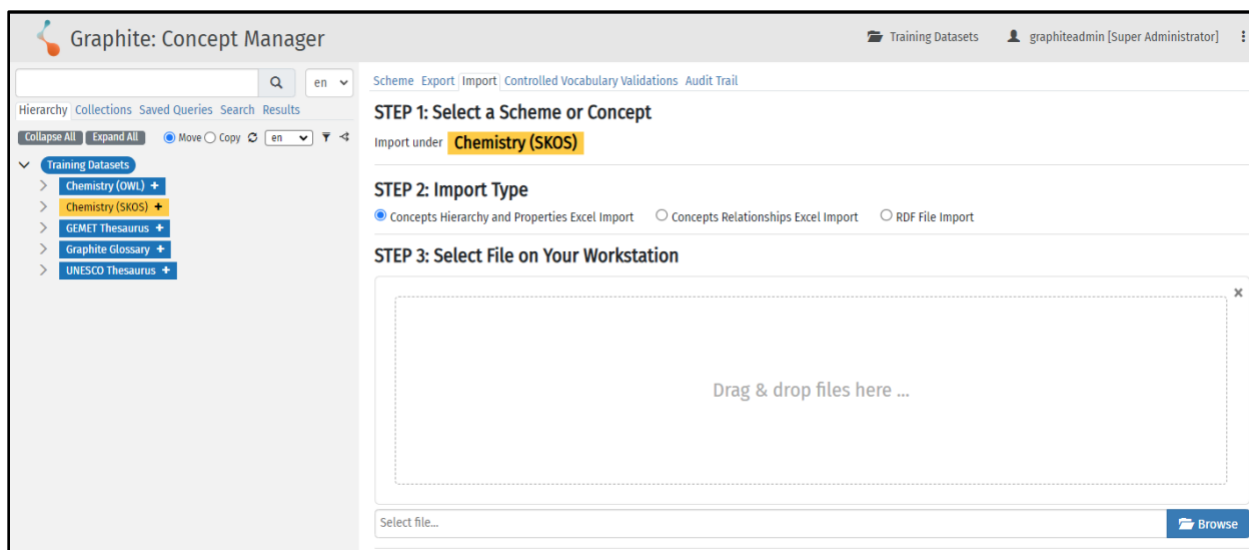
- Excel
- CSV
- JSON-LD
- N3
- NT

- RDF/XML
- TRIG
- Turtle

2 Concept Import

Graphite KOS supports features to import Microsoft Excel and CSV tabular files consisting of hierarchical relationships and concept properties, a combination of different relationships in a triple format, and import in RDF formats (JSON, RDF/XML, etc.).

Note: File names should not include special characters such as exclamation points (!) which will cause the import to fail on upload. Underscores and dashes will not impede file import.



2.1 Excel & CSV File Structures & Importing

The following examples show the structure for Excel or CSV files to import concepts and their labels, properties, and relationships when present in the import file.

Note: Excel and CSV files should be encoded using standard Unicode (UTF-8). Special and escaped characters in the contents such as ", ', "", "", and \ are supported. However, there may be parsing and import issues if contents include non-printable characters which often occur when content is copied and pasted from applications like Microsoft Word. It may be helpful to copy and paste "values only" into import files to avoid retaining these types of problematic characters.

2.1.1 Concepts Hierarchy and Properties Import

The first file option is a hierarchical list of concepts and alternative labels in a single file. While it is sometimes more convenient to import from a single file, it is possible that the number of terms and associated fields can make the file difficult to structure and map.

The following example shows the structure for Excel or CSV files to import concepts hierarchically and their properties. All properties and concepts to be related through associative

relationships will be linked to the furthest right primary concept in the same row. The sample file below is a simple hierarchy with associated alternative labels.

	A	B	C	D	E	F	G
1	Level 1	Level 2	Level 3	Level 4	Level 5	Alternative Labels	Alternative Labels
2	Chemical Compounds						
3	Chemical Compounds	Inorganic compounds					
4	Chemical Compounds	Inorganic compounds	Water			H2O	
5	Chemical Compounds	Organic compounds					
6	Chemical Compounds	Organic compounds	Carbon dioxide			CO2	
7	Chemical Compounds	Organic compounds	Ethanol				
8	Chemical Elements						
9	Chemical Elements	Metalloids					
10	Chemical Elements	Metalloids	Arsenic				
11	Chemical Elements	Metals					
12	Chemical Elements	Metals	Alkali metals				
13	Chemical Elements	Metals	Alkali metals	Lithium			
14	Chemical Elements	Metals	Alkaline earth metals				
15	Chemical Elements	Metals	Alkaline earth metals	Calcium			
16	Chemical Elements	Metals	Post transition metals				
17	Chemical Elements	Metals	Post transition metals	Mercury		Quicksilver	Hydrargyrum
18	Chemical Elements	Metals	Transition metals				
19	Chemical Elements	Metals	Transition metals	Copper			
20	Chemical Elements	Metals	Transition metals	Actinides		Actinoids	
21	Chemical Elements	Metals	Transition metals	Actinides	Plutonium		
22	Chemical Elements	Metals	Transition metals	Lanthanides		Lanthanoids	
23	Chemical Elements	Metals	Transition metals	Lanthanides	Cerium		
24	Chemical Elements	Nonmetals					
25	Chemical Elements	Nonmetals	Noble gases			Noble gasses	
26	Chemical Elements	Nonmetals	Noble gases	Helium			
27	Chemical Elements	Nonmetals	Other nonmetals				
28	Chemical Elements	Nonmetals	Other nonmetals	Carbon			
29	Chemical Elements	Nonmetals	Other nonmetals	Hydrogen			
30	Chemical Elements	Nonmetals	Other nonmetals	Oxygen			

The Excel file shown below will have the same hierarchical structure when imported into Graphite. You may either maintain a pathway type structure or the parent concept may be omitted for linking to narrower concepts.

	A	B	C	D	E	F	G
1	Level 1	Level 2	Level 3	Level 4	Level 5	Alternative Labels	Alternative Labels
2	Chemical Compounds						
3		Inorganic compounds					
4			Water			H2O	
5		Organic compounds					
6			Carbon dioxide			CO2	
7			Ethanol				
8	Chemical Elements						
9		Metalloids					
10			Arsenic				
11	Chemical Elements	Metals					
12			Alkali metals				
13				Lithium			
14			Alkaline earth metals				
15				Calcium			
16			Post transition metals				
17				Mercury		Quicksilver	Hydrargyrum
18			Transition metals				
19				Copper			
20				Actinides		Actinoids	
21					Plutonium		
22				Lanthanides		Lanthanoids	
23					Cerium		
24		Nonmetals					
25			Noble gases			Noble gasses	
26				Helium			
27			Other nonmetals				
28				Carbon			
29				Hydrogen			
30				Oxygen			

Alternatively, imports can be performed in multiple files. This option is described in a following section and may be preferable when the data is already structured in flat lists or when updating information, such as alternative labels, to existing concepts.

2.1.2 Concepts and Relationships Import

Once the files are prepared, they can be imported. In this example, we are importing the Concepts, Alternative Labels, Relationships and Properties in a single file.

First, select the Scheme you wish to populate then select the Import tab.

To import the single file, select the radio button for *Concepts Hierarchy and Properties Excel Import*. Either use the Browse button to locate the file or drag and drop it into the drag and drop pane.

[Scheme](#) [Export](#) [Import](#) [Controlled Vocabulary Validations](#) [Audit Trail](#)

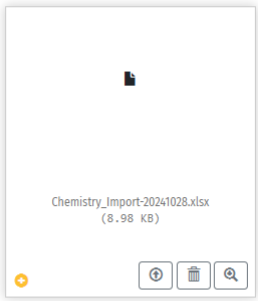
STEP 1: Select a Scheme or Concept

Import under **Chemistry (SKOS)**

STEP 2: Import Type

☒ Concepts Hierarchy and Properties Excel Import
 ☐ Concepts Relationships Excel Import
 ☐ RDF File Import

STEP 3: Select File on Your Workstation

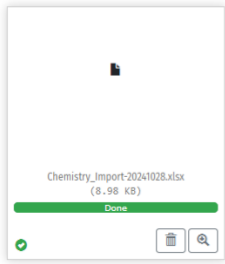


 Chemistry_Import-20241028.xlsx
 Remove Upload Browse

Select *Upload*.

[Scheme](#) [Export](#) [Import](#) [Controlled Vocabulary Validations](#) [Audit Trail](#)

STEP 3: Select File on Your Workstation



Done

 Select file... Browse

STEP 4: Choose Default Language, Class and Hierarchical Set to Import Selected File on Server

Start import at row Language

Resource Types Templates

Number of columns are determined by the first 1,000 rows of the file. Please include a header row if you have more columns than what is shown in the preview below.

Once the upload is completed, there are a few configurations to be performed before the concepts in the Excel or CSV file are imported into the Scheme.

STEP 4: Choose Default Language, Class and Hierarchical Set to Import Selected File on Server

Start import at row Language en

Resource Types SKOS Concept Templates New Template, SKOS Complete

Number of columns are determined by the first 1,000 rows of the file. Please include a header row if you have more columns than what is shown in the preview below.

--- Not Selected --- --- Not Selected --- --- Not Selected --- --- Not Selected --- definition en --- Not Selected ---

Concept	Concept	Concept	Concept	Definition	Scope No
Botany				the scientific study of plants, including their p...	
	Applied Botany				Scope Note
		Forestry			
			Reforestation		

Caution: If you select preferred label properties to import in columns to the right of Primary Concept, please rebuild the Graphite concept label index using [Overwrite Graphite Concept Labels in the maintenance page](#).

Warning: Object labels are case-sensitive. A mismatch in upper and lower case may create duplicate concepts.

Concepts in the import file that do not exist in the target scheme will be added.

Circular references may occur in hierarchical relationships during import. You may click on the [Controlled Vocabulary Validations](#) tab above to perform checks on the scheme after completing the import.

Choose either to append or replace all relationships and properties of concepts in scheme matching primary concepts in the import file, or only selected values when using the 'Selective replace' option.

☒ Append
 ☐ Replace matched concepts
 ☐ Selective replace

1. The *Start import at row* field should identify the row of the first concept in the file. If there are column headers in row 1 of the file then the value 2 should be selected.
2. The second drop-down list is for *Language* selection which defaults to English (EN) and applies to all properties unless otherwise specified in the language dropdown associated with each column.
3. The third drop-down list is *Resource Types* to select one or more resource types to apply to Concepts.
4. The fourth drop-down list is for selecting the *Template(s)* to be assigned and applied to the imported concepts. Only Templates assigned to the targeted Scheme or concept will be shown as available options. This drop-down list supports multi-select to select multiple Templates.

STEP 4: Choose Default Language

Start import at row

Resource Types SKOS Concept

Templates Chemistry, Mapping

Chemistry ✓
 Governance
 Mapping ✓

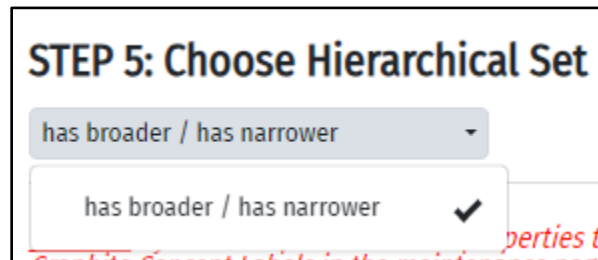
Below the initial selections, there is a preview of the Excel file content with drop-down selections for each column. The first drop-down list indicates whether the column should be loaded as a Primary Concept, Primary Concept URI, Template, Resource Type, Collection, Concept Status, Property value, or as a Relationship. The list of options displayed in this drop-down list is determined by the Templates that are assigned to the Scheme into which the data is being imported.

Note: When *Primary Concept URI* is selected, the *Concept URI* becomes the primary key used to identify concepts during import. The *Primary Concepts* field is still required to provide the concept label. If a concept with the specified *Concept URI* already exists in the target scheme, the imported properties and relationships will be appended or replaced based on the user's selected import option. If the *Concept URI* exists in a different scheme or belongs to a different resource type, the concept will be ignored during the import process.

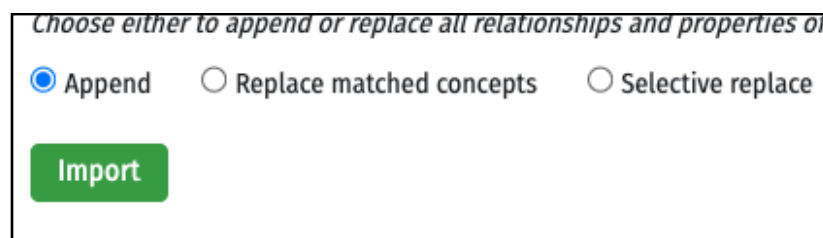
When selecting *Primary Concepts*, the data contained in that column will be recognized as the concept label. When identifying the column as a *Property*, the row data will be recorded as the value of the property selected.

For each column, the default language is set to English (EN). If concept labels should be imported with a language assigned other than English, the concepts need to be separated into columns by language and the language appropriate for the column contents selected for each column.

When importing a file with hierarchical structure, select the hierarchy type in the *Choose Hierarchical Set* dropdown. The final drop-down list is the selection of the hierarchical relationship to be used on the imported concepts. This will be based on the Templates selected in the previous step and whether there are multiple hierarchical relationship types present in them.



At the bottom of the table, there are three radio buttons to indicate whether to *Append* or *Replace matched concepts*, or *Selective replace*.



Selecting *Append* will add Concepts and associated details if no Concepts already exist. If Concepts do exist, selecting *Append* will add the new information contained in the import file to matching existing records.

Selecting *Replace matched concepts* will overwrite existing data. When replacing concepts, any concept records matching concepts in the import file will have all of their original object and data properties removed and subsequently replaced with the imported relationships and properties. Any concepts where matches to existing records are not found will be added as new concepts.

Graphite will append all associative relationships, hierarchical relationships, and data properties to existing concepts if the preferred label is the same as that of the imported concept. When there is not a match, concepts not found along with their details will be added to the target Scheme or parent concept.

Selecting *Selective replace* will replace existing values with contents of import file only for user selected datatypes. This feature enables safe, targeted, and scalable updates to data while preserving Scheme design rules and any unrelated properties, without needing to re-import a replacement set of all concept details. Replacement of concept status, templates, resource types, and collections may be made in addition to replacing specified property values and relationships for matching concepts.

To avoid replacing values with data contained in the import file “--- Not Selected ---” must be chosen in the Step 4 dropdown for that datatype or column.

Note: As described in the “Import Header File Mapping” section below, any column headers in the import file matching existing labels in the Scheme will be automatically selected and must be changed if replacement of that data is not desired.

definition	en	--- Not Selected ---
Definition		--- Not Selected ---
the scientific study of plants, including their p...		Primary Concepts
		Primary Concept URI
		Templates
		Resource Types

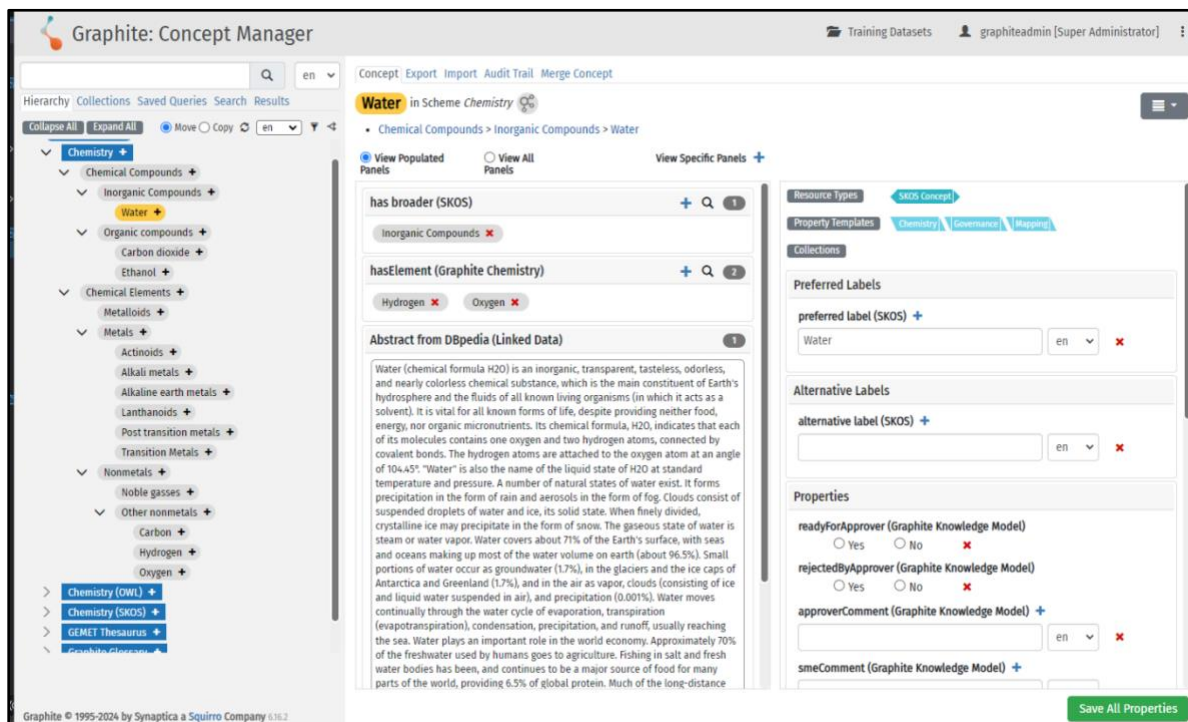
Considerations for using *Selective replace* feature:

1. **No Language-Specific Replacement Support** Option does not currently support replacing string values for a specific language. When a string property is replaced, all existing values across all languages will be removed and replaced with the new value provided in the file.
2. **Matching Criteria Limitation** Replacement operations are based solely on the concept label. Matching by concept URI is not currently supported.
3. **No Cardinality Validation During Import** The import process does not enforce cardinality validation. Instead, it allows users to define and control cardinality through the import file. For example, if existing data contains property values that violate cardinality rules, users can use the import feature to replace those values with ones that comply with the required cardinality

2.1.2.1 Import at Concept Level

One may also import concepts under a parent concept rather than at the Scheme level. If there is already a concept with the same preferred label as the imported concept but it is not in the targeted hierarchy for that parent, it will be treated as a new instance of that concept.

After clicking on *Import* the user may view results by returning to the Hierarchy view. The hierarchy should show a hierarchical list of concepts with the Concept labels in the desired hierarchical structure. Alternative labels, relationships, and any properties present in the import file should now be present and viewable when selecting a specific Concept.



The screenshot shows the 'Graphite: Concept Manager' interface. On the left is a 'Hierarchy' tree with 'Chemistry' expanded, showing 'Chemical Compounds' > 'Inorganic Compounds' > 'Water'. The main panel displays details for 'Water' in the 'Chemistry' scheme. It includes sections for 'has broader (SKOS)' (Inorganic Compounds), 'hasElement (Graphite Chemistry)' (Hydrogen, Oxygen), and 'Abstract from DBpedia (Linked Data)' which contains a detailed paragraph about water. On the right, there are sections for 'Preferred Labels' (Water), 'Alternative Labels', and 'Properties' (readyForApprover, rejectedByApprover, approverComment, smeComment). A 'Save All Properties' button is at the bottom right.

2.1.2.2 Import File Header Mapping

When a column header or RDF label in the import file is a match for an existing label, relationship, or property found in the target Scheme based on its assigned Templates, the system will automatically map to the corresponding item during the import process. There are two types of elements that will be identified: Dynamic Properties, i.e., those defined in Namespace and Predicate Admin, and Static or Fixed labels in the header columns of CSV/Excel files, i.e., those that are internal to Graphite.

For Dynamic Properties, the following items are supported:

Note: In the below examples "SKOS altLabel" is just an example used for illustrative purposes and could be any appropriate label.

1. Full predicate URI, e.g. "http://www.w3.org/2004/02/skos/core#altLabel"
2. Prefixed predicate, e.g. "skos:altLabel"
3. Predicate label with its namespace in parentheses, e.g. "Alternative Label (SKOS)"
4. Predicate label only, e.g. "Alternative Label"

Static labels will be the column headers that are specific to Graphite with the following examples:

1. Primary Concept URI = Subject URI, e.g. "https://demo.[graphite_site]/someThing"
2. Primary Concepts = concepts prefLabel, e.g. "Some Thing"
3. Resource Type = one of "GVP Concept", "OWL Class", "OWL Named Individual", or "SKOS Concept"
4. Template = the label of a template created in Graphite
5. Status = one of the concept workflow status, "Candidate", "Approved", "Published", "Withdrawn", or "Subsumed"
6. Collections = the label of a collection created in Graphite

In the example below, the column with header "hasElement" will automatically be associated with the "hasElement" relationship found in a Template assigned to the Scheme.

	A	B	C	D	E	F
1	Primary Concept	Primary Concept	Primary Concept	Primary Concept	hasElement	hasElement
2	Chemical Compounds					
3		Inorganic Compounds				
4			Water		Hydrogen	Oxygen
5		Organic compounds				
6			Carbon dioxide		Carbon	Oxygen
7			Ethanol		Hydrogen	Carbon

hasElement	en	hasElement	en
hasElement		hasElement	
Hydrogen		Oxygen	

2.1.3 Concepts and Relationship Import - Multiple Files

Concepts, attributes, and relationships can also be imported as separate files. In this example, we are importing the Concepts, Alternative Labels, and Relationships in three files.

The first file is a flat list of concepts which could be used to populate a Scheme or be created under an existing Concept.

	A
1	Primary Concept
2	Actinides
3	Alkali metals
4	Alkaline earth metals
5	Arsenic
6	Calcium
7	Carbon
8	Carbon dioxide
9	Cerium
10	Chemical Compounds
11	Chemical Elements
12	Copper
13	Ethanol
14	Helium
15	Hydrogen
16	Inorganic compounds
17	Lanthanides
18	Lithium
19	Mercury
20	Metalloids
21	Metals
22	Noble gases
23	Nonmetals
24	Organic compounds
25	Other nonmetals
26	Oxygen
27	Plutonium
28	Post transition metals
29	Transition metals
30	Water

The second file is a flat list of concepts with alternate labels. These could be imported as a first step or imported later to add lists of additional information, such as an alternative label or definition, to populate a Scheme or be created under an existing Concept. Note that all concepts are shown for context, but the file would only need to include the Concepts which included alternative labels if they were being appended to existing Concepts.

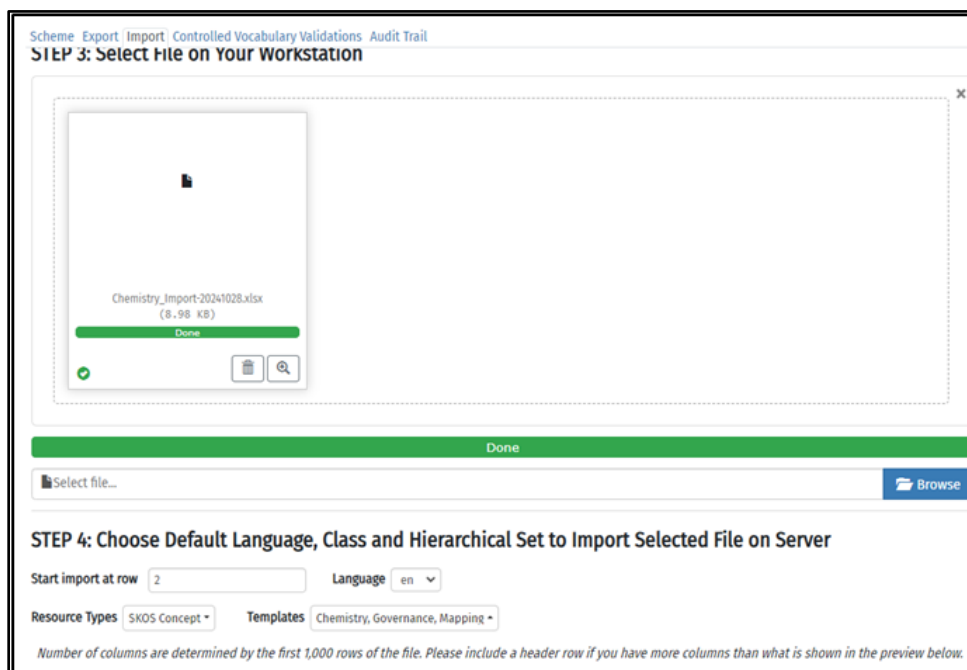
	A	B	C
1	Primary Concept	Alternative Label	Alternative Label
2	Actinides	Actinoids	
3	Alkali metals		
4	Alkaline earth metals		
5	Arsenic		
6	Calcium		
7	Carbon		
8	Carbon dioxide	CO ₂	
9	Cerium		
10	Chemical Compounds		
11	Chemical Elements		
12	Copper		
13	Ethanol		
14	Helium		
15	Hydrogen		
16	Inorganic compounds		
17	Lanthanides	Lanthanoids	
18	Lithium		
19	Mercury	Quicksilver	Hydrargyrum
20	Metalloids		
21	Metals		
22	Noble gases	Noble gasses	
23	Nonmetals		
24	Organic compounds		
25	Other nonmetals		
26	Oxygen		
27	Plutonium		
28	Post transition metals		
29	Transition metals		
30	Water	H ₂ O	

The third import file option allows for the appending of just relationships to existing Concepts. The format of this file is a triple, with a Subject, Predicate, and an Object. There are two additional column labels for the Subject Scheme and Object Scheme.

Note: It is important that the name of the Scheme in the *skos:inScheme* column and the relationship type in the Predicate Label column matches the name of the Scheme and relationship type used in the Scheme's Template.

	A	B	C	D	E
1	Subject	skos:inScheme	Predicate Label	Object	skos:inScheme
2	Chemical Compounds	Chemistry - SKOS	has narrower	Inorganic compounds	Chemistry - SKOS
3	Chemical Compounds	Chemistry - SKOS	has narrower	Organic compounds	Chemistry - SKOS
4	Chemical Elements	Chemistry - SKOS	has narrower	Metalloids	Chemistry - SKOS
5	Chemical Elements	Chemistry - SKOS	has narrower	Metals	Chemistry - SKOS
6	Chemical Elements	Chemistry - SKOS	has narrower	Nonmetals	Chemistry - SKOS
7	Inorganic compounds	Chemistry - SKOS	has narrower	Water	Chemistry - SKOS
8	Metals	Chemistry - SKOS	has narrower	Alkali metals	Chemistry - SKOS
9	Metals	Chemistry - SKOS	has narrower	Alkaline earth metals	Chemistry - SKOS
10	Metals	Chemistry - SKOS	has narrower	Post transition metals	Chemistry - SKOS
11	Metals	Chemistry - SKOS	has narrower	Transition metals	Chemistry - SKOS
12	Nonmetals	Chemistry - SKOS	has narrower	Noble gases	Chemistry - SKOS
13	Nonmetals	Chemistry - SKOS	has narrower	Other nonmetals	Chemistry - SKOS
14	Organic compounds	Chemistry - SKOS	has narrower	Carbon dioxide	Chemistry - SKOS
15	Organic compounds	Chemistry - SKOS	has narrower	Ethanol	Chemistry - SKOS
16	Other nonmetals	Chemistry - SKOS	has narrower	Carbon	Chemistry - SKOS
17	Other nonmetals	Chemistry - SKOS	has narrower	Hydrogen	Chemistry - SKOS
18	Other nonmetals	Chemistry - SKOS	has narrower	Oxygen	Chemistry - SKOS
19	Alkali metals	Chemistry - SKOS	has narrower	Lithium	Chemistry - SKOS
20	Transition metals	Chemistry - SKOS	has narrower	Actinides	Chemistry - SKOS
21	Transition metals	Chemistry - SKOS	has narrower	Lanthanides	Chemistry - SKOS
22	Metalloids	Chemistry - SKOS	has narrower	Arsenic	Chemistry - SKOS
23	Actinides	Chemistry - SKOS	has narrower	Plutonium	Chemistry - SKOS
24	Lanthanides	Chemistry - SKOS	has narrower	Cerium	Chemistry - SKOS
25	Noble gases	Chemistry - SKOS	has narrower	Helium	Chemistry - SKOS
26	Transition metals	Chemistry - SKOS	has narrower	Copper	Chemistry - SKOS
27	Post transition metals	Chemistry - SKOS	has narrower	Mercury	Chemistry - SKOS
28	Alkaline earth metals	Chemistry - SKOS	has narrower	Calcium	Chemistry - SKOS

To import the first file, the flat list of concepts, select the radio button for *Concepts Hierarchy and Properties Excel Import*. Either use the *Browse* button to locate the file or drag and drop it into the drag and drop pane.

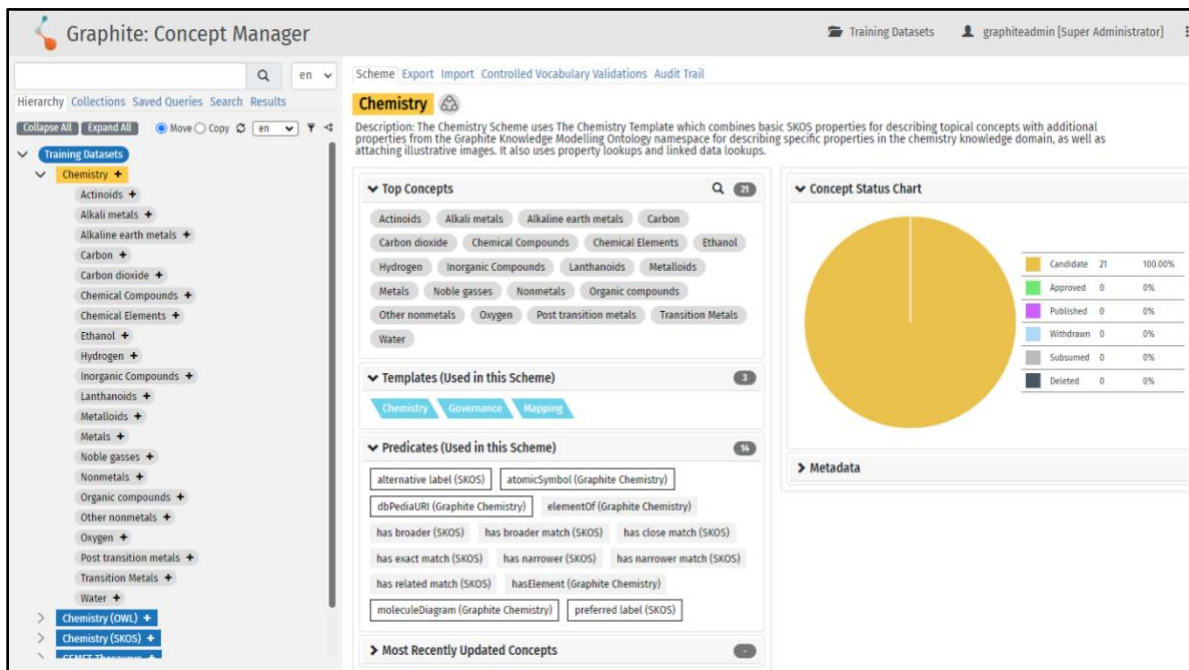


The screenshot shows the Synaptica Graphite Import interface. At the top, there are navigation links: Scheme, Export, Import, Controlled Vocabulary, Validations, and Audit Trail. The main heading is "STEP 3: Select File on Your Workstation". Below this, there is a large dashed box containing a file preview for "Chemistry_Import-20241028.xlsx (8.98 KB)". The preview shows a green progress bar and a "Done" button. Below the preview, there is a "Select file..." button and a "Browse" button. The next section is "STEP 4: Choose Default Language, Class and Hierarchical Set to Import Selected File on Server". This section includes a "Start import at row" field set to 2, a "Language" dropdown set to "en", a "Resource Types" dropdown set to "SKOS Concept", and a "Templates" dropdown set to "Chemistry, Governance, Mapping". A note at the bottom states: "Number of columns are determined by the first 1,000 rows of the file. Please include a header row if you have more columns than what is shown in the preview below."

Select *Upload*. Once the file is uploaded, select the appropriate settings as described in the previous section. In this example, it is only necessary to select *Primary Concepts* for the single column.

Selecting *Append* will add Concepts if no Concepts already exist. If Concepts do exist, selecting *Append* will also add new information. Selecting *Replace all concepts* will overwrite existing data.

Once imported, the hierarchy should show a flat list of concepts with only the Concept labels and no alternative labels or relationships. These will be imported next.



The screenshot shows the Graphite: Concept Manager interface. On the left is a hierarchy tree with categories like Training Datasets, Chemistry, and others. The main panel displays the 'Chemistry' scheme configuration. It includes a description, a 'Top Concepts' list (Actinoids, Alkali metals, Alkaline earth metals, Carbon, Carbon dioxide, Chemical Compounds, Chemical Elements, Ethanol, Hydrogen, Inorganic Compounds, Lanthanoids, Metalloids, Metals, Noble gases, Nonmetals, Organic compounds, Other nonmetals, Oxygen, Post transition metals, Transition Metals, Water), a 'Templates (Used in this Scheme)' section with tabs for Chemistry, Governance, and Mapping, and a 'Predicates (Used in this Scheme)' section with various SKOS and Graphite-specific predicates. On the right, a 'Concept Status Chart' shows a pie chart and a table of status counts.

Status	Count	Percentage
Candidate	21	100.00%
Approved	0	0%
Published	0	0%
Withdrawn	0	0%
Subsumed	0	0%
Deleted	0	0%

Import the second file, the concepts and alternative labels, by again selecting the Scheme and importing the file as above.

In this example, we map *Primary Concepts* for the column of concepts and select *alternative label* for the two columns of synonyms.

STEP 4: Choose Default Language, Class and Hierarchical Set to Import Selected File on Server

Start import at row Language

Resource Types Templates

Number of columns are determined by the first 1,000 rows of the file. Please include a header row if you have more columns than what is shown in the preview below.

Primary Concepts	Alternative Label
Carbon dioxide	CO2
Hydrogen	
Carbon	
Oxygen	

Once imported, the hierarchy should show a flat list of concepts with the Concept labels, alternative labels, but no relationships. These will be imported next.

Carbon dioxide Top Concept in Scheme *Chemistry*

- Carbon dioxide

☐ View Populated Panels
 ☒ View All Panels
 View Specific Panels +

has broader (SKOS) + 0
has narrower (SKOS) + 0
elementOf (Graphite Chemistry) + 0
has broader match (SKOS) + 0
has close match (SKOS) + 0

Resource Types SKOS Concept
Property Templates Chemistry Governance Mapping
Collections
Preferred Labels
 preferred label (SKOS) +
 Carbon dioxide en ✕
 Alternative Labels
 alternative label (SKOS) +
 CO2 en ✕

Import the third file, the concepts and relationships, by again selecting the Scheme and the *Import* tab as above. However, for the relationships file, select *Concept Relationships Excel Import*.

Scheme Export Import Controlled Vocabulary Validations Audit Trail

STEP 1: Select a Scheme or Concept

Import under **Chemistry**

STEP 2: Import Type

☐ Concepts Hierarchy and Properties Excel Import
 ☒ Concepts Relationships Excel Import
 ☐ RDF File Import

STEP 3: Select File on Your Workstation

Subject,skos:inScheme,Predicate,Object,skos:inScheme

Inorganic Compounds,Chemistry,has broader,Chemical Compounds,Chemistry Water,Chemistry,has broader,Inorganic Compounds,Chemistry Organic Compounds,Chemistry has broader,Chemical Compounds,Chemistry

Training_Datasets-Chemistry_rels... (383 B)

Done

✓

Step 4: Choose Map Type

Type of Match ☒ Label ☐ URI

Start import at row

Subject	Subject Scheme	Predicate	Object	Object Scheme
Subject	skos:inScheme	Predicate	Object	skos:inScheme
Inorganic Compounds	Chemistry	has broader	Chemical Compounds	Chemis
Water	Chemistry	has broader	Inorganic Compounds	Chemis
Organic compounds	Chemistry	has broader	Chemical Compounds	Chemis
Carbon dioxide	Chemistry	has broader	Organic compounds	Chemis

Circular references may occur in hierarchical relationships during import. You may click on the Controlled Vocabulary Validations tab above to perform checks on the schema. Choose either to append to, or replace all, relationships selected for import from the Excel file, matching primary (subject) concepts.

☒ Append
 ☐ Replace all concepts

Import

Notice you may either use the Concept label or the Concept URI to match the Subject, Predicate, and Object types to what are in your target Schemes. In the relationships import, select whether the concepts are to be matched by their label or by URI. In this example, we are importing files with concept label names and no URIs, so select the Label option.

For each column, map the contents of the column to the appropriate selection in Graphite. The basic structure for a relationship import is a triple: a subject, predicate, and object. In the import, we are also selecting the Schemes in which the subjects and objects are found.

Subject	Primary concepts
Subject Scheme	Scheme in which primary concepts are found
Predicate	The relationship type
Object	The concepts which are being related to the primary concepts
Object Scheme	Scheme in which the related concepts are found

In this example, we map all columns to their relationship in the triple and Schemes.

For a hierarchical import for existing concepts, select *Replace all concepts*.

Graphite KOS will append all associative relationships, hierarchical relationships, and data properties to existing concepts if the preferred label is the same as that of the imported concept. In relationship import, concepts are never created but only append a relationship triple or replace every predicate and object with the ones specified in the file.

2.1.4 Special Import Messages and Conditions

You will see the following messages on the import pages. Below is a brief description of each.

Caution: *If you select preferred label properties to import in columns to the right of Primary Concept, please rebuild the Graphite concept label index using Overwrite Graphite Concept Labels in the maintenance page.*

While it is not often necessary to rebuild Concept Label Indexes for a Scheme using the tools available on Graphite's "Maintenance Page" area, in certain cases the structure of the import file may prevent automated indexing from being initiated. If you are seeing issues with search results or other display problems, you may need to run the Concept reindexing tool. Please refer to the Graphite User Guide for more information.

Concepts in the import file that do not exist in the target scheme will be added.

This message indicates that if a Concept label matches a label for an existing Concept in the target Scheme, those Concepts will be updated with the information in the import file. However, if there is no matching Concept found, a new Concept will be created.

Circular references may occur in hierarchical relationships during import. You may click on the Controlled Vocabulary Validations tab above to perform checks on the scheme after completing the import.

To make the import process more efficient, some data validations that occur elsewhere in the system are bypassed. As a result, there are situations where an import file containing hierarchical relationships may introduce "circular references" where a concept's hierarchical path refers back to itself, creating an infinite loop. It is a good idea to run the controlled vocabulary rules checks available under the "Controlled Vocabulary Validations" tab post-import if you believe that such a situation may have been introduced.

2.1.5 Linked Data Properties

When importing a file from an external source or originally exported from Graphite, Linked Data URIs must match the original Linked Data property set up in Graphite. Property URIs can be edited in the Namespace and Predicate Admin to match those in the import file.

2.2 RDF File Import

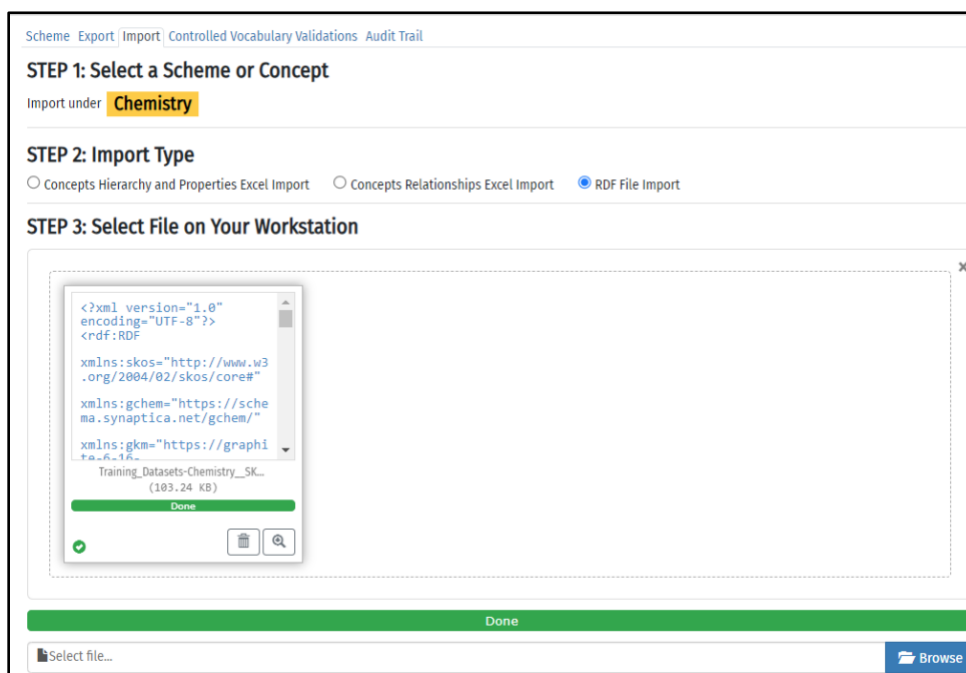
For the following procedures, one may use any of the RDF file types available to import into Graphite KOS:

- JSON
- JSON-LD
- N3
- N-Triples
- RDF-XML
- Turtle
- Binary RDF

The system will automatically recognize the file type being uploaded and imported.

As with Excel or CSV files, select a Scheme, or a point in a Scheme into which you wish to import, then select the *Import* tab from the workspace window. That will open the interface shown below where you will a) identify what type of file you wish to upload, and b) upload the file. Navigate to the desired file or drag-and-drop it into the upload box.

To import an RDF file, select the radio button for *RDF File Import*. Either use the Browse button to locate the file or drag and drop it into the drag and drop pane.



The screenshot shows the 'Import' tab in the Graphite interface. It is divided into three steps:

- STEP 1: Select a Scheme or Concept**: The 'Import under' dropdown is set to 'Chemistry'.
- STEP 2: Import Type**: Three radio buttons are present: 'Concepts Hierarchy and Properties Excel Import', 'Concepts Relationships Excel Import', and 'RDF File Import' (which is selected).
- STEP 3: Select File on Your Workstation**: A large dashed box for file upload is shown. A file named 'Training_Datasets-Chemistry_SK...' (103.24 KB) is being uploaded, indicated by a green progress bar and a 'Done' button. Below the upload area, there is a 'Select file...' button and a 'Browse' button.

After upload, select the *Template(s)* to be assigned and applied to the imported concepts. Only Templates assigned to the targeted Scheme or concept will be shown as available options. This drop-down list supports multi-select to select multiple Templates.



The screenshot shows a dropdown menu for selecting templates. The dropdown is currently open, showing a list of templates under the selected category 'Chemistry, Mapping'. The list includes 'Chemistry', 'Governance', and 'Mapping'. Checkmarks are visible next to 'Chemistry' and 'Mapping', indicating they are selected.

By appending concepts from an RDF file, all associative relationships, hierarchical relationships, and data properties will be appended to the existing concept if the URI is the same as the imported concept. If there is no match, a new concept will be appended to the target concept scheme or parent concept.

When replacing concepts from an RDF file, all the existing Properties and Relationships associated with concepts matching imported concept URIs will be removed and subsequently replaced by the imported concepts' relationship and property details. Any unmatched concepts will be appended as new concepts under the concept scheme or the parent concept.

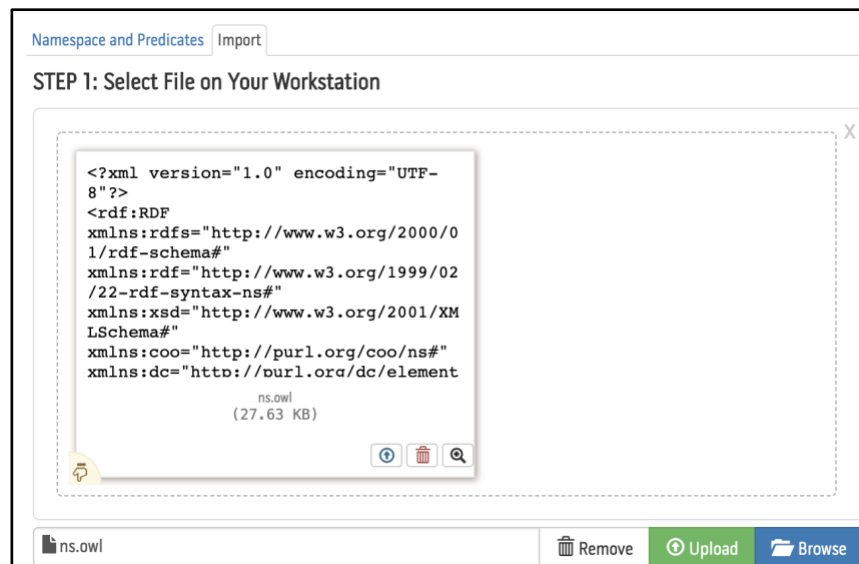
The resulting imported Scheme will include all Concept, Relationship, and Attribute information.

Note: When importing an RDF file produced by Graphite, Collections are not imported even if part of the original export.

3 Namespace & Predicate Import

Existing Namespaces and Predicates can be imported directly into Graphite using any RDF format or extension file type.

In the *Namespace & Predicate Admin* area, selecting the Import tab will allow for the drag and drop import of any RDF file.



Once uploaded, any new predicates (properties or relationships) will be identified and an existing Namespace to which they should be added should be selected. It is also possible to add a Namespace using the *Add to Namespace +* button at the time of import.

The count for new and existing predicates identified is shown below the import table. The following fields are shown in the import table:

- Add to Namespace
- Predicate URI
- Label
- Predicate Type

Namespace and Predicates
 Import

[Back to STEP 1](#)

STEP 2: List of New Predicates Found From File

Add to Namespace +	Predicate URI	Label	Predicate Type
Car Options Ontology ▾	http://www.w3.org/1999/02/22-rdf-syntax-ns#first	first	Relationship
No Namespace Selected ▾	http://www.w3.org/1999/02/22-rdf-syntax-ns#rest	rest	Relationship

2 New Predicate(s) found. 13 Predicate(s) exist.

Next

After selecting **Next**, a grid of existing and newly identified predicates will be displayed for all predicates identified in the file. The following fields are shown:

- Predicate URI
- Label
- Predicate Type
- Data Type
- Inverse Relationship
- Broader
- Narrower

Any missing information or information which should be mapped to existing fields will be displayed. Options include

- Data Type
- Inverse Relationship
- Broader
- Narrower

The imported predicates can also be deleted from the import using the red **X** to the right of the line item.

Finally, either a new template should be created or an existing template selected to house the imported predicates.

Namespace and Predicates Import

Predicate URI	Label	Predicate Type	Data Type	Inverse Relationship	Broader	Narrower	
http://www.w3.org/1999/02/22-rdf-syntax-ns#first	first	Relationship		No Inverse	☐	☐	✗

Namespace: RDFS

Predicate URI	Label	Predicate Type	Data Type	Inverse Relationship	Broader	Narrower	
http://www.w3.org/2000/01/rdf-schema#isDefinedBy	isDefinedBy	Relationship			☐	☐	✗
http://www.w3.org/2000/01/rdf-schema#seeAlso	seeAlso	Property	String				✗
http://www.w3.org/2000/01/rdf-schema#subPropertyOf	subPropertyOf	Relationship			☐	☐	✗

Namespace: DCT

Predicate URI	Label	Predicate Type	Data Type	Inverse Relationship	Broader	Narrower	
http://purl.org/dc/terms/license	license	Relationship			☐	☐	✗

☒ Template Assignment

☐ Create New Template

 OR

☒ Select Template

Demo Template

Import

Once imported, the newly imported predicates are available for use and will be automatically checked when the assigned Template is accessed in the Template Admin.