

# Oracle® Agile Product Lifecycle Management for Process

Web Services Guide

Extensibility Pack 2.7

Part No. E37238-01

September 2012

## Copyrights and Trademarks

Oracle Agile Product Lifecycle Management for Process Web Services Guide, Extensibility Pack 2.7

E37238-01

Copyright © 1995, 2012, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

### U.S. GOVERNMENT RIGHTS

Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are “commercial computer software” or “commercial technical data” pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

This software and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

# DOCUMENT CONTROL

---

## Change Record

Date	Author	Change Reference
June-08	Oracle	Initial release
Oct-08	Oracle	Second release, part no. E13873-01
Mar-09	Oracle	Third release, part no. E14211-01
Dec-09	Oracle	Fourth release, part no. E16288-01
Nov-10	Oracle	Fifth release, part no. E18954-01
Dec-11	Oracle	Sixth release, part no. E26557-01
Dec-11	Oracle	Seventh release, part no. E26557-02
Aug-12	Oracle	Eighth release, part no. E36339-01
Sept-12	Oracle	Ninth release, part no. E37238-01



# CONTENTS

## About This Manual

Oracle Agile Product Lifecycle Management for Process Documentation .....	xv
Audience .....	xv
Variability of Installations .....	xv
Documentation Accessibility .....	xvi
Accessibility of Code Examples in Documentation .....	xvi
Accessibility of Links to External Web Sites in Documentation .....	xvi
TTY Access to Oracle Support Services .....	xvi
Related Documents .....	xvi
Document Conventions .....	xviii

## Chapter 1 Using the Web Services Application Programming Interface

Web Services Application Programming Interface Overview .....	1-1
Supported Oracle Agile PLM for Process Versions .....	1-2
Versioning the Web Services .....	1-2
Supported Web Services Contracts .....	1-3
General Spec Services .....	1-3
SCRM Services .....	1-3
Nutrition Services .....	1-3
Custom Data Services .....	1-4
Cost Services .....	1-4
Bill of Materials Services .....	1-4
Spec Relationship Services .....	1-5
Specification Services .....	1-5
EQ Services .....	1-6
PQS Services .....	1-6
CSS Services .....	1-6
Common Response Headers .....	1-6

## Chapter 2 Setting Up the Application Programming Interface

Pre-requisites .....	2-1
Installing Microsoft .NET Framework 3.5 .....	2-1
Deploying the API Code .....	2-2
Adding the Web Services API Files .....	2-2
Adding a Virtual Directory to IIS .....	2-2
Configuration File Changes .....	2-3
config\DeployedConfig.config .....	2-3
config\Custom\EnvironmentSettings.config .....	2-3
config\Custom\CustomerSettings.config .....	2-3
Notes .....	2-3
config\environmentvariables.config .....	2-4
Determining the Authentication Approach .....	2-4
Option 1—Using one single declared PLM for Process user for all the web service calls .....	2-4
Option 2—Specifying a PLM for Process user for each web service call .....	2-4
Step 1—Installing certificates for the web server .....	2-5
Step 2—Setting up the service credentials configuration .....	2-5
Step 3—Setting the wsHttpBinding configuration .....	2-6
Step 4—Setting the service bindings configuration .....	2-6
Verifying the Installation .....	2-7

**Chapter 3 Using the General Spec Services Web Services**

Overview of General Spec Services . . . . .	3-1
Service Endpoint Locations . . . . .	3-2
v21 endpoint . . . . .	3-2
v24 endpoint . . . . .	3-2
v25 endpoint . . . . .	3-2
Get Spec Summary . . . . .	3-3
Description . . . . .	3-3
Input . . . . .	3-3
Output . . . . .	3-3
Possible Result Codes . . . . .	3-4
Notes . . . . .	3-4
Get Spec Numbers For Criteria . . . . .	3-5
Description . . . . .	3-5
Input . . . . .	3-5
Output . . . . .	3-6
Possible Result Codes . . . . .	3-7
Notes . . . . .	3-7
Get Spec Relationships . . . . .	3-8
Description . . . . .	3-8
Input . . . . .	3-8
Output . . . . .	3-8
Trade specification relationships returned . . . . .	3-8
Process specification relationships returned . . . . .	3-9
Menu item relationships returned . . . . .	3-9
Nutrient profile relationships returned . . . . .	3-10
Material specification relationships returned . . . . .	3-10
Packaging material specification relationships returned . . . . .	3-11
Printed packaging material specification relationships returned . . . . .	3-11
Possible Result Codes . . . . .	3-11
Notes . . . . .	3-11
Save Spec Cross References . . . . .	3-12
Description . . . . .	3-12
Input . . . . .	3-12
Output . . . . .	3-12
Possible Result Codes . . . . .	3-13
Notes . . . . .	3-13
Get GSM Percent Breakdown . . . . .	3-14
Description . . . . .	3-14
Specification Types . . . . .	3-14
Input . . . . .	3-14
Output . . . . .	3-14
Possible Result Codes . . . . .	3-16
Notes . . . . .	3-16
Get Compliance Data . . . . .	3-17
Description . . . . .	3-17
Specification Types . . . . .	3-17
Input . . . . .	3-17
Output . . . . .	3-18
Possible Result Codes . . . . .	3-19
Notes . . . . .	3-19

## Chapter 4 Using the SCRM Services Web Service

Overview of SCRM Services .....	4-1
Service Endpoint Locations.....	4-1
v21 endpoint .....	4-1
v24 endpoint .....	4-1
v25 endpoint .....	4-1
Get Company .....	4-2
Description .....	4-2
Input .....	4-2
Output.....	4-2
Possible Result Codes .....	4-3
Notes .....	4-3
Get Facility .....	4-4
Description .....	4-4
Input .....	4-4
Output.....	4-4
Possible Result Codes .....	4-5
Notes .....	4-5
Get SCRM Sourcing Approval .....	4-6
Description .....	4-6
Input .....	4-6
Output.....	4-6
Possible Result Codes .....	4-8
Notes .....	4-8

## Chapter 5 Using the Nutrition Service Web Services

Overview of Nutrition Service .....	5-1
Service Endpoint Locations.....	5-1
v21 endpoint .....	5-1
v24 endpoint .....	5-2
v25 endpoint .....	5-2
Get Nutrient Items per 100g.....	5-3
Description .....	5-3
Input .....	5-3
Output.....	5-3
Possible Result Codes .....	5-4
Notes .....	5-4
Save Nutrient Analysis.....	5-5
Description .....	5-5
Input .....	5-5
Output.....	5-6
Possible Result Codes .....	5-6
Notes .....	5-7
Get Nutrient Analysis .....	5-8
Description .....	5-8
Input .....	5-8
Output.....	5-8
Possible Result Codes .....	5-9
Notes .....	5-9
Get Nutrient Composite .....	5-10
Description .....	5-10
Input .....	5-10

Output .....	5-10
Possible Result Codes .....	5-11
Notes .....	5-12

## Chapter 6 Using the Custom Data Services Web Services

Overview of Custom Data Services .....	6-1
Service endpoint location(s) .....	6-2
v21 endpoint .....	6-2
v24 endpoint .....	6-2
v25 endpoint .....	6-2
Get Custom Section Schema .....	6-3
Description .....	6-3
Input .....	6-3
Output .....	6-3
Possible Result Codes .....	6-3
Get Spec Custom Sections .....	6-4
Description .....	6-4
Input .....	6-4
Output .....	6-4
Possible Result Codes .....	6-5
Notes .....	6-5
Get Spec Extended Attributes .....	6-6
Description .....	6-6
Input .....	6-6
Output .....	6-6
Possible Result Codes .....	6-7
Notes .....	6-7
Get SCRM Custom Sections .....	6-8
Description .....	6-8
Company Profile .....	6-8
Facility Profile .....	6-8
Specification Related Sourcing Approval .....	6-9
Non-Specification Related Sourcing Approval .....	6-9
Input .....	6-9
Output .....	6-10
Possible Result Codes .....	6-10
Notes .....	6-11
Get SCRM Extended Attributes .....	6-12
Description .....	6-12
Company Profile .....	6-12
Facility Profile .....	6-12
Specification Related Sourcing Approval .....	6-12
Non-Specification Related Sourcing Approval .....	6-12
Input .....	6-12
Output .....	6-13
Possible Result Codes .....	6-13
Notes .....	6-13
Save Custom Lookup .....	6-14
Description .....	6-14
Input .....	6-14
Output .....	6-14
Possible Result Codes .....	6-14
Notes .....	6-15



Get Custom Sections MetaData .....	6-16
Description .....	6-16
Input .....	6-16
Output .....	6-16
Possible Result Codes .....	6-17
Notes .....	6-17
Get Extended Attributes MetaData .....	6-18
Description .....	6-18
Input .....	6-18
Output .....	6-18
Possible Result Codes .....	6-18
Notes .....	6-19
Get EQ Custom Sections .....	6-20
Description .....	6-20
Input .....	6-20
Output .....	6-20
Possible Result Codes .....	6-20
Notes .....	6-21
Get EQ Extended Attributes .....	6-22
Description .....	6-22
Input .....	6-22
Output .....	6-22
Possible Result Codes .....	6-22
Notes .....	6-23
Get Calculated Custom Section .....	6-24
Description .....	6-24
Input .....	6-24
Input Overrides .....	6-24
Output .....	6-26
Possible Result Codes .....	6-26
Notes .....	6-27

## Chapter 7      Using the Cost Services Web Service

Overview of Cost Services .....	7-1
Service Endpoint Location(s) .....	7-1
v21 endpoint .....	7-1
v24 endpoint .....	7-1
v25 endpoint .....	7-1
Save DWB Spec Cost .....	7-2
Description .....	7-2
Input .....	7-2
Output .....	7-2
Possible Result Codes .....	7-3
Notes .....	7-3

**Chapter 8 Using the Bill of Materials Web Service**

Overview of Bill of Materials. . . . .	8-1
Service Endpoint Locations. . . . .	8-1
v24 endpoint . . . . .	8-1
v25 endpoint . . . . .	8-1
Get Output BOM. . . . .	8-2
Description . . . . .	8-2
Input . . . . .	8-2
Output. . . . .	8-2
Possible Result Codes. . . . .	8-5
Notes . . . . .	8-6
Get Formulation BOM . . . . .	8-7
Description . . . . .	8-7
Input . . . . .	8-7
Output. . . . .	8-7
Possible Result Codes. . . . .	8-9
Notes . . . . .	8-9

**Chapter 9 Using the Spec Relationship Services**

Overview of Spec Relationship Services. . . . .	9-1
Service Endpoint Locations. . . . .	9-2
v24 endpoint . . . . .	9-2
v25 endpoint . . . . .	9-2
Get Formulation Relationships. . . . .	9-3
Description . . . . .	9-3
Input . . . . .	9-3
Output. . . . .	9-3
Possible Result Codes. . . . .	9-4
Notes . . . . .	9-4
Get Ingredient Relationships. . . . .	9-5
Description . . . . .	9-5
Input . . . . .	9-5
Output. . . . .	9-5
Possible Result Codes. . . . .	9-6
Notes . . . . .	9-7
Get Menu Item Relationships. . . . .	9-8
Description . . . . .	9-8
Input . . . . .	9-8
Output. . . . .	9-8
Possible Result Codes. . . . .	9-10
Notes . . . . .	9-10
Get Nutrient Profile Relationships. . . . .	9-11
Description . . . . .	9-11
Input . . . . .	9-11
Output. . . . .	9-11
Possible Result Codes. . . . .	9-12
Notes . . . . .	9-12

Get Packaging Relationships .....	9-13
Description .....	9-13
Input .....	9-13
Output .....	9-13
Possible Result Codes .....	9-14
Notes .....	9-14
Get Printed Packaging Relationships .....	9-15
Description .....	9-15
Input .....	9-15
Output .....	9-15
Possible Result Codes .....	9-16
Notes .....	9-16
Get Product Relationships .....	9-17
Description .....	9-17
Input .....	9-17
Output .....	9-17
Possible Result Codes .....	9-18
Notes .....	9-18
Get Trade Spec Relationships .....	9-19
Description .....	9-19
Input .....	9-19
Output .....	9-19
Possible Result Codes .....	9-21
Notes .....	9-21

## Chapter 10 Using the Specification Services Web Services

Overview of Specification Services .....	10-1
Service Endpoint Locations .....	10-1
v24 endpoint .....	10-1
v25 endpoint .....	10-1
Get Activity .....	10-2
Description .....	10-2
Input .....	10-2
Output .....	10-2
Possible Result Codes .....	10-3
Notes .....	10-3
Get Spec Ingredient Statements .....	10-4
Description .....	10-4
Input .....	10-4
Output .....	10-4
Possible Result Codes .....	10-5
Notes .....	10-5

## Chapter 11 Using the EQ Services Web Services

Overview of EQServices .....	11-1
Service Endpoint Locations .....	11-1
v24 endpoint .....	11-1
v25 endpoint .....	11-1
Get EQ Compliance Items .....	11-2
Description .....	11-2
Input .....	11-2
Output .....	11-2

Possible Result Codes .....	11-2
Notes .....	11-3
Get EQ Summary Info .....	11-4
Description .....	11-4
Input .....	11-4
Output .....	11-4
Possible Result Codes .....	11-5
Notes .....	11-5
Get EQ Nutrition Info .....	11-6
Description .....	11-6
Input .....	11-6
Output .....	11-6
Possible Result Codes .....	11-6
Notes .....	11-7
Get EQ Breakdown Info .....	11-8
Description .....	11-8
Input .....	11-8
Output .....	11-8
Possible Result Codes .....	11-8
Notes .....	11-9
Get EQ Numbers For Criteria .....	11-10
Description .....	11-10
Input .....	11-10
Output .....	11-10
Possible Result Codes .....	11-10
Notes .....	11-11

## **Chapter 12     Using the PQS Services Web Services**

Overview of PQSServices .....	12-1
Service Endpoint Locations .....	12-1
v24 endpoint .....	12-1
v25 endpoint .....	12-1
Save PQS Sample .....	12-1
Description .....	12-1
Input .....	12-2
Output .....	12-2
Possible Result Codes .....	12-3
Notes .....	12-4

## **Chapter 13     Using the CSS Services Web Service**

Overview of CSS Services .....	13-1
Service Endpoint Locations .....	13-1
v25 endpoint .....	13-1
SendResponse .....	13-2
Description .....	13-2
Input .....	13-2
tHeader .....	13-2
tMessage .....	13-2

## Appendix A Special Conditions, Status Codes, and Core Objects

Special Conditions .....	A-1
Condition A - No Issue Specified in Input Criteria .....	A-1
Condition B - Business Unit Visibility .....	A-1
Condition C - Allow Only Approved Spec .....	A-1
Condition D - Specification Types .....	A-2
Condition E - Specification Identifier Input Formats .....	A-2
Condition F - Max Records Retrieved .....	A-2
Condition G - Max Records Allowed For Save .....	A-2
Condition H - InFoodsCode .....	A-3
Condition I - SCRM Entity Input .....	A-4
Condition J - Allow Only Approved Entity .....	A-4
Condition K - Invalid Company Input Formats .....	A-4
Condition L - Invalid Facility Input Formats .....	A-4
Condition M - Invalid EQ Input Formats .....	A-4
Condition N - Invalid Security Privileges .....	A-4
Condition O - Invalid Custom Sections MetaData Input Formats .....	A-5
Condition P - Invalid Extended Attributes MetaData Input Formats .....	A-5
Status Codes .....	A-6
Core Objects .....	A-7
tSpecIdentifierCriterion .....	A-7
Subtypes .....	A-7
tSpecificationNumber .....	A-7
Supertype .....	A-7
tCrossReference .....	A-7
Supertype .....	A-7
Schema Component Representation .....	A-8
tSpecificationIdentifier .....	A-8
tQueryOptions .....	A-9
DateRange .....	A-9
Subtypes .....	A-9
Schema Component Representation .....	A-9
ModifiedBetweenDateRange .....	A-10
Supertype .....	A-10
CreatedBetweenDateRange .....	A-10
Supertype .....	A-10
tSpecificationSummaryWrapper .....	A-10
tSpecificationSummary .....	A-11
tCostItem .....	A-11
tSCRMEntity .....	A-11
tSCRMCompany .....	A-12
tSCRMFacility .....	A-12
tSCRMEntityIdentifier .....	A-12
Subtypes .....	A-12
tSCRMEntityNumber .....	A-12
tSCRMEntityCrossRef .....	A-13
Supertype .....	A-13
Schema Component Representation .....	A-13
tSCRMEntityIdentifier .....	A-13
Subtypes .....	A-13
tSCRMEntityNumber .....	A-13
Supertype .....	A-13
tSCRMEntityCrossRef .....	A-14
Supertype .....	A-14
Schema Component Representation .....	A-14
tFacility .....	A-14
tFacilityInfo .....	A-15
tCompany .....	A-15
tCompanyInfo .....	A-15
tSCRMAddress .....	A-16

tSCRMAdministrativeInfo .....	A-16
tSCRMBusinessUnits .....	A-16
tSpecRelatedSourcingApprovalInfo .....	A-16
tSCRMSourcingApprovalInfo .....	A-17
tCustomLookup .....	A-17
tNutrientDataWrapper .....	A-17
tNutrientItem .....	A-18
tActivityInfo .....	A-18
tActivitySummary .....	A-18
tPrimaryActionItemInfo .....	A-19
tRelatedItemInfo .....	A-19
tIDName .....	A-19
tCustomSectionMetaDataInputCriteria .....	A-19
Subtypes .....	A-19
tCustomSectionID .....	A-20
Supertype .....	A-20
tCustomSectionNumber .....	A-20
Supertype .....	A-20
tCustomSection .....	A-20
tCustomSectionRow .....	A-20
tCustomSectionColumn .....	A-21
tExtendedAttribute .....	A-21
tSpecIngredientStatementInfo .....	A-21
tEQNumber .....	A-21
tEQExtendedAttribute .....	A-22
tExtension .....	A-22
Extended Attribute Types Schema .....	A-22
tEQComplianceInfo .....	A-22
tEQIdentifier .....	A-23
tComplianceItem .....	A-23
tComplianceItemContained .....	A-23
tEQSummary .....	A-23
tSupplierContactInfo .....	A-24
tCompanyContactInfo .....	A-24
tEQIdentifier .....	A-24
tNutrientInfo .....	A-25
tEQCriteriaItem .....	A-25
tLegacySystem .....	A-25
.....	A-25

# ABOUT THIS MANUAL

## Oracle Agile Product Lifecycle Management for Process Documentation

The *Agile Product Lifecycle Management for Process Web Services Guide* explains how to use install and configure the Web Services API, and provides documentation of each available web service.

To use this document, you should have a basic familiarity with web services software development, and the Oracle Agile PLM for Process configuration files and user interface. The information presented for each web service is intended to give a business and technical view of the inputs, outputs, and possible results of the web service call. Contract details, such as detailed WSDL and XSD information is not presented here — rather, they are available from the web service metadata or from the provided WSDL and XSD files. This Preface contains these topics:

- ❑ Audience
- ❑ Variability of Installations
- ❑ Related Documents
- ❑ Document Conventions

### Audience

This guide is intended for client programmers involved with integrating Oracle Agile Product Lifecycle Management for Process. Information about using Oracle Agile PLM for Process resides in application-specific user guides. Information about administering Oracle Agile PLM for Process resides in the *Oracle Agile Product Lifecycle Management for Process Administrator User Guide*.

### Variability of Installations

Descriptions and illustrations of the Agile PLM for Process user interface included in this manual may not match your installation. The user interface of Agile PLM for Process applications and the features included can vary greatly depending on such variables as:

- ❑ Which applications your organization has purchased and installed
- ❑ Configuration settings that may turn features off or on
- ❑ Customization specific to your organization
- ❑ Security settings as they apply to the system and your user account

## Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible to all users, including users that are disabled. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at <http://www.oracle.com/accessibility/>.

## Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

## Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

## TTY Access to Oracle Support Services

To reach AT&T Customer Assistants, dial 711 or 1.800.855.2880. An AT&T Customer Assistant will relay information between the customer and Oracle Support Services at 1.800.223.1711. Complete instructions for using the AT&T relay services are available at <http://www.consumer.att.com/relay/tty/standard2.html>. After the AT&T Customer Assistant contacts Oracle Support Services, an Oracle Support Services engineer will handle technical issues and provide customer support according to the Oracle service request process.

## Related Documents

For more information, see the following documents in the Oracle Agile Product Lifecycle Management for Process Extensibility Pack documentation set:




- ❑ *Agile Product Lifecycle Management for Process Extensibility Guide*
- ❑ *Agile Product Lifecycle Management for Process Data Administration Toolkit Guide*
- ❑ *Agile Product Lifecycle Management for Process Print Extensibility Guide*
- ❑ *Agile Product Lifecycle Management for Process Custom Section Denormalization Guide*



- ❑ *Agile Product Lifecycle Management for Process Extended Attribute Denormalization Guide*
- ❑ *Agile Product Lifecycle Management for Process Custom Report Configuration Guide*
- ❑ *Agile Product Lifecycle Management for Process Navigation Configuration Guide*
- ❑ *Agile Product Lifecycle Management for Process Extended Attribute Calculation Guide*
- ❑ *Agile Product Lifecycle Management for Process Release Notes*

## Document Conventions

The following formatting elements appear in Oracle Agile PLM for Process documentation.

Element	Meaning
<b>Helvetica Condensed, 9 pt. bold type</b>	A user interface (UI) element that a procedure is instructing you to click, select, or type into. For example, buttons or text entry fields.
9 pt. monospace font	Code samples
10 pt. monospace font	File names or directory names
<i>Blue italic font</i>	The linked portion of a cross-reference. Click it to go to the referenced heading, table, or figure.
Minion Typeface, Title Case	A named UI element that a procedure is describing but not instructing you to click, select, or type into.
 <b>Note</b> Minion 11.5 pt, with faint blue bar over & under	Alerts you to supplemental information.
 <b>Caution!</b> Minion 11.5 pt, with faint red bar over & under	Alerts you to possible data loss, breaches of security, or other more serious problems.
 <b>Important</b> Minion 11.5 pt, with thick red bar over & under	Alerts you to supplementary information that is essential to the completion of a task.

## Using the Web Services Application Programming Interface

---

*This chapter describes the Web Services Application Programming Interface that is used with Oracle Agile Product Lifecycle Management for Process. Topics in this chapter include:*

- ❑ *Web Services Application Programming Interface Overview*
  - ❑ *Versioning the Web Services*
  - ❑ *Supported Web Services Contracts*
  - ❑ *Common Response Headers*
- 

### **Web Services Application Programming Interface Overview**

Oracle Agile Product Lifecycle Management (PLM) for Process allows programmatic access to your organization's data using Oracle Agile PLM for Process Web Services API.

The API consists of a set of standardized, fully supported web services to provide clients with simple, rich, and secure integration capabilities. Each service is granular in nature, focused on delivering a specific business function. Consumers of the API will be able to compose multiple services as needed to meet larger business function needs.

Each major release of the Web Services API maintains backward compatibility with the previous release, allowing previous client integrations to remain unchanged, whenever possible. Any contract changes are only made in the new versions of the web services.

The Web Services are deployed into and hosted by the Integration web application. Several configuration file changes must be made to enable the web services, which determine the authentication & authorization mechanism that should be used for web service calls, as well as some other options. Additionally, a new virtual directory must be added in IIS within the Integration web application.

For installation and configuration details, please refer to Chapter 2, [Setting Up the Application Programming Interface](#).

## Supported Oracle Agile PLM for Process Versions

To use the Web Services available in this release, you must be using Oracle Agile PLM for Process version 6.1.0 or greater.

## Versioning the Web Services

To allow previous client implementations of the Web Service API to remain unchanged, yet still provide for new features, the release contains separate versions of the previous services and new versions of the full feature set.

Previous versions of the web services have no data contract changes, and the service endpoints remain unchanged.

This should allow previous client implementations to continue working as is. However, clients wishing to use new capability of the web service calls must implement the v25 versions.

The primary change that clients and integrators will see is that there are now three service endpoints for any pre-existing services:

- ❑ v21—The v21 web services are now deprecated.
- ❑ v24—The v24 web services will remain unchanged and support the previous functionality.
- ❑ v25—The v25 web services will support any relevant pre-existing functionality along with new operations and contract changes.

The E.P. 2.5 release introduced a new parameter, IncludeSpecTemplates, for the GeneralSpecServices operation GetSpecNumbersforCriteria. Therefore, the v25 data contract will include the new parameter, while the v24 and v21 data contracts will not. Each service version has its own endpoint, and therefore its own WSDL. For example, the following endpoints exist for GeneralSpecServices:

- ❑ v21 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/  
Common/GeneralSpecServices.svc`

- ❑ v24 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/  
Common/v24/GeneralSpecServices.svc`

- ❑ v25 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/  
Common/v25/GeneralSpecServices.svc`

Clients and integrators that are new to the Web Service API are encouraged to implement the v25 versions only.

## Supported Web Services Contracts

### General Spec Services

General Spec Services provides operations that act on Global Specification Management (GSM) specifications.

Operations	v21	v24	v25	Notes
<b>GetSpecSummary</b>	●	●	●	v25 includes an IsTemplate return value.
<b>GetSpecNumbersForCriteria</b>	●	●	●	v25 includes an IncludeSpecTemplates search criterion.
<b>GetSpecRelationships</b>	●	*	*	*v24 replaced this call with individual calls in a new service contract: SpecRelationshipServices. See Chapter 9, <i>Using the Spec Relationship Services</i> for more information.
<b>SaveSpecCrossReferences</b>	●	●	●	
<b>GetGSMPercentBreakdown</b>	●	●	●	
<b>GetComplianceData</b>	●	●	●	

See Chapter 3, *Using the General Spec Services Web Services* for more information.

### SCRM Services

SCRM Services provides operations that act on Supply Chain Relationship Management (SCRM) sourcing approvals, companies, and facilities.

Operations	v21	v24	v25	Notes
<b>GetSCRMSourcingApproval</b>	●	●	●	
<b>GetCompany</b>		●	●	
<b>GetFacility</b>		●	●	

See Chapter 4, *Using the SCRM Services Web Service* for more information.

### Nutrition Services

Nutrition Services provides nutrition and Nutrition Surveillance Management (NSM) related operations.

Operations	v21	v24	v25	Notes
<b>GetNutrientItemsPer100g</b>	●	●	●	
<b>SaveNutrientAnalysis</b>	●	●*	●*	*v24 added two new fields to analysis input
<b>GetNutrientAnalysis</b>		●	●	
<b>GetNutrientComposite</b>		●	●	

See Chapter 5, *Using the Nutrition Service Web Services* for more information.

## Custom Data Services

Custom Data Services provides operations related to extended attributes and custom sections.

Operations	v21	v24	v25	Notes
<b>GetCustomSectionSchema</b>	●	●	●	
<b>GetSpecCustomSections</b>	●	●	●	
<b>GetSpecExtendedAttributes</b>	●	●	●	
<b>GetSCRMCustomSections</b>	●	●	●	
<b>GetSCRMExtendedAttributes</b>	●	●	●	
<b>SaveCustomLookup</b>	●	●	●	
<b>GetCustomSectionsMetaData</b>		●	●	
<b>GetExtendedAttributesMetaData</b>		●	●	
<b>GetEQCustomSections</b>		●	●	
<b>GetEQExtendedAttributes</b>		●	●	
<b>GetCalculatedCustomSection</b>		●	●	

See Chapter 6, [Using the Custom Data Services Web Services](#) for more information.

## Cost Services

Cost Services provides formulation specification costing related capabilities.

Operations	v21	v24	v25	Notes
<b>SaveDWBSpecCost</b>	●	●	●	

See Chapter 7, [Using the Cost Services Web Service](#) for more information.

## Bill of Materials Services

Bill of Materials Services provide operations related to a process specification's Bill of Materials (BOM).

Operations	v21	v24	v25	Notes
<b>GetOutputBOM</b>	*	●	●	*Formulation specifications replaced process specifications; contract was not fully compatible - upgrade to v24 or v25 required
<b>GetFormulationBOM</b>		●	●	

See Chapter 8, [Using the Bill of Materials Web Service](#) for more information.

## Spec Relationship Services

Spec Relationship Services provides operations that define a specification's related specification listing.

Operations	v21	v24	v25	Notes
<b>GetProductRelationships</b>		●	●	
<b>GetIngredientRelationships</b>		●	●	
<b>GetPackagingRelationships</b>		●	●	
<b>GetPrintedPackagingRelationships</b>		●	●	
<b>GetFormulationRelationships</b>		●	●	
<b>GetNutrientProfileRelationships</b>		●	●	
<b>GetTradeSpecRelationships</b>		●	●	
<b>GetMenuItemRelationships</b>		●	●	

See Chapter 9, [Using the Spec Relationship Services](#) for more information.

## Specification Services

Specification Services provides operations that act on individual specification types.

Operations	v21	v24	v25	Notes
<b>GetSpecIngredientStatements</b>		●	●	
<b>GetActivity</b>		●	●	

See Chapter 10, [Using the Specification Services Web Services](#) for more information.

## EQ Services

EQ Services provides operations related to eQuestionnaire (eQ).

Operations	v21	v24	v25	Notes
<b>GetEQComplianceItems</b>		●	●	
<b>GetEQSummaryInfo</b>		●	●	
<b>GetEQNutritionInfo</b>		●	●	
<b>GetEQBreakdownInfo</b>		●	●	
<b>GetEQNumbersForCriteria</b>		●	●	

See Chapter 11, *Using the EQ Services Web Services* for more information.

## PQS Services

PQS Services provides operations related to Product Quality Scorecard (PQS).

Operations	v21	v24	v25	Notes
<b>SavePqsSamples</b>		●	●	

See Chapter 12, *Using the PQS Services Web Services* for more information.

## CSS Services

CSS Services provides operations related to Content Synchronization and Syndication (CSS).

Operations	v21	v24	v25	Notes
<b>SendResponse</b>			●	

See Chapter 13, *Using the CSS Services Web Service* for more information.

## Common Response Headers

Each web service includes a common response in the SOAP Header. This common response consists of the following:

- ❑ **Result Code**—A string value representing the overall result of the web service call (for instance, RESULT\_NO\_ERRORS, RESULT\_INVALID\_INPUT, etc.). Possible values of the result code are documented for each web service.
- ❑ **List of Messages**—List of warning or error messages that provide details for any issues that occur when calling each web service. Each message has a message code, severity, and a description. Possible message codes and descriptions are documented for each web service.



# Setting Up the Application Programming Interface

---

*This chapter describes the setup process for the Application Programming Interface. Topics in this chapter include:*

- ❑ *Pre-requisites*
  - ❑ *Deploying the API Code*
  - ❑ *Configuration File Changes*
  - ❑ *Verifying the Installation*
- 

## Pre-requisites

Oracle Agile PLM for Process Web Services Application Programming Interface (API) requires Microsoft .NET Framework 3.5. This must be installed on the machine that will be hosting the Integration web application, which will host the web services.

## Installing Microsoft .NET Framework 3.5

### To install the Microsoft .NET Framework 3.5:

- 1** Install Microsoft .NET Framework 3.5.
- 2** Register the Windows Communication Foundation.
  - a** Navigate to C:\WINDOWS\Microsoft.NET\Framework\v3.0\Windows Communication Foundation.
  - b** Run the following command to register this service and update your machine.config file: **ServiceModelReg.exe -i**
- 3** Verify .svc files are mapped in IIS.
  - a** IIS->Integration->Properties->Virtual Directory->Configuration
  - b** If .svc files are not mapped, run **ServiceModelReg.exe /s:W3SVC**

## Deploying the API Code

### Adding the Web Services API Files

Add the API files to an existing Oracle Agile PLM for Process environment:

**To add the API files:**

- 1** Extract all files from the extensibility pack 2.7 file to a temporary folder.
- 2** Switch to this temporary folder in Windows command prompt, and run the command: `FileCompressionHelper.exe -d`
- 3** From the temporary folder, copy the contents of the Integration folder within Web folder to the Prodika\web\Integration folder of your Oracle Agile PLM for Process installation.
  - a** Make sure to include the web.config file.
  - b** Overwrite existing files with the same name.

### Adding a Virtual Directory to IIS

**To add a new ProdikaContracts virtual directory to IIS:**

- 1** In the Internet Information Services Manager, find the virtual directory for the Integration web application.
- 2** Right click and select New>Virtual Directory.
- 3** Enter the following values in the wizard:
  - a** Alias: 'ProdikaContracts'
  - b** Path: <PLM4P-install-folder>\Web\Integration\Contracts\Prodika
  - c** Permissions: Read
- 4** In the Internet Information Services Manager, find the new virtual directory for ProdikaContracts.
- 5** Right click and select **Properties**.
- 6** In the properties dialog, change the Execute Permissions field to 'Scripts Only' and then click **OK**.
- 7** Restart IIS.

## Configuration File Changes

Update the following configuration files to enable the Web Services API:

### config\DeployedConfig.config

Place the following configuration in the DeployedConfig node:

```
<ProdikaAPI>
  <ConfigInfo
    configReplace="file:%CONFIG_HOME%\environmentvariables.config"
    configExtends="file:%CONFIG_HOME%\Custom\EnvironmentSettings.config,EnvironmentSettings/ProdikaAPI/ConfigInfo" />
  </ProdikaAPI>
```

### config\Custom\EnvironmentSettings.config

Place the following configuration in the EnvironmentSettings node:

```
<ProdikaAPI>
  <ConfigInfo configChildKey="key">
    <add key="UserID" value="@@VAR:Prodika.ProdikaAPI.SysUser@" />
    <add key="Password"
value="@@VAR:Prodika.ProdikaAPI.SysPassword@" />
    <add key="IsUseTrustedAuth"
value="@@VAR:Prodika.ProdikaAPI.IsUseTrustedAuth@" />
    <add key="IsLoginBypassOn"
value="@@VAR:Prodika.ProdikaAPI.IsLoginBypassOn@" />
  </ConfigInfo>
</ProdikaAPI>
```

### config\Custom\CustomerSettings.config

Place the following configuration in the /CustomerSettings/Core/Prodika/Services node:

```
<ProdikaAPIConfigService refscope="Application"
factory="Singleton:Xeno.Prodika.ProdikaAPI.Services.ProdikaAPICo
nfigServiceFactory,ProdikaAPILib" >
  <envvar name="MaxRecordCountGet" value="250"/>
  <envvar name="MaxRecordCountSave" value="250"/>
  <envvar name="ApprovedWorkflowName" value="IsApproved"/>
  <envvar name="SCRMApprovedWorkflowName" value="IsApproved"/>
</ProdikaAPIConfigService>
```

### Notes

- *MaxRecordCountGet*—Value to limit top-level records returned by web service Get operations
- *MaxRecordCountSave*—Value to limit number of records for Save operations
- *ApprovedWorkflowName*—Value can be set to the appropriate Workflow Tag name that is used in WFA to declare a step as Approved or Official
- *SCRMApprovedWorkflowName*—Value can be set to the appropriate Workflow Tag name that is used in WFA to declare a step in SCRM workflow as Approved or Official

## config\environmentvariables.config

### *Determining the Authentication Approach*

The Web Services adhere to all security permission rules that are present in the core application, such as Spec read permissions, Business Unit visibility/security, and more. For instance, the GetSpecSummary web service will not return a spec that the user does not have valid Read permissions to. The permissions are evaluated against the PLM for Process user that is calling the web service. The web services API can therefore be set up for user authentication in two different ways, which has implications on the configuration required:

### **Option 1—Using one single declared PLM for Process user for all the web service calls**

This user is specified in the environmentvariables.config file by setting the Prodika.ProdikaAPI.SysUser value, and setting IsLoginBypassOn=true). Each web service call authenticates to the application, and evaluates permissions, with this user account. This option is the simplest to set up, as it requires no extra configuration steps, and is typically used when systems are communicating (via web services) without regard to individual permissions.

When using one single declared PLM for Process user for *all* the web service calls, the following configuration entries would need to be added to the environmentvariables.config file, replacing <username> with a real PLM for Process user:

```
Prodika.ProdikaAPI.SysUser= <username>
Prodika.ProdikaAPI.SysPassword=IgnoreMe
Prodika.ProdikaAPI.IsLoginBypassOn=true
Prodika.ProdikaAPI.IsUseTrustedAuth=true
```

Setting IsUseTrustedAuth=true will configure the user authentication process to “trust” the user specified by the <username> setting, and therefore not look at the SysPassword value for authentication.

### **Option 2—Specifying a PLM for Process user for each web service call**

The user account must be supplied to each web service call by the client application, using the ClientCredentials of the client. You must set the environmentvariables configuration as follows: IsLoginBypassOn=false, which will ignore then Prodika.ProdikaAPI.SysUser value. To configure this option, you will have to install a web site certificate for IIS, and make additional configuration changes.

When specifying a PLM for Process user for each web service call, the following configuration entries would need to be added to the environmentvariables.config file:

```
Prodika.ProdikaAPI.SysUser=NotUsed
Prodika.ProdikaAPI.SysPassword=IgnoreMe
Prodika.ProdikaAPI.IsLoginBypassOn=false
Prodika.ProdikaAPI.IsUseTrustedAuth=true
```

Additionally, the following four set up steps must be implemented for this option:

### ***Step 1—Installing certificates for the web server***

Before the web service APIs can support UsernamePasswordValidator authentication for every call, a web site certificate must be installed. This certificate is used to encrypt the messages transferred between the clients and web server. Internet Information Server (IIS), integrated wizard can be used to request and install a site certificate.

- ❑ For IIS 6.0 on Windows Server 2003 platform, please refer to the following article to see the detail about the installation:  
 “How To: Install Imported Certificates on a Web Server in Windows Server 2003” found at <http://support.microsoft.com/kb/816794>
- ❑ For IIS 7 on Windows Server 2008 or Windows 7, please refer to the following article:  
 "Import a Server Certificate (IIS 7)" found at <http://technet.microsoft.com/en-us/library/cc732785%28WS.10%29.aspx>

### ***Step 2—Setting up the service credentials configuration***

Add a new configuration or modify an existing configuration node in:

```
<WEB_ROOT>\Integration/web.config
```

Node:

```
/configuration/system.serviceModel/behaviors/
serviceBehaviors/behavior/serviceCredentials
```

The following is a sample of <serviceCredentials> node:

```
<serviceCredentials>
  <serviceCertificate findValue="ApI_Cert"
    storeLocation="LocalMachine"
    x509FindType="FindBySubjectName" storeName="My" />
  <userNameAuthentication
    userNamePasswordValidationMode="Custom" customUserNamePasswordVali
    idatorType="WCFPlatformExtensions.WCFProdikaUserNamePasswordVali
    dator,ProdikaAPILib"/>
</serviceCredentials>
```

You should modify the <serviceCertificate> node to adapt the information of the certificate installed in [Step 1—Installing certificates for the web server](#) on page 2-5.

For more information about how to config this node, please refer to the following article:

**<serviceCertificate> of <serviceCredentials>** found at <http://msdn.microsoft.com/en-us/library/ms731340.aspx>

---

**Note** If this node already exists in the configuration file, do not add another node. Instead, modify the information based on the original configuration.

---

### ***Step 3—Setting the wsHttpBinding configuration***

Add a new <wsHttpBinding> configuration node in:

```
<WEB_ROOT>\Integration\web.config
```

Node:

```
/configuration/system.serviceModel/bindings/
```

The following is a sample of <wsHttpBinding> node:

```
<wsHttpBinding>

  <binding name="prodikaAPIBinding">
    <security mode="Message">
      <message clientCredentialType="UserName" />
    </security>
  </binding>
```

Make sure the “Name” attribute of the <binding> node is unique in the whole <wsHttpBinding> node. This value will be used in [Step 4—Setting the service bindings configuration](#) on page 2-6.

### ***Step 4—Setting the service bindings configuration***

Open the configuration file:

```
<WEB_ROOT>\Integration\Contracts\Prodika\web.config
```

For each <endpoint> sub-node like shown in below of /configuration/system.serviceModel/services/service nodes,

```
<endpoint binding="basicHttpBinding" contract="..." />
```

update to:

```
<endpoint binding="wsHttpBinding"
bindingConfiguration="prodikaAPIBinding" contract="..." />
```

The value of the “bindingConfiguration” attribute should equal the value of “name” attribute configured in [Step 3—Setting the wsHttpBinding configuration](#) on page 2-6.

## Verifying the Installation

The final steps in setting up the API are verifying that the web services are accessible and that they are working.

To verify that the web services are accessible, bring up the services in Internet Explorer:

- 1** Launch Internet Explorer.
- 2** In the Address bar, type in:

```
http://<servername>/Integration/ProdikaContracts/  
Specification/Common/v25/GeneralSpecServices.svc
```

- 3** You should see a page titled GeneralSpecServices Service.
  - a** If you see the page, the web services are accessible.
  - b** If you do not see the page, please review the installation and configuration.

To verify the web services are operational, you will need to execute a web service call and get a result. Various web service clients provide this functionality. If you can call the web service and get a result, the set up process is complete.





# Using the General Spec Services Web Services

*This chapter describes the General Spec Services web service. Topics in this chapter include:*

- ❑ *Overview of General Spec Services*
- ❑ *Get Spec Summary*
- ❑ *Get Spec Numbers For Criteria*
- ❑ *Get Spec Relationships*
- ❑ *Save Spec Cross References*
- ❑ *Get GSM Percent Breakdown*
- ❑ *Get Compliance Data*

## Overview of General Spec Services

GeneralSpecServices provides operations that act on Global Specification Management (GSM) specifications. The following operations are supported:

Operation	v21	v24	v25	Description
<a href="#">Get Spec Summary</a> on page 3-3	●	●	●	Returns the specification summary data and cross references for a given list of specifications
<a href="#">Get Spec Numbers For Criteria</a> on page 3-5	●	●	●	Returns the specification number and cross references for specifications matching several input criteria
<a href="#">Get Spec Relationships</a> on page 3-8	●	*	*	Returns a list of specifications (specification numbers and cross references) and their specification relationships for a given list of specifications  * Not available in v24 or v25: v24 replaced this call with individual calls in a new service contract: <i>SpecRelationshipServices</i>
<a href="#">Save Spec Cross References</a> on page 3-12	●	●	●	Creates, updates, and deletes cross references for a given specification
<a href="#">Get GSM Percent Breakdown</a> on page 3-14	●	●	●	Returns percent breakdown information for a list of specifications
<a href="#">Get Compliance Data</a> on page 3-17	●	●	●	Returns compliance data for a given list of specifications

## Service Endpoint Locations

### **v21 endpoint**

`http://<servername>/Integration/ProdikaContracts/Specification/Common/  
GeneralSpecServices.svc`

### **v24 endpoint**

`http://<servername>/Integration/ProdikaContracts/Specification/Common/  
v24/GeneralSpecServices.svc`

### **v25 endpoint**

`http://<servername>/Integration/ProdikaContracts/Specification/Common/  
v25/GeneralSpecServices.svc`

## Get Spec Summary

### Description

Use the GetSpecSummary web service to retrieve specification summary information for a given list of specifications.

### Input

- 1 Allow Only Approved Spec—Specifications returned must be in an Approved status. (See [Condition C - Allow Only Approved Spec](#) on page A-1.)
- 2 A list of specification numbers, cross references, or a combination of either.

Table 3-1: Input

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects. See <a href="#">tSpecIdentifierCriterion</a> on page A-7.

### Output

The following specification summary data is returned for each specification:

- Name
- ShortName
- SpecificationIdentifier
  - SpecNumber and IssueNumber
  - List of Cross References—The cross reference consists of SystemID and EquivalentValue
- SpecType (four digit specification type code; see [Condition D - Specification Types](#) on page A-2)
- Status
- Category
- SubCategory
- Group
- Originator
- EffectiveDate
- InactiveDate

---

**Note** If any date field is empty or “null”, the field is automatically populated with the maximum date value of 12/31/9999. The user interface will not show the date or will show it as “-----”.

---

- Supersedes
- ReasonForChange
- IsTemplate (v25 only)

Table 3-2: Output

Name	Type	Description
<b>tSpecificationSummaryWrapper</b>	tSpecificationSummaryWrapper[]	Array of tSpecificationSummaryWrapper objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request.
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_SUMMARY_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a specification.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, F detailed in [Special Conditions](#) on page A-1.

## Get Spec Numbers For Criteria

### Description

Use the Get Spec Numbers for Criteria service to search for specifications using various predefined search criteria. The service returns a list of matching specification numbers (specification number, issue number, and list of cross references).

### Input

The following input criteria are available as search criteria:

- 1 Allow Only Approved Spec—Restricts results to specifications in an Approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.
  - True—Specifications returned must be in an “Approved” status
  - False—Specifications returned may be in any status
- 2 Spec Created/Modified Date Range—Restrict results to specifications created or modified in the given date range
  - Date Range Type —CreatedBetweenDateRange or ModifiedBetweenDateRange; **required**
  - Start Date —Datetime; **required**
  - End Date —Datetime; optional (if no End Date is provided, any specification date after the Start Date will be returned)
- 3 Originators—Restricts search results to specifications created by any user in the list of originators
  - Originator Type—OriginatorUserNames list or OriginatorExternalIDs list
    - OriginatorUserNames—List of strings representing the specification originator UserNames. These are login names.
    - OriginatorExternalIDs—List of strings representing the specification originator User External IDs
- 4 Spec Status—Restricts results to specifications whose statuses **contain** any of the listed workflow statuses. For example, “Draft” will also return “Draft Review”.
  - Spec Status name
  - If Allow Only Approved Spec is set to True and a Spec Status is provided, both values must resolve for a specification to be returned
- 5 Spec Name —Restricts results to specifications with a specification name **containing** the given string
- 6 Short Name—Restricts results to specifications with a specification short name **containing** the given string
- 7 Spec Types—Restricts results to specifications types in given list of specification types
  - Specification type must be four digits

- Possible specification type values: See [Condition D - Specification Types](#) on page A-2
- 8** Cross Reference—Restricts results to specifications **containing** the given cross reference System ID and Equivalent Code
  - 9** IncludeSpecTemplates—v25 only; Search results include specification templates. For v21 and v24, by default, excludes templates from search results.

Table 3-4: Input

Name	Type	Description
<b>QueryOptions</b>	tQueryOptions	Contains search criteria

## Output

A list of Specification Identifiers (tSpecificationIdentifier) that contain the following:

- SpecificationNumber
  - Spec Number
  - Issue Number
- List of Cross References
  - SystemId
  - Equivalent Value

Table 3-5: Output

Name	Type	Description
<b>specificationIdentifiers</b>	tSpecificationIdentifier []	Array of tSpecificationIdentifier

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters passed in
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ORIGINATOR_TYPE	Must be of type OriginatorUserNames or OriginatorExternalIDs
	INVALID_SPEC_TYPE	Must be numeric; four digits
	INVALID_DATE_RANGE	CreatedBetweenDateRange or ModifiedBetweenDateRange expected Start date required and must be prior to (optional) End date
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_SUMMARY_RETRIEVAL_ERROR	Occurs when an unexpected exception occurs when loading a specification

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, D, E2, F in [Special Conditions](#) on page A-1.

## Get Spec Relationships

**Note** This operation is not available in v24 or v25 GeneralSpecServices; it is replaced with individual operations for each specification type in a new service contract: *SpecRelationshipServices*.

### Description

Use the GetSpecRelationships web service to retrieve the various related specifications for a given specification. The data returned for each specification relationship includes the specification identifier (specification number, issue number, list of cross references) and may also include ancillary information (such as Quantity, UOM, Comments, etc.), depending on the relationship. See Output below for details.

### Input

- 1 A list of specification numbers, cross references, or a combination of either
- 2 Allow Only Approved Spec—Specifications returned must be in an Approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 3-7: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status.

### Output

The GetSpecRelationships web service returns a Specification Relationship Wrapper object, which contains that specification’s identifier (specification number and cross references), and the relationships that specification has, depending on the specification type, as outlined below.

#### Trade specification relationships returned

- 1 Parent Items
  - a Specification Identifier (specification number, cross references)
  - b GTIN/UPC/EAN
- 2 Next Lower Level Items
  - a Specification Identifier (specification number, cross references)
  - b GTIN/UPC/EAN
  - c Quantity
- 3 Packaging Materials
  - a Specification Identifier (specification number, cross references)
  - b Packaging Type (Inner, Intermediate, Outer, Label)
  - c Units



- d** UOM
  - e** Scrap Factor
  - f** Substitute—Used if Packaging Type is “Alternate”
- 4** Printed Packaging Materials
  - a** Specification Identifier (specification number, cross references)
  - b** Packaging Type (Inner, Intermediate, Outer, Label)
  - c** Units
  - d** UOM
  - e** Scrap Factor
  - f** Substitute—Used if Packaging Type is “Alternate”
- 5** Process Sheets
  - a** Specification Identifier (specification number, cross references)
- 6** Owned Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments
- 7** Linked Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments

### **Process specification relationships returned**

- 1** Packaging Materials
  - a** Specification Identifier (specification number, cross references)
  - b** Packaging Type (Inner, Intermediate, Outer, Label)
  - c** Units
  - d** UOM
  - e** Scrap Factor
- 2** Trade Specifications
  - a** Specification Identifier (specification number, cross references)
- 3** Owned Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments
- 4** Linked Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments

### **Menu item relationships returned**

- 1** Packaging Materials
  - a** Specification Identifier (specification number, cross references)
  - b** Packaging Type (Inner, Intermediate, Outer, Label)
  - c** Units
  - d** UOM
  - e** Scrap Factor

- 2** Alternate Packaging Materials
  - a** Specification Identifier (specification number, cross references)
  - b** Packaging Type (Alternate)
  - c** Units
  - d** UOM
  - e** Scrap Factor
  - f** Substitutes
- 3** Menu Item Build Items
  - a** Specification Identifier (specification number, cross references)
  - b** Quantity
  - c** UOM
  - d** Comments
- 4** Alternate Menu Item Build Items
  - a** Specification Identifier (specification number, cross references)
  - b** Original Spec
  - c** Substitution Factor
  - d** Description
- 5** Owned Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments
- 6** Linked Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments

### **Nutrient profile relationships returned**

- 1** Related Specifications
  - a** Specification Identifier (specification number, cross references)

### **Material specification relationships returned**

- 1** Packing Configuration Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Comments
  - c** Equivalent
- 2** Owned Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments
- 3** Linked Specifications
  - a** Specification Identifier (specification number, cross references)
  - b** Association
  - c** Comments

## Packaging material specification relationships returned

- 1 Printed Packaging Specifications
  - a Specification Identifier (specification number, cross references)

## Printed packaging material specification relationships returned

- 1 Parent Packaging Material Specifications
  - a Specification Identifier (specification number, cross references)

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters passed in
	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, F in [Special Conditions](#) on page A-1.

## Save Spec Cross References

### Description

Use the SaveSpecCrossReferences web service to modify a given specification's list of cross references. The web service takes a list of cross reference change items, which may be Adds, Updates, and/or Deletes. It then applies those modifications to a given specification's cross references. Results of the web service call include a list of all specifications that have been affected, along with the newly updated list of cross references.

Any added or updated cross reference will have its Externally Managed flag set to that cross reference's default Externally Managed value.

Specifications that the user does not have workflow 'Write' permissions for will not be modified.

### Input

- 1 tSpecIdentifierCriterion—The specification to modify. **Required.**
- 2 List of Cross Reference change items (CrossRefUpdateItem). At least one is **required**. Allowed types:
  - AddCrossReference
    - NewCrossReference
  - UpdateCrossReference
    - OriginalCrossReference
    - ReplacementCrossReference
  - DeleteCrossReference
    - RemoveCrossReference

### Output

The result will be a list of specifications (SpecUpdatedWrappers) affected by the cross reference changes. For each specification affected, the results will include the full cross reference list. See Condition #1 in [Condition A - No Issue Specified in Input Criteria](#) on page A-1.

- 1 SpecUpdatedWrapper
  - SpecificationIdentifier
    - SpecNumber and IssueNumber
  - List of Cross References—The cross reference consists of SystemID and EquivalentValue

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-9: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters passed in
	INVALID_CROSS_REFERENCE	Cross Reference (SystemID, Equivalent) or Specification Number input is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NO_SPEC_FOUND	This may be caused by several factors. Details of the error will be provided in the Message Description. <ul style="list-style-type: none"> <li>• Unable to locate specification with given input</li> <li>• A Delete cross reference references a cross reference that does not exist on a specification</li> <li>• An Add cross reference is adding a cross reference that already exists</li> <li>• An Add cross reference is adding a cross references with a status of New, Inactive, or Archived</li> <li>• An Update cross reference is updating a cross reference where the status of the replacement cross reference is New, Inactive, or Archived</li> <li>• Referencing an unknown system ID</li> <li>• Referencing an unknown specification type</li> <li>• Equivalent length is invalid</li> </ul>
	INVALID_SECURITY_PRIVILEGES	User must have role [EXTERNALLY_MANAGED_CROSS_REF_ADMIN] to modify cross references
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs loading a specification
	UNKNOWN_ERROR	Unknown exception retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, D, E, F in [Special Conditions](#) on page A-1.

## Get GSM Percent Breakdown

### Description

The GetGSMPercentBreakdown service returns percent breakdown information for a list of specifications.

The web service respects:

- ❑ GSM BU Security
- ❑ WFA Permissions
- ❑ Formula Classifications

It returns the following pieces of data for each % breakdown:

- Breakdown Summary Information
- Breakdown Description
- Restrictions
- Formula Classifications
- Tags
- Breakdown Details
- Component Name
- Component ID (Unless it is free text)
- Component Description
- Component COO
- Component Complies With
- Component Formulation Amount
- Component Min Amount
- Component Max Amount
- Component Total Solids
- Component Function
- Component Critical Flag

### Specification Types

Compliance information is returned for the following specification types:

- ❑ Product Specification
- ❑ Material Specification
- ❑ Trade Specification

### Input

- 1 tSpecInputCriteria—A standard list of spec identifiers (specification #, issue #, or Cross Reference items)

### Output

- 1 SpecFormulaBreakdown
  - tSpecificationIdentifier SpecificationIdentifier
  - tFormulaBreakdowns[] FormulaBreakdowns
  - a tFormulaBreakdowns consist of the following:
    - tBreakdown[] breakdowns
    - boolean IsProprietary
    - boolean PublishToSupplierPortal
    - boolean IsMasterFormula

- DateTime CreationDate
  - string Description
  - tRestriction[] Restrictions (may be a string/alias, or may need other information)
  - string[] FormulationClassifications
- b** tBreakdowns consist of the following:
- string Name
  - string Description
  - string Caption (free text only)
  - tBreakdownSource breakdownSource {Material Spec, FIC Term, FoodItemCatalog, FreeText}
  - double PercentFormulation
  - double MinRange
  - double MaxRange
  - boolean IsCritical
  - integer SequenceNumber
  - tComplianceItem[] CompliesWith
  - tCountry[] CountriesOfOrigin
  - string ComponentFunction
- c** tCountry consists of the following:
- string CountryID
  - string CountryName
  - string ISOCode
  - integer ISONumericCode

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-10: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_PERCENTBREAKDOWN_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading specification %breakdown information

## Notes

See Conditions A.1, A.2, B, C.1, C.2, D.1 (1004, 2147, 6501), E.1, E.2, F in [Special Conditions](#) on page A-1.



## Get Compliance Data

### Description

Use the GetComplianceData web service to retrieve compliance information for a given list of specifications. The specification identifier passed in can include IncludeCompliesWith, IncludeAllergens, IncludeAdditives, and IncludeIntolerances. When these are set to True, the compliance items for that type are included. Otherwise, the compliance items for that type will not be included.

The service returns the following:

- Complies With Items
- Allergens Know to Contain Item, Max/100g and Source/Comments
- Allergens May Contain Item, Max/100g and Source/Comments
- Allergens Does Not Contain Item
- Intolerances Know to Contain Item, Max/100g and Source/Comments
- Intolerances May Contain Item, Max/100g and Source/Comments
- Intolerances Does Not Contain Item
- Additives Know to Contain Item, Max/100g and Source/Comments
- Additives May Contain Item, Max/100g and Source/Comments
- Additives Does Not Contain Item

### Specification Types

Compliance information is returned for the following specification types:

- Menu Item specification
- Product specification
- Material specification
- Process specification (in v5.2 or less)
- Trade specification

### Input

- 1 Specification Identifier (spec number or cross reference)
- 2 Combine Like Items (Boolean)  
IncludeCompliesWith, IncludeAllergens, IncludeAdditives,  
IncludeIntolerances

- True—Include this item selection data
  - False—Do not include this item selection data
- 3** Allow Only Approved Spec—Top-level specification returned must be in an “Approved” status (For more information see [Condition C - Allow Only Approved Spec](#) on page A-1).

## Output

- 1** Each OutputItem in the OutputItems list includes:
- tSpecComplianceInfo[] complianceSpecs
- 2** Each tSpecComplianceInfo includes:
- tSpecificationIdentifier SpecificationIdentifier
  - tComplianceItem[] CompliesWith
  - tComplianceItemContained[] AllergensContained
  - tComplianceItemContained[] AdditivesContained
  - tComplianceItemContained[] IntolerancesContained
  - tComplianceItem[] AllergensNotContained
  - tComplianceItem[] AdditivesNotContained
  - tComplianceItem[] IntolerancesNotContained
  - tComplianceItemContained[] AllergensPossiblyContained
  - tComplianceItemContained[] AdditivesPossiblyContained
  - tComplianceItemContained[] IntolerancesPossiblyContained
- 3** Each tComplianceItemContained structure includes:
- tComplianceItem ComplianceItem
    - string Name
    - string ExternalID
  - tMeasurement MaxPer100Grams
    - double Value
      - tUOM UOM
  - Output Summary
    - Ref tSpecComplianceInfo structure
  - Input Summary

- Input Items—List of input items. Each Input item will include:
  - Specification Identifier (Spec Number-Issue Number or Cross References, IncludeCompliesWith, IncludeAllergens, IncludeAdditives, IncludeIntolerances)

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-11: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_INPUT	A valid SpecInputCriteria is required
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	BOM_ITEM_CALCULATION_ERROR	Occurs when an Input UOM category differs from the batch UOM category and it does not have a Density defined
<b>RESULT_FAILURE</b>	UNKNOWN_ERROR	Unexpected exception occurs when formatting the output items

## Notes

See Conditions A.1, A.2, C.1, C.2, E, F in [Special Conditions](#) on page A-1.



# Using the SCRM Services Web Service

*This chapter describes the SCRMServices web service. Topics in this chapter include:*

- ❑ *Overview of SCRM Services*
- ❑ *Get Company*
- ❑ *Get Facility*
- ❑ *Get SCRM Sourcing Approval*

## Overview of SCRM Services

SCRMServices provides operations that act on Supply Chain Relationship Management (SCRM) sourcing approvals (specification-related and non specification-related), companies, and facilities. The following operations are supported:

Operation	v21	v24	v25	Description
<a href="#">Get Company</a> on page 4-2		●	●	Returns SCRM company information, company hierarchies, and facilities for given company identifiers
<a href="#">Get Facility</a> on page 4-4		●	●	Returns SCRM facility information and related sourcing approvals for given facility identifiers
<a href="#">Get SCRM Sourcing Approval</a> on page 4-6	●	●	●	Returns specification-related or non specification-related sourcing approval information for given sourcing approval identifiers

## Service Endpoint Locations

### v21 endpoint

`http://<servername>/Integration/ProdikaContracts/SCRM/SCRMServices.svc`

### v24 endpoint

`http://<servername>/Integration/ProdikaContracts/SCRM/v24/SCRMServices.svc`

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/SCRM/v25/SCRMServices.svc`

## Get Company

### Description

Use the GetCompany web service to retrieve the company profiles for a given list of companies.

### Input

- 1 A list of company numbers, cross references, or a combination of either

Table 4-1: Input

Name	Type	Description
<b>CompanyIdentifiers</b>	tSCRMEntityIdentifier []	Array of one or more tSCRMEntityIdentifier objects

### Output

The following company profile data is returned for each company:

- Company Profile Number
- Company Name
- Company business units and corresponding business unit status
- Postal Address (address 1, address 2, City, State, Postal Code, Country)
- Street Address (address 1, address 2, City, State, Postal Code, Country)
- Website
- Phone
- Fax
- Cross References
- Special Attributes
- Special Notes
- Parent Companies (Collection of parent company number only)
- Child Companies (Collection of child company number only)
- Facilities (Collection of facility numbers only)

Table 4-2: Output

Name	Type	Description
<b>Companies</b>	tCompany []	Array of tCompany objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request.
<b>RESULT_INVALID_INPUT</b>	INVALID_COMPANY_NUMBER	Company number input format is invalid. See #1 of <a href="#">Condition K - Invalid Company Input Formats</a> on page A-4.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See # 2 of <a href="#">Condition K - Invalid Company Input Formats</a> on page A-4.
	NO_COMPANY_FOUND	Occurs if any company cannot be found for the input criteria (the service will continue to process remaining criteria).
	NOT_ENOUGH_PRIVILEGES	Occurs if the API user has no read permission to companies returned for the input criteria.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions F.1, K.1, and K.2 in [Special Conditions](#) on page A-1.

## Get Facility

### Description

Use the GetFacility web service to retrieve the facility profiles for a given list of facilities.

### Input

A list of facility numbers, cross references, or a combination of either

Table 4-4: Input

Name	Type	Description
<b>FacilityIdentifiers</b>	tSCRMEntityIdentifier []	Array of one or more tSCRMEntityIdentifier objects

### Output

The following facility profile data is returned for each facility:

- Facility Profile Number
- Facility Name
- Facility business units and corresponding business unit status
- Postal Address (address 1, address 2, City, State, Postal Code, Country)
- Street Address (address 1, address 2, City, State, Postal Code, Country)
- Website
- Phone
- Fax
- Cross References
- Special Attributes
- Special Notes
- Specification Related Sourcing Approvals (Collection of pkids, sourcing approval Number and GSM specification number )
- Non Specification Related Sourcing Approvals (Collection of pkids and sourcing approval number)

Table 4-5: Output

Name	Type	Description
<b>Facilities</b>	tFacility []	Array of tFacility objects



## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request.
<b>RESULT_INVALID_INPUT</b>	INVALID_FACILITY_NUMBER	Facility number input format is invalid. See #1 of <a href="#">Condition L - Invalid Facility Input Formats</a> on page A-4.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See # 2 of <a href="#">Condition L - Invalid Facility Input Formats</a> on page A-4.
	NO_FACILITY_FOUND	Occurs if any facility cannot be found for the input criteria (the service will continue to process remaining criteria).
	NOT_ENOUGH_PRIVILEGES	Occurs if the API user has no read permission to companies returned for the input criteria.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions L.1, L.2, and F.1 in [Special Conditions](#) on page A-1.

## Get SCRM Sourcing Approval

### Description

Use the GetSCRMSourcingApproval web service to retrieve sourcing approval information. The service returns specification-related or non specification-related sourcing approval information for given sourcing approval identifiers.

### Input

- 1 A list of sourcing approval PKIDs or sourcing approval numbers.
- 2 Allow Only Approved Entity—Specification-related sourcing approvals returned must be in an “Approved” workflow status (Non specification-related sourcing approvals ignore this setting). (See [Condition J - Allow Only Approved Entity](#) on page A-4).

Table 4-7: Input

Name	Type	Description
<b>AllowOnlyApprovedEntity</b>	boolean	True—Specification-related sourcing approvals returned must be in an Approved status. False—Specification-related sourcing approvals returned may be in any status. See <a href="#">Condition J - Allow Only Approved Entity</a> on page A-4 for details.
<b>SourcingApprovalIdentifier</b>	tSCRMSourcingApprovalIdentifier[]	Array of one or more sourcing approval PKIDs or sourcing approval numbers.

### Output

- 1 Each specification-related sourcing approval includes:
  - Source Company Number
  - Source Company Cross Reference(s)
  - Source Facility Number
  - Source Facility Cross Reference
  - Specification Number
  - Specification Cross Reference(s)
  - Receiving Facilities (collection of facility numbers, facility names, and cross references)
  - Status
  - Supplier Item Number
  - Supplier Signed Boolean
  - Supplier Signed Date
  - Supplier Signed Text
  - Sourcing Type

- Protocol ID
- Class
- Notes
- QA Assigned (usernames)
- SC Assigned (usernames)

**2** Each non-specification related sourcing approval includes:

- Source Company Number
- Source Facility Number
- Source Company Cross References
- Source Facility Cross References
- Item/Service Description
- Receiving Facilities (collection of facility numbers, facility names, and cross references)
- Status
- Sourcing Type
- Class
- Notes
- QA Assigned (usernames)
- SC Assigned (usernames)

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters passed in (SCRM identifier is not a tSCRMSourcingApprovalPKID or tSCRMSourcingApprovalNumber type)
	INVALID_PKID	A valid Sourcing Approval PKID is required
	INVALID_SCRMENTITY_NUMBER	Occurs if you enter a sourcing approval number. A valid Sourcing Approval number is required.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions F1, I1, and I2 in [Special Conditions](#) on page A-1.

## CHAPTER 5

# Using the Nutrition Service Web Services

*This chapter describes the Nutrition Service web service. Topics in this chapter include:*

- ❑ *Overview of Nutrition Service*
- ❑ *Get Nutrient Items per 100g*
- ❑ *Save Nutrient Analysis*
- ❑ *Get Nutrient Analysis*
- ❑ *Get Nutrient Composite*

### Overview of Nutrition Service

NutritionService provides nutrition and Nutrition Surveillance Management (NSM) related operations. The following operations are supported:

Operation	v21	v24	v25	Description
<a href="#">Get Nutrient Items per 100g</a> on page 5-3	●	●	●	Returns the Nutrient Items for a given list of specifications
<a href="#">Save Nutrient Analysis</a> on page 5-5	●	●*	●*	Saves nutrient analysis data (nutrient sample and nutrient item values) for a specification. *v24 added two new fields to analysis input
<a href="#">Get Nutrient Analysis</a> on page 5-8		●	●	Returns the Nutrient Analysis summary and list of Nutrient Items for a given nutrient analysis number
<a href="#">Get Nutrient Composite</a> on page 5-10		●	●	Returns the Nutrient Composite summary, list of Analyses that make up the composite, and the list resulting Nutrient Items for a given nutrient composite number

### Service Endpoint Locations

#### **v21 endpoint**

http://<servername>/Integration/ProdikaContracts/Nutrition/  
NutritionService.svc

**v24 endpoint**

http://<servername>/Integration/ProdikaContracts/Nutrition/v24/  
NutritionService.svc

**v25 endpoint**

http://<servername>/Integration/ProdikaContracts/Nutrition/v25/  
NutritionService.svc

## Get Nutrient Items per 100g

### Description

The Get Nutrient Items per 100g web method gets a list of nutrient items for each of the specified GSM specifications. For material and product specifications, nutrient items are retrieved from the nutrient composition. For trade and menu item specifications, nutrient items are retrieved from the active nutrient profile. Additionally, the nutrient items from a given nutrient profile specification can also be retrieved.

### Input

- 1 AllowOnlyApprovedSpec flag—If included and set to “True,” only approved specifications will be included in the output. See [Condition C - Allow Only Approved Spec](#) on page A-1 for more information.
- 2 Array named specIdentifierCriterion of type tSpecIdentifierCriterion—The identifiers can refer to any GSM specification type that associates with nutrient profiles or nutrient compositions. See [tSpecIdentifierCriterion](#) on page A-7 for more information.

Table 5-1: Input

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects

### Output

The only output is an array named NutrientData. The elements are of type tNutrientDataWrapper (see [tNutrientDataWrapper](#) on page A-17 for more information). Each tNutrientDataWrapper element lists the nutrient items for one specification. Each nutrient item contains:

- InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
- ValuePer100Gms—The numerical value for 100 grams
- UOM—Unit of measure
  - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
  - ID—The unit of measure identification number.
  - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.

- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Additional comments about this particular nutrient.

Table 5-2: Output

Name	Type	Description
<b>NutrientData</b>	tNutrientDataWrapper	Nutrient items for one specification

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	Unexpected exception occurs when loading specification information
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SPEC_TYPE	The specification type is not supported
	NO_VALID_PARAMETERS	No valid parameters used
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, D.1 (Types: 1004, 2147, 5750, 5816, 6500, 6501), E, F, and H in [Special Conditions](#) on page A-1.



## Save Nutrient Analysis

### Description

Use the SaveNutrientAnalysis web service to import new nutrient analysis entries into NSM. For a given specification, the web service takes a list of NutrientSamples, which includes a specification number, SCRM facility, a list of business units, and a list of nutrient items.

Results of the web service call include an overall success indicator and a list of all nutrient analyses that have been imported. Each nutrient analysis result contains a system-generated analysis number and the sample number used as input.

### Input

Input is a list of tNutrientSample objects. Each NutrientSample contains a SampleSummary and a list of NutrientItems.

- SampleSummary
  - SampleNumber—The number to assign to the nutrient analysis
  - SampleType—Type name to assign to the nutrient analysis
  - GtinUPC—GTIN UPC value
  - SpecNumber—The specification to associate this nutrient analysis to. May be a SpecNumber-IssueNumber or a cross reference. If using a cross reference and the cross reference is associated to multiple specifications, an error will occur.
  - SourceFacility—The SCRM facility to associate this nutrient analysis to. May be an facility number or cross reference. If the cross reference is associated to multiple facilities, an error will occur.
  - BusinessUnits—List of business units to associate the analysis to. Each business unit entry must contain the full business unit alias (for example, “CPI North America Retail”).
  - AnalysisDate
  - SentToLabDate—Optional; Available for v24 only
  - ReceivedFromLabDate—Optional; Available for v24 only
  - Description—Text field
- NutrientItems—List of nutrient items. Each nutrient item contains:
  - InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
  - ValuePer100Gms—The numerical value for 100 grams
  - UOM—Unit of measure
    - ISOCCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.

- ID—Not used
- Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Text field

## Output

The result will be an overall success indicator and a list of all nutrient analyses that have been imported.

- IsSuccessful—True or False
- Results—List of NutrientAnalysisResult objects. Each NutrientAnalysisResult object provides a system generated AnalysisNumber for the newly imported nutrient analysis, and its corresponding SampleNumber used as input.
- AnalysisNumber—System generated reference number for the nutrient analysis
- SampleNumber—Number used as input to assign to the nutrient analysis

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-4: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>INVALID_INPUT</b>	INVALID_SECURITY_PRIVILEGES	User must have role [NUTRIENT_ANALYSIS_CREATOR] to save nutrient analysis data
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 5-4: Result codes (continued)

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_INVALID_INPUT</b>	NUTRITION_SAMPLE_INVALID	Nutrient sample required
	NUTRITION_ANALYSIS_INVALID	No valid parameters for nutrient analysis
	MAX_RECORDS_SAVED	Maximum records count allowed for nutrient analysis records save exceeded. Request rejected.
	NUTRITION_ANALYSIS_INVALID_SAMPLENUMBER	Nutrient analysis Sample Number input invalid (must be 50 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_SAMPLETYPE	Nutrient analysis Sample Type input invalid (must be 50 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_DESCRIPTION	Nutrient analysis Description length invalid (must be 1024 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_GTINUPC	Nutrient analysis GTINUPC input invalid (must be 14 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_SCRM_FACILITY	Nutrient analysis SCRM source Facility input invalid. See <a href="#">Condition I - SCRM Entity Input</a> on page A-4.
	NUTRIENT_ANALYSIS_INVALID_BUSINESS_UNIT	No business unit found for given alias
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NUTRIENT_ITEM_INVALID_COMMENT	Nutrient item Comments must be 512 alphanumeric characters or less
	NUTRIENT_ITEM_INVALID_UOM	Unit of measure not found for given ISOCode or abbreviation
	NUTRIENT_ITEM_INVALID_INFOODS_CODE	No Infoods Code found for given input value
	NUTRIENT_ITEM_INVALID_SOURCE	Provide Source cannot be found
	UNKNOWN_ERROR	Unknown error retrieving SCRM facility information
<b>RESULT_FAILURE</b>	NUTRIENT_SAMPLE_SAVE_ERROR	Unknown error saving nutrient analysis

## Notes

See Conditions A.1, A.2, E, G, H, and I in [Special Conditions](#) on page A-1.

## Get Nutrient Analysis

### Description

Use the GetNutrientAnalysis web service to retrieve the Nutrient Analysis summary and list of Nutrient Items for a given nutrient analysis number. The associated SCRM facility information will only be returned if the calling user has access permission to the facility.

### Input

- 1 A nutrient analysis number

Table 5-5: Input

Name	Type	Description
<b>AnalysisNumber</b>	String Max length = 8	Unique numerical identifier for the nutrient analysis. Required.

### Output

- NutrientAnalysisSummary
  - AnalysisNumber —System-assigned analysis number
  - SampleNumber—User-defined number for the sample. This can be alpha or numeric.
  - Description—Description of the analysis
  - specificationIdentifier
    - Spec # and Issue #
    - List of Cross References
  - GTIN\_UPC—GTIN UPC value
  - SampleType —User-defined field denoting the type of sample, such as raw material or finished product
  - Facility—The facility where the sample is sourced
  - HasAccessToSourceFacility—Set to false if user does not have access to the source facility
  - List of BusinessUnits—List of business units to associate the analysis to. Each business unit entry must contain the full business unit alias (for example, “CPI North America Retail”).
  - AnalysisDate
  - LastUpdateDate
  - SentToLabDate
  - ReceivedFromLabDate
  - Originator (Name, ExternalId)

- List of Nutrient Items. Each nutrient item contains:
  - InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
  - ValuePer100Gms—The numerical value for 100 grams
  - UOM—Unit of measure
    - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
    - ID—The unit of measure identification number
    - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
  - Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
  - Comments—Additional comments about this particular nutrient

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	NUTRITION_ANALYSIS_NUMBER_INVALID	Nutrient Analysis Number is required. Nutrient Analysis Number length must not be more than 8 characters
	NUTRITION_ANALYSIS_NOT_FOUND	No nutrient analysis found with given nutrient analysis number
	INVALID_SECURITY_PRIVILEGES	If user does not have permission for the nutrient analysis' related specification

## Notes

See Conditions B (for the nutrient analysis' related specification) and H in [Special Conditions](#) on page A-1.

## Get Nutrient Composite

### Description

Use the GetNutrientComposite web service to retrieve the Nutrient Composite summary, list of Analyses that make up the Composite, and the list resulting Nutrient Items for a given nutrient composite number. The resulting nutrient items list is a composite of the nutrient analyses according to their weighted values. Each resulting nutrient item returned does not include the source or comments data.

The nutrient composite information will only be returned if the calling user has access to the associated Specification.

### Input

- 1 A nutrient analysis number

Table 5-7: Input

Name	Type	Description
<b>CompositeNumber</b>	String Max length = 10	Unique numerical identifier for the nutrient composite. Required.

### Output

The following Nutrient Composite data is returned:

- NutrientCompositeSummary
  - CompositeNumber
  - Title
  - Description
  - SpecificationIdentifier
    - Spec # and Issue #
    - List of Cross References
  - List of BusinessUnits
  - CompositeDate
  - LastUpdateDate
  - Originator (Name, ExternalId)
- List of Weighted Nutrient Analyses

- Each Weighted Analysis has:
  - Analysis Number
  - Specification Identifier
  - Analysis Date
  - Weighting
  - Comments
- List of Nutrient Items. Each nutrient item has:
  - InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
  - ValuePer100Gms—The numerical value for 100 grams
  - UOM—Unit of measure
    - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
    - ID—The unit of measure identification number
    - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
  - Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
  - Comments—Text field

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	NUTRITION_COMPOSITE_NUMBER_INVALID	Nutrient Composite Number is required. Nutrient Composite Number length must not be more than 10 characters.
	NUTRITION_COMPOSITE_NOT_FOUND	No nutrient composite found with given nutrient composite number
	INVALID_SECURITY_PRIVILEGES	If user does not have permission for the composite's specification

## Notes

See Conditions B (for the nutrient composite's related specification) and H in [\*Special Conditions\*](#) on page A-1.



## Using the Custom Data Services Web Services

This chapter describes the Custom Data Services web service. Topics in this chapter include:

- ❑ Overview of Custom Data Services
- ❑ Service endpoint location(s)
- ❑ Get Spec Custom Sections
- ❑ Get Spec Extended Attributes
- ❑ Get SCRM Custom Sections
- ❑ Get SCRM Extended Attributes
- ❑ Save Custom Lookup
- ❑ Get Custom Sections MetaData
- ❑ Get Extended Attributes MetaData
- ❑ Get EQ Custom Sections
- ❑ Get EQ Extended Attributes
- ❑ Get Calculated Custom Section

### Overview of Custom Data Services

CustomDataServices provides operations related to extended attributes and custom sections. The following operations are supported:

Operation	v21	v24	v25	Description
<a href="#">Service endpoint location(s)</a> on page 6-2	●	●	●	Returns an XML Schema describing the specified custom sections format expected when calling one of the other getXCustomSections web services.
<a href="#">Get Spec Custom Sections</a> on page 6-4	●	●	●	Returns the specified custom section data for the given specifications if the user has read permissions. The resulting custom section XML is unique for each custom section type/template.
<a href="#">Get Spec Extended Attributes</a> on page 6-6	●	●	●	Returns all extended attributes for the given GSM specifications.
<a href="#">Get SCRM Custom Sections</a> on page 6-8	●	●	●	Returns the specified custom section data for the given companies, facilities, or sourcing approvals.

Operation	v21	v24	v25	Description
<a href="#">Get SCRM Extended Attributes</a> on page 6-12	●	●	●	Returns all extended attribute data for the given companies, facilities, or sourcing approvals.
<a href="#">Save Custom Lookup</a> on page 6-14	●	●	●	Updates the custom import lookup table, used by qualitative lookup extended attributes, with the provided lookup entries.
<a href="#">Get Custom Sections MetaData</a> on page 6-16		●	●	Returns custom section meta data describing various attributes of the given custom section.
<a href="#">Get Extended Attributes MetaData</a> on page 6-18		●	●	Returns extended attribute meta data describing various attributes of the given extended attribute.
<a href="#">Get EQ Custom Sections</a> on page 6-20		●	●	Returns the specified custom section data for the given eQuestionnaire.
<a href="#">Get EQ Extended Attributes</a> on page 6-22		●	●	Returns all extended attribute data for the given eQuestionnaire.
<a href="#">Get Calculated Custom Section</a> on page 6-24		●	●	Returns a calculated version of a custom section for a given custom section number and GSM specification. Data can be provided to override existing specification data used in the calculation.

## Service endpoint location(s)

### v21 endpoint

http://<servername>/Integration/ProdikaContracts/Common/  
CustomDataServices.svc

### v24 endpoint

http://<servername>/Integration/ProdikaContracts/Common/v24/  
CustomDataServices.svc

### v25 endpoint

http://<servername>/Integration/ProdikaContracts/Common/v25/  
CustomDataServices.svc

## Get Custom Section Schema

### Description

This web method gets an XML schema describing a custom section. (See <http://www.w3.org/XML/Schema> for the XML Schema specification.) Custom sections are composed of rows and columns of extended attributes. Extended attributes are of a limited number of types. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies those types.

### Input

Table 6-1: Input

Name	Description
<b>CustomSectionID</b>	A unique ID number assigned to a custom section when it is created. The editor label for this value is: "Section Number."

### Output

Table 6-2: Output

Name	Description
<b>customSectionID</b>	The ID number passed as input
<b>Schema</b>	An XML schema describing the custom section

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_CUSTOM_SECTION_NUMBER	Invalid Custom Section number
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.

## Get Spec Custom Sections

### Description

This method gets custom section data for GSM specifications. The query is limited to the identified specifications and custom section types. Not all specified specifications may have every specified custom section type.

### Input

Table 6-4: Input

Name	Description
<b>CustomSectionNumbers</b>	Array of custom section ID numbers
<b>AllowOnlyApprovedSpec</b>	If set to true, only the latest Approved issue number is retrieved, if one exists (see <a href="#">Condition C - Allow Only Approved Spec</a> on page A-1).
<b>specIdentifierCriterion</b>	Array of tSpecIdentifierCriterion. These identify which specifications to query. For more information see <a href="#">tSpecIdentifierCriterion</a> on page A-7.

### Output

A tCustomSectionSpec element is returned for each specification that is found. These have two sub-elements:

- 1 **SpecificationNumber**—Identifies a specification that matched one input. It is of type tSpecificationNumber, as explained in [tSpecificationNumber](#) on page A-7.
- 2 **Sections**—Lists any custom sections of the types specified in the input that belong to the specification. Within “Sections” is one or more tCustomSectionSpec elements. There is one per custom section found. Each tCustomSectionSpec has a tExtension element containing an Any element. The nodes under this conform to the XML schema returned by GetCustomSectionSchema (see [Get Custom Section Schema](#) on page 6-3).

The sub-node is the section name. It in turn contains a node per row. Row nodes contain one node per column. Column nodes contain the actual values.

To summarize, the hierarchy is: Sections / tExtension / Any / <section-type> / <row\_name> / <column\_name> / <extended-attribute-type> / Value. The first column contains labels instead of values.

Object Level Security is evaluated for each custom section returned based on the web service user. Custom sections without appropriate security privileges are removed from the results, and include the INVALID\_SECURITY\_PRIVILEGES message.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-5: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition G - Max Records Allowed For Save</a> on page A-2.
	INVALID_SECURITY_PRIVILEGES	User must have role [EXTERNALLY_MANAGED_CROSS_REF_ADMIN] to modify cross references. User does not have access to requested custom section.
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing criteria or custom section number
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.
	CUSTOM_SECTION_RETRIEVAL_ERROR	Unknown error getting custom section data

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Spec Extended Attributes

### Description

This web method gets extended attribute data for GSM specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either
- 2 Allow Only Approved Spec—Specifications returned must be in an Approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 6-6: Input

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects. See <a href="#">tSpecIdentifierCriterion</a> on page A-7.

### Output

A tExtendedAttributeSpec element is returned for each specification that is found. These have two sub-elements:

- 1 SpecificationNumber—Identifies a specification that matched one input. It is of type tSpecificationNumber.
- 2 ExtendedAttributes—Lists any extended attributes that belong to the specification inside the Any node. Each attribute has a Value element. The body is the value. An ISO code for the unit of measure is in the unit of measure (UOM) attribute. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies the format for each extended attribute type.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-7: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.
	SPEC_LOAD_ERROR	Unexpected exception loading specifications
	UNKNOWN_ERROR	Unknown error getting extended attributes data
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing criteria or custom section number
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNING</b>	EXTENDED_ATTRIBUTE_GENERATION_ERROR	Error generating extended attribute XML data for specification
	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition G - Max Records Allowed For Save</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get SCRM Custom Sections

### Description

This method gets custom section data for SCRM companies, facilities, and sourcing approvals. The query is limited to the identified companies, facilities, sourcing approvals, and custom section types. Not all specified companies, facilities, and sourcing approvals may have every specified custom section type.

The inputs and outputs for each SCRM object are listed below:

### Company Profile

Table 6-8: Input and Output

Input	Output
<b>CompanyNumber/CompanyCrossReference</b>	Custom Section message matching the specification custom section message
<b>CustomSectionNumbers</b>	

### Facility Profile

Table 6-9: Input and Output

Input	Output
<b>FacilityNumber/FacilityCrossReference</b>	Custom Section message matching the specification custom section message
<b>CustomSectionNumbers</b>	



## Specification Related Sourcing Approval

Table 6-10: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Custom Section message matching the specification custom section message	GSM Business Unit and Object Level Security
<b>CustomSectionNumbers</b>		
<b>AllowOnlyApprovedEntity (optional)</b>	boolean	<p>True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag. Refer to <a href="#">config\Custom\CustomizerSettings.config</a> on page 2-3 for more information.</p> <p>False—Sourcing approvals returned may be in any status.</p> <p>This input applies only to sourcing approvals. It is ignored when pulling data from companies or facilities.</p>

## Non-Specification Related Sourcing Approval

Table 6-11: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Custom Section message matching the specification custom section message	Object Level Security
<b>CustomSectionNumbers</b>		
<b>Allow Only Approved Entity (optional)</b>	Input for non-specification related sourcing approval.	

### Input

- 1 **SCRMEntityInputCriteria**—Include a set of SCRM entities which may be SCRMCompany, SCRMFacility or SCRMSourcingApproval.
- 2 **CustomSectionNumbers**—Include a list of custom section numbers needed to retrieve from the entities which match the criteria in SCRMEntityInputCriteria.
- 3 **Allow Only Approved Entity (optional)**:
  - True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag.
  - False—Sourcing approvals returned may be in any status.

## Output

Each tSCRMCustomSection in the CustomSections list will include:

- 1 EntityInfo—If the entity is a company or facility, this field will include the entity number and cross references. For a sourcing approval entity, this field will include the sourcing approval PKID.
- 2 Sections—Lists any custom sections of the types specified in the input that belong to the entity.

Each [Sections] node has one or more Extension elements containing an [Any] element.

The sub-node is the section name. It in turn contains a node per row. Row nodes contain one node per column. Column nodes contain the actual values.

To summarize, the hierarchy is:

Sections / tExtension / Any / <section-type> / <row\_name> /  
<column\_name> / <extended-attribute-type> / Value.

The first column contains labels instead of values.

Object Level Security is evaluated for each custom section returned based on the web service user. Custom sections without appropriate security privileges are removed from the results, and include the INVALID\_SECURITY\_PRIVILEGES message.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-12: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	CUSTOM_SECTION_RETRIEVAL_ERROR	Occurs if cannot retrieve custom sections or if current user has no read permission about matching entity

Table 6-12: Result codes (continued)

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing criteria or custom section number(s)
	INVALID_SCRMENTITY_NUMBER	Entity number is not a 7 digit number
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PKID	PKID input is not a valid sourcing approval (specification-related and non-specification related) PKID
	INVALID_CUSTOM_SECTION_NUMBER	Custom Section numbers are required

## Notes

See Conditions F.1, I.1, and I.2 in [Special Conditions](#) on page A-1. For specification related sourcing approvals, see B.1.

## Get SCRM Extended Attributes

### Description

The GetSCRMExtendedAttributes web service pulls all extended attributes on a company, facility, or sourcing approval.

The inputs and outputs for each SCRM object are listed below:

### Company Profile

Table 6-13: Input and Output

Input	Output
<b>Company Identifier (CompanyNumber/ CompanyCrossReference)</b>	Group of Extended Attributes matching the specification extended attributes message

### Facility Profile

Table 6-14: Input and Output

Input	Output
<b>FacilityNumber/FacilityCrossReference</b>	Group of Extended Attributes matching the specification extended attributes message

### Specification Related Sourcing Approval

Table 6-15: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Group of Extended Attributes matching the specification extended attributes message	GSM Business Unit and Object Level Security
<b>Allow Only Approved Entity (optional)</b>		

### Non-Specification Related Sourcing Approval

Table 6-16: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Group of Extended Attributes matching the specification extended attributes message	Object Level Security
<b>Allow Only Approved Entity (optional)</b>		

### Input

- 1 SCRMEntityInputCriteria—Include a set of SCRM entities which may be SCRMCompany, SCRMFacility or SCRMSourcingApproval.
- 2 Allow Only Approved Entity (optional)
  - True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag.
  - False—Sourcing approvals returned may be in any status.

## Output

A tSCRMExtendedAttributes element is returned for each SCRM entity that is found. These have two sub-elements:

- 1 EntityInfo—If the entity is a company or facility, this field will include the entity number and cross references. For a sourcing approval entity, this field will include the sourcing approval PKID.
- 2 ExtendedAttributes—Lists any extended attributes that belong to the entity inside the [Any] node. Each attribute has a Value element. The body is the value. An ISO code for the unit of measure (UOM) is in the unit of measure attribute. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies the format for each extended attribute type.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-17: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	SCRMEntityInputCriteria missing or input format is invalid
	INVALID_SCRMENTITY_NUMBER	Entity number is not a 7 digit number
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See I.2.b of <a href="#">Condition I - SCRM Entity Input</a> on page A-4.
	INVALID_PKID	PKID input is not a valid sourcing approval (specification-related and non-specification related) PKID
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	SCRM_EXTENDEDATTRIBUTES_LOAD_ERROR	Occurs if cannot retrieve Extended Attributes or if the current user has no read permission about matching entity

## Notes

See Conditions F.1, I.1, and I.2 in [Special Conditions](#) on page A-1. For specification related sourcing approvals, see B.1.

## Save Custom Lookup

### Description

This web method adds items to the lookup lists used by qualitative lookup extended attributes. Those extended attributes refer to a category of lookups that are displayed as checkboxes, radio buttons, or other types of lists in the user interface.

Multiple lookup items may be added in each call. Lookup items must have a category, name, external ID, sequence, and status. If the category does not already exist, it is created.

### Input

The only input is an array named CustomLookup of type tCustomLookup. See [tCustomLookup](#) on page A-17 for more information. Category, SequenceID and Status are required fields.

### Output

The only output is a flag named IsSuccessful. It is “True” if no errors occurred while saving the new lookup options.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-18: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>INVALID_INPUT</b>	INVALID_SECURITY_PRIVILEGES	User must have role [DATA_ADMIN] or [SUPER_DATA_ADMIN] to save custom lookup data
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.

Table 6-18: Result codes (continued)

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_INVALID_INPUT</b>	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded. Request rejected.
	CUSTOM_LOOKUP_CATEGORY_INVALID	Category required with maximum length of 150 characters
	CUSTOM_LOOKUP_EXTERNALID_INVALID	ExternalID must be <= 80 characters
	CUSTOM_LOOKUP_VALUE_INVALID	Value must be <= 150 characters
	CUSTOM_LOOKUP_STATUS_INVALID	Status must be 0 (Inactive) or 1 (Active)
	CUSTOM_LOOKUP_INVALID	tCustomLookup must contain data
	CUSTOM_LOOKUP_SEQUENCE_INVALID	Sequence must be numeric and <= 4 digits

## Notes

See Condition G in *Special Conditions* on page A-1.

## Get Custom Sections MetaData

### Description

Use the GetCustomSectionsMetaData web service to retrieve the custom section profiles for a given custom section.

### Input

- 1 A custom section ID or a custom section number.

Table 6-19: Input

Name	Type	Description
<b>customSectionMetaDataInputCriteria</b>	tCustomSectionMetaDataInputCriteria	A tCustomSectionMetaDataInputCriteria object

### Output

The following custom section profile data is returned for each custom section:

- Custom Section Number
- Custom Section ID
- Custom Section Dynamic Tags
- Custom Section Hide Header
- Custom Section Row (Sequence, ID and Dynamic Tags)
- Custom Section Column (Sequence, ID, Width, Print Width, and Dynamic Tags)

Table 6-20: Output

Name	Type	Description
<b>customSections</b>	tCustomSection[]	Array of tCustomSection objects



## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-21: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	CUSTOM_SECTION_ID_INVALID	Custom Section ID input format is invalid. See #1 of <a href="#">Condition O - Invalid Custom Sections Metadata Input Formats</a> on page A-5.
	CUSTOM_SECTION_NUMBER_INVALID	Custom Section Number input format is invalid. See #2 of <a href="#">Condition O - Invalid Custom Sections Metadata Input Formats</a> on page A-5.
	INVALID_INPUT_CRITERIA_NUMBER	Input type is neither tCustomSectionID nor tCustomSectionNumber
	NO_CUSTOM_SECTION_FOUND	Occurs if any custom section cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions O1 and O2 in [Special Conditions](#) on page A-1.

## Get Extended Attributes MetaData

### Description

Use the GetExtendedAttributesMetaData web service to retrieve the extended attribute profiles for a given extended attribute.

### Input

- 1 An extended attribute ID.

Table 6-22: Input

Name	Type	Description
<b>extendedAttributeID</b>	string	Extended Attribute ID

### Output

The following extended attribute profile data is returned for each extended attribute:

- Extended Attribute ID
- Extended Attribute Dynamic Tags

Table 6-23: Output

Name	Type	Description
<b>extendedAttributes</b>	tExtendedAttribute []	Array of tExtendedAttribute objects

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-24: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	EXTENDED_ATTRIBUTE_ID_INVALID	Extended Attribute ID input format is invalid. See <a href="#">Condition P - Invalid Extended Attributes MetaData Input Formats</a> on page A-5.
<b>RESULT_WARNINGS</b>	NO_EXTENDED_ATTRIBUTE_FOUND	Occurs if any extended attribute cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Condition P in *Special Conditions* on page A-1. If the Extended Attribute is distinct, there will be an extra value called “Is Distinct” returned in Dynamic Tags.

## Get EQ Custom Sections

### Description

Use the GetEQCustomSections web service to retrieve the eQ custom section profiles for a given eQ.

### Input

- 1 An eQ number and a list of custom section numbers.

Table 6-25: Input

Name	Type	Description
<b>eqNumber</b>	tEQNumber	An tEQNumber object
<b>csNumbers</b>	string []	A list of eQ custom section numbers

### Output

The following eQ custom section profile data is returned for each eQ:

- EQ Number
- tExtension (Any, MustUnderstand and MustUnderstandSpecified)

Table 6-26: Output

Name	Type	Description
<b>sections</b>	List<tExtension>	Array of tExtension objects

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-27: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request

Table 6-27: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	EQ_CUSTOM_SECTION_NUMBER_INVALID	EQ Custom Section Number input format is invalid. See #2 of <a href="#">Condition O - Invalid Custom Sections MetaData Input Formats</a> on page A-5.
	INVALID_SECURITY_PRIVILEGES	Occurs if the API user has no read permission to eQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
<b>RESULT_WARNINGS</b>	NO_EQ_FOUND	Occurs if any eQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, N2, and O2 in [Special Conditions](#) on page A-1.

## Get EQ Extended Attributes

### Description

Use the GetEQExtendedAttributes web service to retrieve the eQ extended attribute profiles for a given list of eQs.

### Input

- 1 A list of eQ Numbers.

Table 6-28: Input

Name	Type	Description
<b>eqNumber</b>	tEQNumber	A list of tEQNumber objects

### Output

The following eQ extended attribute profile data is returned for each eQ:

- EQ Number
- tExtension (Any, MustUnderstand and MustUnderstandSpecified)

Table 6-29: Output

Name	Type	Description
<b>extensions</b>	tEQExtendedAttribute[]	Array of tEQExtendedAttribute objects

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-30: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request

Table 6-30: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	Occurs if the API user has no read permission to eQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
<b>RESULT_WARNINGS</b>	NO_EQ_FOUND	Occurs if any eQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get Calculated Custom Section

### Description

The GetCalculatedCustomSection web service provides the ability to retrieve and recalculate custom section data for a given specification with additional overridable parameters. The calculated custom section data is not preserved on the specification.

### Input

- 1 A specification number or cross reference
- 2 Custom Section ID
- 3 A list of custom section column IDs
- 4 A list of custom section row IDs
- 5 A set of overridable properties to be used by calculation scripts

Table 6-31: Input

Name	Type	Description
<b>CustomSectionID</b>	string	A custom section ID
<b>HostSpecificationIdentification</b>	tSpecIdentifierCriterion	tCrossReference: cross reference of a spec tSpecificationNumber: specification number of a spec
<b>HostContext</b>	tSpecIdentifierCriterion	The HostContext field is currently a placeholder, and is not used
<b>ColumnIDs</b>	String[]	An array of column IDs that a resulting custom section will have. If not specified, no column filter will be applied.
<b>RowIDs</b>	String[]	An array of row IDs that a resulting custom section will have. If not specified, no row filter will be applied.
<b>Overrides</b>	tOverrideParameterHolder	A holder for overridable specification properties. See Input Overrides for detailed list of overridable properties.

### Input Overrides

Table 6-32: Input Overrides

Name	Type	Description
<b>NutrientItems</b>	tNutrientItemInput[]	An array of nutrients to be overridden. If a nutrient is present on a specification, its value will be overridden if it is specified in this array.
<b>AllergensMustContain</b>	tComplianceItemContained[]	An array of “must contain” allergens to be overridden
<b>AllergensMayContain</b>	tComplianceItemContained[]	An array of “may contain” allergens to be overridden
<b>AdditivesMustContain</b>	tComplianceItemContained[]	An array of “must contain” additives to be overridden



Table 6-32: Input Overrides

<b>AdditivesMayContain</b>	tComplianceItemContained[]	An array of “may contain” additives to be overridden
<b>SensitivitiesMustContain</b>	tComplianceItemContained[]	An array of “must contain” sensitivities/intolerances to be overridden
<b>SensitivitiesMayContain</b>	tComplianceItemContained[]	An array of “may contain” sensitivities/intolerances to be overridden
<b>ExtendedAttributes</b>	tExtendedAttributeBase[]	An array of distinct extended attributes to be overridden. The following types can be specified: <ul style="list-style-type: none"> <li>• tExtendedAttributeText</li> <li>• tExtendedAttributeDate</li> <li>• tExtendedAttributeNumeric</li> <li>• tExtendedAttributeQuantitativeRange</li> <li>• tExtendedAttributeQualitative</li> <li>• tExtendedAttributeBoolean</li> </ul>
<b>PercentTotalSolids</b>	double	A decimal representation of a percent of a specification total solids
<b>EdiblePortion</b>	double	A decimal representation of a percent of a specification edible portion
<b>DensityMass</b>	tMeasurement	Mass portion of a specification density
<b>DensityVolume</b>	tMeasurement	Volume portion of a specification density
<b>AmountPerServing</b>	tMeasurement	Amount per serving of a specification
<b>ReferencedAmount</b>	tMeasurement	Reference amount of a specification
<b>TareWeightRefWeight</b>	tMeasurement	Tare weights reference weight of a specification
<b>TareWeight</b>	tMeasurement	Tare weight of a specification
<b>TareWeightBase</b>	double	Tare weight base amount of a specification

## Output

The following Custom section data is returned:

- A custom section (See the GetSpecCustomSection web service output for details)
- List of resulting calculation errors

Table 6-33: Output

Name	Type	Description
<b>CustomSectionSpecs</b>	tCustomSectionSpec[]	Array of one custom section specification
<b>CalculationErrors</b>	String[]	Array of calculation errors produced by calculation process

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-34: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_INPUT_CRITERIA_NUMBER	Input criteria is too broad. It has to match only one specification.
	INVALID_SECURITY_PRIVILEGES	Current user does not have access to the custom section for the given specification
	INVALID_CUSTOM_SECTION_NUMBER	Invalid custom section number
<b>RESULT_FAILURE</b>	UNKNOWN_SCHEMA_GENERATION_ERROR	Occurs when an unexpected exception occurs during a call of a web service

## Notes

The web service provides the ability to override values on distinct extended attributes only. There is no ability to override values on a particular cell unless it holds a distinct attribute.

Although the web service calculates and returns repeatable rows, filtering around these rows is not supported, as repeatable rows cannot be uniquely identified.

The web service currently does not support custom section calculations for Theoretical Outputs.

Any additional calculations on a specification (i.e. BOM calculation, per serving calculation) that are typically done through the **Calculate** button on the UI will not be performed.



# Using the Cost Services Web Service

---

*This chapter describes the Cost Services web service. Topics in this chapter include:*

- ❑ *Overview of Cost Services*
  - ❑ *Save DWB Spec Cost*
- 

## Overview of Cost Services

CostServices provides formulation specification costing related capabilities. The following operations are supported:

Operation	v21	v24	v25	Description
<a href="#">Save DWB Spec Cost</a> on page 7-2	●	●	●	Imports specification costing information for formulation specifications calculations based on cost type, SCRM entity, and more.

## Service Endpoint Location(s)

### v21 endpoint

http://<servername>/Integration/ProdikaContracts/DWB/ CostServices.svc

### v24 endpoint

http://<servername>/Integration/ProdikaContracts/DWB/v24/CostServices.svc

### v25 endpoint

http://<servername>/Integration/ProdikaContracts/DWB/v25/CostServices.svc

## Save DWB Spec Cost

### Description

SaveDWBSpecCost saves costing data for specifications used as inputs in formulation specification calculations. Multiple cost items can be sent in one message group, where the Timestamp input value determines cost availability. Each cost item is categorized by the SCRM entity, cost type grouping, specification, and currency. Formulation specifications can pull in the data imported through this web service by refreshing the application cache.

### Input

Table 7-1: Input

Name	Description
<b>CostCulture</b>	Optional description of the culture
<b>MessageID</b>	This alphanumeric value must be unique. It helps prevent the same cost data being imported twice.
<b>OrganizationalUnitID</b>	Optional key for a business unit
<b>PrincipalName</b>	Optional name
<b>Timestamp</b>	Current time
<b>CostItems</b>	Array of tCostItem, as described on <a href="#">tCostItem</a> on page A-11

### Output

Table 7-2: Output

Name	Description
<b>SequenceNumber</b>	Unique ID assigned to this cost import
<b>NumberOfItemsImported</b>	This number should match the number of tCostItem nodes in the input. See <a href="#">tCostItem</a> on page A-11 for more information.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 7-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_MESSAGE_ID	The input message ID must be unique across all calls, and must be 128 characters or less
	NO_VALID_PARAMETERS	Invalid Cost message - no data passed
	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded. Request rejected.
	INVALID_COST_MESSAGE_COST_CULTURE	Optional, must be <= 10 characters
	INVALID_COST_MESSAGE_ORGUNITID	Optional, must be <= 48 characters
	INVALID_COST_MESSAGE_PRINCIPAL_NAME	Optional, must be <= 100 characters
	INVALID_COST_ITEMS_INPUT	No cost items to import
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The description explains the problem
	INVALID_CURRENCY	No currency has the specified ISO code
	INVALID_UOM_ISO_CODE	No unit of measure was found for an ISO code
	INVALID_COST_TYPE	Cost Type must be <= 12 characters
	INVALID_COSTITEM_EQUIVALENT	Optional; must be <= 24 characters
	INVALID_SCRM_ENTITY	Invalid SCRM Facility input; SCRM Facility could not be found
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.

## Notes

See Conditions E, G, and I in [Special Conditions](#) on page A-1.





# Using the Bill of Materials Web Service

*This chapter describes the Bill of Materials web service. Topics in this chapter include:*

- ❑ *Overview of Bill of Materials*
- ❑ *Get Output BOM*
- ❑ *Get Formulation BOM*

## Overview of Bill of Materials

BillOfMaterials provide capabilities related to a formulation specification's Bill of Materials (BOM) information. The following operations are supported:

Operation	v21	v24	v25	Description
<a href="#">Get Output BOM</a> on page 8-2	*	●	●	Returns the bill of materials data for a given material specification which is an output of a formulation specification. * Formulation specs replace process specifications in this call; contract was not fully compatible - upgrade to v24 required.
<a href="#">Get Formulation BOM</a> on page 8-7		●	●	Returns the bill of materials data for a given formulation specification.

## Service Endpoint Locations

### v24 endpoint

http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v24/ BillOfMaterialsServices.svc

### v25 endpoint

http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v25/ BillOfMaterialsServices.svc

## Get Output BOM

### Description

Use the GetOutputBOM web service to retrieve the Bill of Materials (BOM) for a given material specification which is an output of formulation specifications. The specification identifier passed in can optionally include a context (specification identifier) which limits the BOM information to a certain formulation specification by that context. If a context is not given, BOM data for all available formulation specifications containing that output will be returned.

A Boolean parameter, CombineLikeItems, is used to determine if the same formula item used in multiple steps of a formulation specification to produce the output material will be returned as one combined row, or as unique rows.

Business unit visibility will be enforceable via the standard API configuration options, but will only be used for determining visibility to the top level specification. All BOM input items will be returned, regardless of BU visibility.

Results will consist of a list of OutputItems for the matching input criteria. Each OutputItem will consist of a list of tBillOfMaterialsContainer items. tBillOfMaterialsContainer has OutSummary, InputSummary, and Context. The context is the formulation specification generating the output item. Also if an input Item A has a context (formulation specification), the input items generate item A from that formulation specification will be returned recursively.

See the [Output](#) section below for details of the data that each context specific Output specification in the result will include.

### Input

- 1 Specification Identifier (specification number or cross reference)
- 2 Specification Context (specification identifier)—Optional; if used, limits the Output BOM information to the BOM data from the producing specification matching the context.
- 3 Combine Like Items (Boolean)
  - True—Combines identical formula items used in multiple steps into one.
  - False—Displays each as a unique item; does not combine.
- 4 Allow Only Approved Spec—Top level specification returned to must be in an Approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

### Output

Each OutputItem in the OutputItems list will include:

- 1 Specification Identifier
- 2 List of tBillOfMaterialsContainer object

Each tBillOfMaterialsContainer will include:

- 1** Context—The context for the output material is the formulation specification that produced it
- 2** Output Summary
  - Output type (string)
    - Product, By-product, Waste, or Reference
  - Beginning Batch Size (Quantity and UOM)
  - Processing Loss Factor
  - Approximate Yield (Quantity and UOM)
  - Beginning Percent Total Solids
  - Water Gain/Loss Factor
  - Final Percent Total Solids
  - Final Density (Mass and volume conversion)
- 3** Input Summary
  - Input Items —List of input items. Each Input item will include:
    - Specification Identifier
    - BOM Annotation—Not used if CombineLikeItems is True
    - Quantity Details
      - Quantity
      - UOM
      - Percent
    - Gain/Loss Factor
  - Quantity Range—Include the max and min quantities of the input when the formulation calculation path set to "Quantity Range". Not used for other calculation paths.
    - Max
      - Quantity
      - UOM
    - Min
      - Quantity
      - UOM
  - Yield Range—Include the max and min quantities of the input when the formulation calculation path is set to "Yield Range". Not used for other calculation paths.
    - Max
      - Quantity
      - UOM

- Min
  - Quantity
  - UOM
- Percent Factor Range—Include the max and min percent factors of the input when the formulation calculation path is set to "Percent Range". Not used for other calculation paths.
  - Max
  - Min
- Yield Details
  - Quantity
  - UOM
  - Percent
- Alternate Input Items—List of alternate input items. Each Alternate will consist of:
  - List of Original Spec Identifier
  - List of Substitute Material items. Each Substitute Material will include:
    - Substitute Material identifier
    - Producing Spec Context
    - Substitute Factor
    - Gain Loss Factor
    - Description
- Packaging Materials
  - Spec Identifier
  - Packaging Type
  - Units: Quantity
  - UOM
  - UOM Category
  - Scrap Factor
  - Quantity Range—Include the max and min quantities of the packaging materials when the formulation calculation path is set to "Quantity Range". Not used for other calculation paths.
    - Max
      - Quantity
      - UOM
    - Min
      - Quantity
      - UOM

- Yield Range—Include the max and min quantities of the packaging materials when the formulation calculation path is set to "Yield Range". Not used for other calculation paths.
  - Max
    - Quantity
    - UOM
  - Min
    - Quantity
    - UOM
- Percent Factor Range—Include the max and min percent factors of the packaging materials when the formulation calculation path is set to "Percent Range". Not used for other calculation paths.
  - Max
  - Min
- Alternate Packaging Materials
  - Original Material Spec Identifier
  - Substitute Material
    - Substitute Material Identifier
    - Producing Spec Content
    - Substitute Factor
    - Gain Loss Factor
    - Description

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8-1: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 8-1: Result codes (continued)

<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_INPUT	A valid tBOMInputCriteria is required
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	Specification (specification number-issue number) must be a material specification
	BOM_ITEM_CALCULATION_ERROR	Occurs when an Input UOM category differs from the batch UOM category and it does not have a Density defined
<b>RESULT_FAILURE</b>	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in [Special Conditions](#) on page A-1.

Packaging Items, Alternate Packaging Items, and Alternate Input Items do not respect “CombineLikeItems”.

## Get Formulation BOM

### Description

Use the GetFormulationBOM web service to retrieve all the formulation outputs with their Bill of Materials (BOM) data for one or more formulation(s) specifications.

A Boolean parameter, CombineLikeItems, is used to determine if the same formula item used in multiple steps of a formulation specification to produce the output material will be returned as one combined row, or as unique rows.

Business unit visibility will be enforceable via the standard API configuration options, but will only be used for determining visibility to the top level specification. All BOM input items will be returned, regardless of BU visibility.

Results will consist of a list of formulation specifications for the matching input criteria. Each formulation specification will consist of a list of outputItems. See the [Get Output BOM](#) on page 8-2 for the details information about OutputItem.

### Input

- 1 Specification Identifier (specification number or cross reference)
- 2 Combine Like Items (Boolean)
  - True —Combines identical formula items used in multiple steps into one.
  - False—Displays each as a unique item; does not combine.
- 3 Allow Only Approved Spec: Specifications returned to must be in an Approved status (see [Condition C - Allow Only Approved Spec](#) on page A-1)

### Output

The following Formulation Specification data is returned for each specification:

- 1 specificationIdentifier
  - Spec # and Issue #
  - List of Cross References
- 2 Array Of tOutputItem outputItems
  - Specification Identifier
  - List of tBillOfMaterialsContainer object
    - OutputSummary
      - Context—Formulation specification
    - Output Summary
      - Output type (string): combination of Product, By-product, Waste, or Reference
      - Beginning Batch Size (quantity & UOM)
      - Processing Loss Factor

- Approximate Yield (quantity & UOM)
- Beginning Percent Total Solids
- Water Gain/Loss Factor
- Min/Max Formula Values
- Final Percent Total Solids
- Final Density (mass & volume conversion)
- InputSummary
  - Array of tInputItems: Input Item
    - Specification Identifier
    - BOM Annotation-Not used if CombineLikeItems is True
    - Quantity Details
      - Quantity
      - UOM
      - Percent
    - Gain/Loss Factor
    - Yield Details
      - Quantity
      - UOM
      - Percent
  - Array of tAlternateInputItems: Alternate Input
    - List of Original Spec Identifier
    - List of Substitute Material items.
      - Substitute Material identifier
      - Producing Spec Context—Not used
      - Substitute Factor
      - Gain/Loss Factor
    - Description
  - Array of tBOMPackagingMaterials: Packaging Material
    - Specification Identifier
    - UOM
    - UOMCategory
    - PackagingType
    - ScrapFactor
    - Units: Quantity
  - Array of tAlternateInputItems: Alternate Packaging Material
    - List of Original Spec Identifier
    - List of Substitute Material items



- Substitute Material identifier
- Producing Spec Context (not used pre 6.0)
- Substitute Factor
- Gain Lost Factor
- Description

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8-2: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_SUMMARY_RETRIEVAL_ERROR	Occurs when an unexpected exception occurs loading a specification

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in [Special Conditions](#) on page A-1.

Packaging Items, Alternate Packaging Items, and Alternate Input Items do not respect “CombineLikeItems”.



# Using the Spec Relationship Services

*This chapter describes the Spec Relationship web service. The operations contained herein were once contained in the GeneralServices - GetSpecRelationships web service, and are now broken out into individual operations for each specification type. Topics in this chapter include:*

- ❑ *Overview of Spec Relationship Services*
- ❑ *Get Formulation Relationships*
- ❑ *Get Ingredient Relationships*
- ❑ *Get Menu Item Relationships*
- ❑ *Get Nutrient Profile Relationships*
- ❑ *Get Packaging Relationships*
- ❑ *Get Printed Packaging Relationships*
- ❑ *Get Product Relationships*
- ❑ *Get Trade Spec Relationships*

## Overview of Spec Relationship Services

SpecRelationship Services provides operations that describe a specification's relationship to other specifications. Specification identifiers are returned for each relationship, and in some cases, contextual information such as quantities, units of measure, and relationships. The following operations are supported:

Operation	Description
<a href="#">Get Formulation Relationships</a> on page 9-3	Returns given formulation specifications' relationships to GSM activities, master specifications, and owned and linked associated specifications.
<a href="#">Get Ingredient Relationships</a> on page 9-5	Returns given material specifications' relationships to packing configuration specifications, parent trade specifications, parent formulation specifications, GSM activities, master specifications, and owned and linked associated specifications.
<a href="#">Get Menu Item Relationships</a> on page 9-8	Returns given menu item specifications' relationships to packaging materials, alternate packaging materials, menu item build items, alternate menu item build items, nutrient profiles, GSM activities, and owned and linked associated specifications.
<a href="#">Get Nutrient Profile Relationships</a> on page 9-11	Returns given nutrient profiles' relationships to various related specifications and GSM activities.

Operation	Description
<a href="#">Get Packaging Relationships</a> on page 9-13	Returns given packaging specifications' relationships to printed packaging specifications, sub components, packing configurations specifications, equipment specifications, GSM activities, and master specifications.
<a href="#">Get Printed Packaging Relationships</a> on page 9-15	Returns given printed packaging specifications' relationships to parent packaging specifications, GSM activities, and master specifications.
<a href="#">Get Product Relationships</a> on page 9-17	Returns given product specifications' relationships to packing configuration specifications, GSM activities, master specifications, and owned and linked associated specifications.
<a href="#">Get Trade Spec Relationships</a> on page 9-19	Returns given trade specifications' relationships to parent trade specifications, next lower level trade specifications, packaging specifications, printed packaging specifications, the related material specification, nutrient profiles, GSM activities, master specifications, and owned and linked associated specifications.

## Service Endpoint Locations

### **v24 endpoint**

<http://<servername>/Integration/ProdikaContracts/Specification/Common/v24/SpecRelationshipServices.svc>

### **v25 endpoint**

<http://<servername>/Integration/ProdikaContracts/Specification/Common/v25/SpecRelationshipServices.svc>

## Get Formulation Relationships

### Description

Use the GetFormulationRelationships web service to retrieve related specification information for a given formulation specification. The service returns given formulation specifications' relationships to GSM activities, master specifications, and owned and linked associated specifications.

Detailed Bill of Material Inputs and Outputs information is available in [Using the Bill of Materials Web Service](#) on page 8-1.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-1: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship
- 3 Explicit Master Specs
  - Specification Identifier (specification number, cross references)
- 4 Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments
- 5 Linked Associated Specifications
  - Specification Identifier (specification number, cross references)

- Association
- Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-2: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Ingredient Relationships

### Description

Use the GetIngredientRelationships web service to retrieve related specification information for a given material specification. Returns given material specifications' relationships to packing configuration specifications, parent trade specifications, parent formulation specifications, GSM activities, master specifications, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-3: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Packing Configuration Specifications
  - Specification Identifier (specification number, cross references)
  - Comments
  - Equivalent
- 3 Parent Trade Specifications
  - Specification Identifier (specification number, cross references)
  - Context Specification Identifier
- 4 Parent Formulation Specifications
  - Specification Identifier (specification number, cross references)
- 5 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship

- 6** Explicit Master Specifications
  - Specification Identifier (specification number, cross references)
- 7** Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments
- 8** Linked Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-4: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.



Table 9-4: Result codes (continued)

<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Menu Item Relationships

### Description

Use the GetMenuItemRelationships web service to retrieve related specification information for a given menu item specification. The service returns given menu item specifications' relationships to packaging materials, alternate packaging materials, menu item build items, alternate menu item build items, nutrient profiles, GSM activities, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-5: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Packaging Materials
  - Specification Type (packaging, printed packaging)
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor
- 3 Alternate Packaging Materials
  - Specification Type (packaging, printed packaging)
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor
  - Substitutes

**4 Menu Item Build Items**

- Specification Identifier (specification number, cross references)
- Quantity
- UOM
- Comments

**5 Alternate Menu Item Build Items**

- Specification Identifier (specification number, cross references)
- Original Spec Identifier
- Substitution Factor
- Description

**6 Nutrient Profiles**

- Specification Identifier (specification number, cross references)
- IsActive
- EffectiveDate
- Status

**7 GSM Activities**

- Activity Type
- Description
- Status
- Relationship

**8 Owned Associated Specifications**

- Specification Identifier (specification number, cross references)
- Association
- Comments

**9 Linked Associated Specifications**

- Specification Identifier (specification number, cross references)
- Association
- Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Nutrient Profile Relationships

### Description

Use the GetNutrientProfileRelationships web service to retrieve related specification information for a given nutrient profile specification. This service returns given Nutrient Profile(s) relationships to various related specifications and GSM activities.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-7: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Related Specifications
  - Specification Identifier (specification number, cross references)
  - Specification Type
- 3 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Packaging Relationships

### Description

Use the GetPackagingRelationships web service to retrieve related specification information for a given packaging specification. This service returns given packaging specifications' relationships to printed packaging specifications, sub components, packing configurations specifications, equipment specifications, GSM activities, and master specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-9: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Printed Packaging Specifications
  - Specification Identifier (specification number, cross references)
- 3 Sub Components
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
- 4 Packing Configuration Specifications
  - Specification Identifier (specification number, cross references)
  - Equivalent
  - Comments
- 5 Equipment Specifications
  - Specification Identifier (specification number, cross references)
- 6 Explicit Master Specifications
  - Specification Identifier (specification number, cross references)

## 7 GSM Activities

- Activity Type
- Description
- Status
- Relationship

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-10: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.



## Get Printed Packaging Relationships

### Description

Use the GetPrintedPackagingRelationships web service to retrieve related specification information for a given printed packaging specification. The service returns given printed packaging specifications' relationships to parent packaging specifications, GSM activities, and master specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-11: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Parent Packaging Material Specifications
  - Specification Identifier (specification number, cross references)
- 3 Explicit Master Specs
  - Specification Identifier (specification number, cross references)
- 4 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-12: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Product Relationships

### Description

Use the GetProductRelationships web service to retrieve related specification information for a given product specification. The service returns given product specifications' relationships to packing configuration specifications, GSM activities, master specifications, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-13: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Packing Configuration Specifications
  - Specification Identifier (specification number, cross references)
  - Comments
  - Equivalent
- 3 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship
- 4 Explicit Master Specifications
  - Specification Identifier (specification number, cross references)
- 5 Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments

**6 Linked Associated Specifications**

- Specification Identifier (specification number, cross references)
- Association
- Comments

**Possible Result Codes**

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-14: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

**Notes**

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Trade Spec Relationships

### Description

Use the GetTradeSpecRelationships web service to retrieve related specification information for a given trade specification. The service returns given trade specifications' relationships to parent trade specifications, next lower level trade specifications, packaging specifications, printed packaging specifications, the related material specification, nutrient profiles, GSM activities, master specifications, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-15: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Trade Parent Trade Items
  - Specification Identifier (specification number, cross references)
  - GTIN/UPC/EAN
- 3 Trade Child Trade Items
  - Specification Identifier (specification number, cross references)
  - GTIN/UPC/EAN
  - Quantity
- 4 Packaging Materials
  - Specification Identifier (specification number, cross references)
  - SpecType (packaging, printed packaging)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor

- 5** Alternate Packaging Materials
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor
  - Substitutes For
  - Spec Type (packaging, printed packaging)
- 6** Material Specification
  - Specification Identifier (specification number, cross references)
  - Context Specification Identifier
  - Quantity
  - UOM
- 7** Nutrient Profiles
  - Specification Identifier (specification number, cross references)
  - IsActive
  - EffectiveDate
  - Status
- 8** GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship
- 9** Explicit Master Specs
  - Specification Identifier (specification number, cross references)
- 10** Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments
- 11** Linked Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-16: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.





# Using the Specification Services Web Services

---

*This chapter describes the Specification Services web service. Topics in this chapter include:*

- ❑ *Overview of Specification Services*
  - ❑ *Get Activity*
  - ❑ *Get Spec Ingredient Statements*
- 

## Overview of Specification Services

SpecificationServices provides specific operations that act on individual specification types. The following operations are supported:

Operation	Description
<a href="#">Get Activity</a> on page 10-2	Returns the primary and related activity specifications for a given list of specifications.
<a href="#">Get Spec Ingredient Statements</a> on page 10-4	Returns ingredient statement information for a given list of (ingredient, product, and nutrient profile) specifications.

## Service Endpoint Locations

### v24 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/v24/SpecificationServices.svc`

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/v25/SpecificationServices.svc`

## Get Activity

### Description

Use the GetActivity web service to retrieve activity info for a given list of activity specifications or for associated activities for a given list of specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 10-1: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following activity data is returned for each activity:

- 1 Activity Summary Information
  - Activity Title
  - Activity # (Spec #-Issue #)
  - Activity Type (ID, Name)
  - Originator
  - Status
  - Special Notes
  - Spec Reader Notification Flag
  - Effective Date
  - Inactive Date
  - Last Edit Date
- 2 Primary Action Item Information
  - Primary Item Name
  - Primary Item # (Spec #-Issue #)
  - Item Status Dependent flag
- 3 Related Items information
  - Specification Type (ID, Name)
  - Related Item Name
  - Related Item (Spec #-Issue #)

- Status
- Comments

Table 10-2: Output

Name	Type	Description
<b>ActivityInfos</b>	tActivitySpecContainer []	Array of tActivitySpecContainer objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 10-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NOT_ENOUGH_PRIVILEGES	Occurs only when API user has no read permission to any specification qualified for the input criteria
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Spec Ingredient Statements

### Description

Use the GetSpecIngredientStatements web service to retrieve the ingredient statements for a given list of specifications.

**Note** This service is only supported for material specifications, product specifications, and nutrient profiles as defined in [Condition D - Specification Types](#) on page A-2.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 10-4: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification ingredient statements are returned for each supported specification:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Ingredient statement
- 3 Combined statement

Table 10-5: Output

Name	Type	Description
<b>SpecIngredientStatement Infos</b>	tSpecIngredientStatement Info []	Array of tSpecIngredientStatementInfo objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 10-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMB ER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMB ER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFE RENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NOT_ENOUGH_PRIVIL EGES	Occurs only when API user has no read permission to any specification qualified for the input criteria
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRI EVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E and F in [Special Conditions](#) on page A-1.



# Using the EQ Services Web Services

*This chapter describes the EQ Services web service. Topics in this chapter include:*

- ❑ *Overview of EQServices*
- ❑ *Get EQ Compliance Items*
- ❑ *Get EQ Summary Info*
- ❑ *Get EQ Nutrition Info*
- ❑ *Get EQ Breakdown Info*
- ❑ *Get EQ Numbers For Criteria*

## Overview of EQServices

EQServices provides operations that act on EQ items. The following operations are supported:

Operation	Description
<a href="#">Get EQ Compliance Items</a> on page 11-2	Returns compliance data for a given list of EQs
<a href="#">Get EQ Summary Info</a> on page 11-4	Returns the EQ summary information for a given list of EQs
<a href="#">Get EQ Nutrition Info</a> on page 11-6	Returns the Nutrient Items for a given list of EQs
<a href="#">Get EQ Breakdown Info</a> on page 11-8	Returns percent breakdown information for a given list of EQs
<a href="#">Get EQ Numbers For Criteria</a> on page 11-10	Returns the EQ identifiers for EQs matching several input search criteria

## Service Endpoint Locations

### v24 endpoint

`http://<servername>/Integration/ProdikaContracts/EQ/v24/EQServices.svc`

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/EQ/v25/EQServices.svc`

## Get EQ Compliance Items

### Description

Use the GetEQComplianceItems web service to retrieve the EQ compliance for a given EQ. This service can be used for material, product, and trade questionnaire types.

### Input

- 1 EQ number list

Table 11-1: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	An tEQNumber object

### Output

The following EQ compliance data is returned for each EQ:

- 1 Questionnaire Number
- 2 Compliance values (Allergens, Additives, Intolerances (know to contain, does not contain))

Table 11-2: Output

Name	Type	Description
<b>eqComplianceInfo</b>	tEQComplianceInfo	EQ compliance details

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request



Table 11-3: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Summary Info

### Description

Use the GetEQSummaryInfo web service to retrieve the EQ summary for a given EQ. This service can be used for all available eQ types (material, product, printed packaging, packaging, and trade).

### Input

- 1 EQ number list

Table 11-4: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	A tEQNumber object

### Output

The following EQ summary data is returned for each EQ:

- Questionnaire Number
- Questionnaire Label
- Questionnaire Type
- Status
- Date Sent
- Due Date
- Date Received
- Supplier Initiated?
- Imported?
- Comments
- Primary Owner
- Additional Administrators
- Supplier Contact Information (Contact Name, Company Name, Prodika SCRM #, email address)
- Company Contact Information (Contact Name, email address)
- Material Name

Table 11-5: Output

Name	Type	Description
<b>EQSummaryInfo</b>	tEQSummaryInfo[]	EQ summary details

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Nutrition Info

### Description

Use the GetEQNutritionInfo web service to retrieve the EQ nutrition for a given EQ. This service can be used for material, product, and trade questionnaire types.

### Input

- 1 EQ number list

Table 11-7: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	A tEQNumber object

### Output

The following EQ nutrition data is returned for each EQ:

- 1 Questionnaire Number
- 2 Nutrient Values

Table 11-8: Output

Name	Type	Description
<b>NutrientInfo</b>	tNutrientInfo[]	EQ nutrient details

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-9: Result codes

Message Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 11-9: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Breakdown Info

### Description

Use the GetEQBreakdownInfo web service to retrieve the EQ breakdown for a given EQ. This service can be used for material, product, and trade questionnaire types.

### Input

- 1 EQ number list

Table 11-10: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	A tEQNumber object

### Output

The following EQ breakdown data is returned for each EQ:

- 1 Questionnaire Number
- 2 Breakdown Message

Table 11-11: Output

Name	Type	Description
<b>EQFormulaBreakdown</b>	tEQFormulaBreakdown[]	EQ breakdown details

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-12: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 11-12: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Numbers For Criteria

### Description

Use the GetEQByCriteria web service to retrieve the EQ numbers for a given EQ. This service can be used for all available eQ types (material, product, printed packaging, packaging, and trade).

### Input

The following input criteria are available as search criteria:

Table 11-13: Input

Name	Type	Description
<b>eqInputCriteria</b>	tEQInputCriteria	EQ input criteria

### Output

The following EQ number data is returned for each EQ:

- 1 Questionnaire Number
- 2 EQ Types ID—Restricts results to questionnaire types in given list of questionnaire types

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-14: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request



Table 11-14: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)
	INVALID_EQ_STATUS	EQ status must be New, Sent, In Progress, Submitted
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions F1, M1, N1, and N2 in [Special Conditions](#) on page A-1.



# Using the PQS Services Web Services

---

*This chapter describes the PQS Services web service. Topics in this chapter include:*

- ❑ *Overview of PQSServices*
  - ❑ *Save PQS Sample*
- 

## Overview of PQSServices

PQSServices provides operations that act on PQS lot samples. The following operations are supported:

Operation	Description
<a href="#">Save PQS Sample</a> on page 12-1	Creates PQS lot samples and returns a sample number for each new sample created

## Service Endpoint Locations

### v24 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v24/PQSServices.svc

### v25 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v25/PQSServices.svc

## Save PQS Sample

### Description

Use the SavePqsSamples web service to import new PQS lot sample entries into PQS. Lot sample data includes the associated GSM specification, SCRM facilities (Source, Receiving, and Location Facilities), PQS sample type, and more.

Results of the web service call include an overall success indicator and a list of all lot samples that have been created. Each lot sample contains a system-generated SampleNumber and the specification used as input.

## Input

- 1** Specification—SpecIdentifierCriterion. It can be SpecNumber or IssueNumber.
  - a** Specification Number
    - SpecNumber—Required, must be seven digits. Specification names matching the entry are displayed to the right of the field.
    - IssueNumber—Required, must be three digits. IssueNumber should match SpecNumber entry.
- 2** SourceFacility—SCRMEntityIdentifier
  - a** SCRMEntityNumber
    - EntityNumber—String, seven digits, facility or company number. Company/Facility name matching the entry are displayed to the right of the field.
- 3** ReceivingFacility—SCRMEntityIdentifier
- 4** SampleType—String, 32 characters or fewer
- 5** Location—SRCMEntityIdentifier
- 6** InternalAlias—String, 15 characters or fewer
- 7** CodeDate—String, 35 characters or fewer
- 8** GTINUPCEAN—String, 14 characters or fewer
- 9** ManufactureDate—Datetime
- 10** Use-ThroughDate—Datetime
- 11** LogReceiving#—String, 20 characters or fewer
- 12** WaybillInvoice#—String, 20 characters or fewer
- 13** Quantity—Float
- 14** QuantityLookup—String, 150 characters or fewer
- 15** Temperature—Float
- 16** ReceivingCondition—String, 400 characters or fewer
- 17** DateReceived—Datetime
- 18** ScheduledEvaluation—Datetime
- 19** Notes—String, 1024 characters or fewer

## Output

The result will be an overall success indicator with a list of all lot samples that have been created.

- 1** IsSuccessful—True or False
- 2** Results—List of lot sample result objects. Each sample provides a system generated Sample#.ol style="list-style-type: none;">- a** Sample#—System generated number for the lot samples
- b** Specification Identifier—SpecNumber used as input to assign to the lot samples, along with any related cross references

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 12-1: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SPEC_TYPE	Specification should be of type Material, Menu, Product, or Trade
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SOURCE_FACILITY	SCRM source facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_RECEIVING_FACILITY	SCRM receiving facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_SAMPLETYPE	Sample type input invalid: <ul style="list-style-type: none"> <li>• Must be 15 alphanumeric characters or fewer</li> <li>• Must be an existing Sample Type lookup value</li> </ul>
	INVALID_LOCATION	SCRM location facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_INTERNAL_ALIAS	Internal alias input is invalid; must be 15 alphanumeric characters or fewer
	INVALID_CODE_DATE	Code date input is invalid; must be 35 alphanumeric characters or fewer
	INVALID_GTINUPCEAN	GTIN/UPC/EAN input is invalid; must be 14 alphanumeric characters or fewer

Table 12-1: Result codes

	INVALID_LOG_RECEIVING_NUMBER	LogReceiving# input invalid; must be 20 alphanumeric characters or fewer
	INVALID_WAYBILL_INVOICE_NUMBER	WaybillInvoice# input invalid; must be 20 alphanumeric characters or fewer
	INVALID_QUANTITY	<ul style="list-style-type: none"> <li>Quantity value must be greater than 0</li> <li>Quantity is required when a Quantity UOM is specified</li> <li>Quantity UOM is required when a Quantity is specified</li> </ul>
	INVALID_QUANTITY_LOOKUP	Quantity Lookup input invalid; must be 150 alphanumeric characters or fewer, or no PQS Quantity Lookup value is found for given input
	INVALID_TEMPERATURE	Temperature input invalid; temperature UOM must be Celsius or Fahrenheit (ISOCODE value CE or FA)
	INVALID_UOM	Valid UOM format required, or UOM not found for given input data
	INVALID_UOM_STATUS	UOM must be in an assignable status
	INVALID_RECEIVING_CONDITION	ReceivingCondition input invalid; must be 400 alphanumeric characters or fewer
	INVALID_NOTES	Notes input invalid; must be 1024 alphanumeric characters or fewer
	NO_SPEC_FOUND	No specification found for specification identifier or specification cross reference
<b>RESULT_FAILURE</b>	NOT_ENOUGH_PRIVILEGES	User does not have permissions to add PQS samples. Doing so requires the [PQS_SAMPLE_CREATOR] role.
	UNKNOWN_ERROR	Unknown error retrieving SCRM facility information
	SAVE_ERROR	Unexpected error occurred attempting to save PQS samples

## Notes

See Conditions A, C, E, G, and L in [Special Conditions](#) on page A-1.

# Using the CSS Services Web Service

---

*This chapter describes the CSS Services web service. Topics in this chapter include:*

- ❑ *Overview of CSS Services*
  - ❑ *SendResponse*
- 

## Overview of CSS Services

CSS Services provide capabilities related to a Transactive Item Publication (TIP). The following operations are supported:

Operation	v21	v24	v25	Description
<a href="#">SendResponse</a> on page 13-2			●	Used to asynchronously update a syndicated TIP's status, and provide a Cross Reference to add to the TIP.

## Service Endpoint Locations

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/CSS/CSSServices.svc`

## SendResponse

### Description

The CSS Send Response web service allows external systems to asynchronously update the status of syndicated TIP. A list of Cross References can be included in the message to be added to the specification that contains the TIP. The web service message is serialized and saved as an XML file in the relevant CSS directory for the CSS Reconciler to process.

### Input

The following input criteria are available:

Table 13-1: Input

Name	Type	Description
<b>crossReference</b>	tLegacySystem	Array of tLegacySystem, as described in <a href="#">tLegacySystem</a> on page A-25
<b>header</b>	tHeader	Message header, as described below
<b>message</b>	tMessage	Array of tMessage, as described below

### tHeader

Represents header information for the TIP

Table 13-2: Objects

Name	Description
<b>dateSent</b>	The time stamp of the TIP sent out by CSS.
<b>messageIdentifier</b>	The unique identifier and correlation of the message sent out by CSS.
<b>receiver</b>	The registered syndicate target system identifier.
<b>sender</b>	The registered syndicate source system (Agile PLM for Process) identifier.

### tMessage

Represents a syndicate message

Table 13-3: Objects

Name	Description
<b>code</b>	Identifies the syndicate result status, following this rule: 1: New 2: Pending 4: Successful 8 or 600: Failed
<b>description</b>	Syndicate result message from the target system.
<b>severity</b>	Extendable field for customer; not used by core functionality.



# APPENDIX A

## Special Conditions, Status Codes, and Core Objects

---

*This appendix contains a list of special conditions, status codes, and core objects.*

---

### Special Conditions

#### Condition A - No Issue Specified in Input Criteria

- 1 Because multiple specifications may reference the same Cross Reference, calling this service using a Cross Reference may return more than one specification.
- 2 If a Cross Reference (or a Spec Number without an Issue Number) is used as input, the latest Issue Number is retrieved. Additionally, if AllowOnlyApprovedSpec is set to “True,” only the latest Approved issue number is retrieved, if one exists (see Condition C, below).

#### Condition B - Business Unit Visibility

- 1 Business unit visibility rules are enforced to restrict access to specifications. The user calling the web service will not be able to retrieve specification information for specifications outside of his/her business unit access.

#### Condition C - Allow Only Approved Spec

- 1 Restricts results to only return specifications that are in an Approved workflow status. Uses a configurable SystemAction name that can be modified through configuration settings. Validates this system action is associated to the workflow status of the specification.

---

**Note** This requires workflow tags to be set up on workflows indicating which workflow status should be considered as Approved.

---

- 2 If a Spec Input criterion includes the Spec Number and Issue Number, and Allow Only Approved Spec is set to “True,” the specification will only be returned if the workflow status it is in has the associated system action.

## **Condition D - Specification Types**

### **1** Possible specification type values:

1004—Material specification  
1005—Master specifications  
1006 —Labeling specification  
1009—Packaging material specification  
1010—Delivered material packing specification  
2076—Packing configuration  
2121—Printed packaging specification  
2147—Trade specification  
2280—Equipment specification  
5750—Nutrient profile  
5816—Formulation specification  
6500—Menu Item specification  
6501—Product specification

## **Condition E - Specification Identifier Input Formats**

### **1** SpecificationNumber

- SpecNumber—**Required**; must be seven digits
- IssueNumber—**Optional**; if provided must be three digits

### **2** Cross Reference format allowed

- SystemId—**Required**
- Equivalent Value—**Required**

## **Condition F - Max Records Retrieved**

- 1** Maximum record count was exceeded. Additional records may be available, but only the maximum record count of records will be returned. Maximum record count settings are configurable.

## **Condition G - Max Records Allowed For Save**

- 1** Allowable maximum record count for Saves was exceeded. Maximum record count settings are configurable.

## Condition H - InFoodsCode

Run the following SQL query to retrieve the list of InFoods IDs:

```
select ml.Name, p.InFoodsID, p.UNID, p.SequenceNumber
from
    comStandardNutrientProperties p
    inner join comStdNutrientPropertiesML ml
    on ml.fkStandardNutrientProperties = p.pkid
    and langID = 0 and Status = 1
order by ml.name
```

Figure A-1: Some common InFoods IDs

Name	InFoods ID	UNID	Sequence
Calcium	CA	CA	350
Calories	ENERC_KCAL	ENERC_KCAL	10
Carbohydrate (Available)	CHOAVL	CHOAVL	45
Carbohydrates	CHOCDF	CHOCDF	40
Cholesterol	CHOLE	CHOLE	190
Dietary Fiber	FIBTS	FIBTS	50
Energy kJ	ENERC_KJ	ENERC_KJ	20
Iron	FE	FE	370
Polyunsaturated Fat	FAPU	FAPU	150
Potassium	K	K	400
Protein	PROCNT	PROCNT	30
Protein (Nx6.25)	PROCNT_NX625	PROCNTx625	32
Saturated Fat	FASAT	FASAT	130
Sodium	NA	NA	410
Total Fat	FAT	FAT	120
Total solids	TTLSOLID	TTLSOLID	205
Total Sugar	SUGAR	SUGAR	70
Trans Fatty Acid	FATRNL	FATRNL	180
Vitamin A - IU	VITA_IU	VITA_IU	223
Vitamin A - Total	VITA-	VITA-	220
Vitamin C	VITC	VITC	290
Vitamin D	VITD-	VITD-	300
Vitamin E	VITE	VITE	310
Vitamin K	VITK	VITK	330
Zinc	ZN	ZN	420

### Condition I - SCRM Entity Input

- 1 tSCRMEntity must be a tSCRMFacility
  - a tSCRMFacility
    - tSCRMEntityIdentifier facilityIdentifier
- 2 tSCRMEntityIdentifier must be a tSCRMEntityNumber or tSCRMEntityCrossRef
  - a tSCRMEntityNumber
    - EntityNumber (string, seven characters) - Oracle Agile PLM facility or company number
  - b tSCRMEntityCrossRef
    - SystemID (string, 100 characters)
    - EquivalentValue (string, 100 characters)

### Condition J - Allow Only Approved Entity

- 1 Setting value to true restricts the results to only return specification-related sourcing approvals that are in an approved workflow status. Non specification-related sourcing approvals are not affected by this setting.
- 2 Uses a configurable workflow tag name that can be modified through a configuration setting (see Chapter 2, [Configuration File Changes](#) section, using the SCRMApprovedWorkflowName variable). Validates this workflow tag is associated to the workflow status of the sourcing approval.

---

**Note** Note this requires workflow tags to be set up on workflows indicating which workflow status should be considered as approved.

---

### Condition K - Invalid Company Input Formats

- 1 Company Number format allowed: **Required**; must be 7 digits
- 2 Cross Reference format allowed: SystemId and EquivalentValue are required

### Condition L - Invalid Facility Input Formats

- 1 Facility Number format allowed: **Required**; must be 7 digits
- 2 Cross Reference format allowed: SystemId and EquivalentValue are required

### Condition M - Invalid EQ Input Formats

- 1 EQ Number format allowed: **Required**; must be 7 digits

### Condition N - Invalid Security Privileges

- 1 Must be EQ owner or Additional Administrators
- 2 All EQ types are accepted except Get Compliance Items, Get Breakdown Info, and Get Nutrition info, which are only accepted for material, product, and trade questionnaires

**Condition O - Invalid Custom Sections MetaData Input  
Formats**

- 1 Custom Section ID format allowed: Optional; not more than 24 digits
- 2 Custom Section Number format allowed: Optional; not more than 8 digits

**Condition P - Invalid Extended Attributes MetaData Input  
Formats**

- 1 Extended Attribute ID format allowed: Required; not more than 24 digits

## Status Codes

Status codes determine how the user interface displays an item. The codes are detailed in the table below:

Table A-1: Status Codes

Code	Status	Description
<b>0</b>	Inactive	The item may not be assigned but may be searched
<b>1</b>	Active	The item is assignable and searchable
<b>-1</b>	Archived	The item is neither assignable nor searchable

## Core Objects

This section provides a list of some of the core objects exposed in the API. Please refer to the XSDs for more detail.

### tSpecIdentifierCriterion

Abstract object that represents specification identifying information used as input criteria, such as the specification number and issue number or a cross reference (SystemId and Equivalent)

#### *Subtypes*

- tSpecificationNumber
- tCrossReference

### tSpecificationNumber

Represents a specification's Spec Number and the (optional) Issue Number

#### *Supertype*

tSpecIdentifierCriterion

Table A-2: Objects

Name	Type	Description
<b>SpecNumber</b>	string	Specification number; 7 digits
<b>IssueNumber</b>	string	Issue number; optional; 3 digits

### tCrossReference

Represents a specification's cross references (SystemId and Equivalent)

#### *Supertype*

tSpecIdentifierCriterion

Table A-3: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party system; 50 characters
<b>EquivalentValue</b>	string	ID of a GSM specification in a third-party system; 50 characters

### Schema Component Representation

```

<xs:complexType name="tCrossReference">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:tSpecIdentifierCriterion">
      <xs:sequence>
        <xs:element name="SystemId" type="xs:string"
nillable="true"/>
        <xs:element name="EquivalentValue"
type="xs:string" nillable="true"/>
        <xs:element name="Extension"
type="q1:tExtension" minOccurs="0" nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

### tSpecificationIdentifier

Represents specification identifying information used as output, includes the specification number and issue number, and a list of cross references (SystemId and Equivalent).

Table A-4: Objects

Name	Type	Description
<b>SpecificationNumber</b>	tSpecificationNumber (See <a href="#">tSpecificationNumber</a> on page A-7)	SpecNumber IssueNumber
<b>CrossReferences</b>	tCrossReference[] (See <a href="#">tCrossReference</a> on page A-7)	SystemId and EquivalentValue



## tQueryOptions

Represents search criteria options.

Table A-5: Objects

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	See <a href="#">Condition C - Allow Only Approved Spec</a> on page A-1
<b>CrossReference</b>	tCrossReference (See <a href="#">tCrossReference</a> on page A-7)	Specification cross reference
<b>DateRange</b>	DateRange (See <a href="#">DateRange</a> on page A-9)	CreatedBetweenDateRange or ModifiedBetweenDateRange
<b>IncludeSpecTemplates (v25 only)</b>	boolean	Search results include specification templates. (For v21 and v24, by default, excludes templates from search results.)
<b>Originators</b>	Originators	List of usernames or user external IDs. These are login names.
<b>SpecName</b>	string	Name of specification
<b>ShortName</b>	string	Short name of specification. Only returned if ShortName is enabled through the core application FeatureConfig.
<b>SpecStatus</b>	string[]	List of specification workflow statuses
<b>SpecTypes</b>	string[]	List of four digit specification type values. See <a href="#">Condition D - Specification Types</a> on page A-2.

## DateRange

Abstract object that represents a date range (Start Date and End Date)

### Subtypes

- ModifiedBetweenDateRange
- CreatedBetweenDateRange

Table A-6: Objects

Name	Type	Description
<b>StartDate</b>	datetime	Start date for search; required
<b>EndDate</b>	datetime	Optional

### Schema Component Representation

```
<xs:complexType name="DateRange">
  <xs:sequence>
    <xs:element name="StartDate" type="xs:dateTime" />
    <xs:element minOccurs="0" name="EndDate" type="xs:dateTime" />
  </xs:sequence>
</xs:complexType>
```

## ModifiedBetweenDateRange

Date range used to evaluate a specification's modified date

### *Supertype*

- DateRange

Table A-7: Objects

Name	Type	Description
<b>StartDate</b>	datetime	Start date for search; required
<b>EndDate</b>	datetime	Optional

## CreatedBetweenDateRange

Date range used to evaluate a specification's created date

### *Supertype*

- DateRange

Table A-8: Objects

Name	Type	Description
<b>StartDate</b>	datetime	Start date for search; required
<b>EndDate</b>	datetime	Optional

## tSpecificationSummaryWrapper

- Wrapper object that contains a tSpecificationSummary.

Table A-9: Objects

Name	Type	Description
<b>SpecSummary</b>	tSpecificationSummary (See <a href="#"><i>tSpecificationSummary</i></a> on page A-11)	Specification Summary object

## tSpecificationSummary

- Represents common Specification Summary data.

Table A-10: Objects

Name	Type	Description
<b>Name</b>	string	Specification name
<b>ShortName</b>	string	Specification short name; will not be included if feature configuration for short name is disabled
<b>specificationIdentifier</b>	tSpecificationIdentifier (See <a href="#">tSpecificationIdentifier</a> on page A-8)	Spec Number, Issue Number, and list of cross references
<b>SpecType</b>	integer	Specification type (4 digit code)
<b>Status</b>	string	Workflow status
<b>Category</b>	string	Specification taxonomy category
<b>SubCategory</b>	string	Specification taxonomy subcategory
<b>Group</b>	string	Specification taxonomy group
<b>Originator</b>	string	Specification originator's last name and first name
<b>EffectiveDate</b>	datetime	Specification's Effective Date
<b>InactiveDate</b>	datetime	Specification's Inactive Date
<b>Supercedes</b>	string	Specification supercedes value
<b>ReasonForChange</b>	string	Specification Reason for change value
<b>IsTemplate (v25 only)</b>	boolean	Indicates if the specification is a template

## tCostItem

This represents a cost item displayed in GSM.

Table A-11: Objects

Name	Type	Description
<b>SpecCostCrossReference</b>	tCrossReference (See <a href="#">tCrossReference</a> on page A-7)	Cross reference of the specification to modify
<b>Currency</b>	string	ISO code for the currency to use
<b>CostType</b>	string	
<b>SCRMENTity</b>	tSCRMENTity (See <a href="#">tSCRMENTity</a> on page A-11)	SCRМ Facility to associate the specification cost to; required
<b>Cost</b>	double	The new cost value; required
<b>CostUOM</b>	string	ISO code
<b>EffectiveDate</b>	dateTime	When the value goes into effect; required

## tSCRMENTity

This is an abstract base class for SCRМ items

## tSCRMCompany

This is a tSCRMEntity that identifies an SCRM company

Table A-12: Objects

Name	Type	Description
<b>companyIdentifier</b>	tSCRMEntityIdentifier (See <a href="#">tSCRMEntityIdentifier</a> on page A-12)	Identifies one company

## tSCRMFacility

This is a tSCRMEntity that identifies an SCRM facility

Table A-13: Objects

Name	Type	Description
<b>companyIdentifier</b>	tSCRMEntityIdentifier (See <a href="#">tSCRMEntityIdentifier</a> on page A-12)	Identifies one facility

## tSCRMEntityIdentifier

Abstract object that represents entity identifying information used as input criteria, such as a facility number OR a cross reference (SystemId and Equivalent)

### *Subtypes*

- tSCRMEntityNumber
- tSCRMEntityCrossRef

## tSCRMEntityNumber

This is a tSCRMEntityIdentifier that identifies an entity number, such as facility number

Table A-14: Objects

Name	Type	Description
<b>EntityNumber</b>	string	Facility profile number

## tSCRMEntityCrossRef

This is a facility's cross references (SystemId and Equivalent)

### *Supertype*

tSCRMEntityIdentifier

Table A-15: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party
<b>EquivalentValue</b>	string	ID of an SCRM item in a third-party system

### *Schema Component Representation*

```
<xs:complexType name="tSCRMEntityCrossRef">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:tSCRMEntityIdentifier">
      <xs:sequence>
        <xs:element name="SystemId" type="xs:string"
nillable="true"/>
        <xs:element name="EquivalentValue" type="xs:string"
nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

## tSCRMEntityIdentifier

Abstract object that represents entity identifying information used as input criteria, such as a facility number OR a cross reference (SystemId and Equivalent)

### *Subtypes*

- tSCRMEntityNumber
- tSCRMEntityCrossRef

## tSCRMEntityNumber

Represents an entity number, such as a facility or company number

### *Supertype*

tSCRMEntityIdentifier

Table A-16: Objects

Name	Type	Description
<b>EntityNumber</b>	string	Facility or company profile number

## tSCRMEntityCrossRef

Represents a facility's or company's cross references (SystemId and Equivalent)

### Supertype

tSCRMEntityIdentifier

Table A-17: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party
<b>EquivalentValue</b>	string	ID of an SCRMEntity in a third-party system

### Schema Component Representation

```
<xs:complexType name="tSCRMEntityCrossRef">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:tSCRMEntityIdentifier">
      <xs:sequence>
        <xs:element name="SystemId" type="xs:string"
nillable="true"/>
        <xs:element name="EquivalentValue" type="xs:string"
nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

## tFacility

Represents a facility used by output

Table A-18: Objects

Name	Type	Description
<b>FacilityInfo</b>	tFacilityInfo	See <a href="#">tFacilityInfo</a> on page A-15
<b>AdministrativeInfo</b>	tSCRMAAdministrativeInfo	See <a href="#">tSCRMAAdministrativeInfo</a> on page A-16
<b>BusinessUnits</b>	tSCRMBusinessUnits[]	See <a href="#">tSCRMBusinessUnits</a> on page A-16
<b>CrossRefs</b>	tSCRMEntityCrossRef[]	See <a href="#">tSCRMEntityCrossRef</a> on page A-14
<b>SpecRelatedSourcingApprovals</b>	tSpecRelatedSourcingApprovalInfo []	See <a href="#">tSpecRelatedSourcingApprovalInfo</a> on page A-16
<b>NonSpecRelatedSourcingApprovals</b>	tSCRMSourcingApprovalInfo	See <a href="#">tSCRMSourcingApprovalInfo</a> on page A-17

## tFacilityInfo

Represents general facility Summary data

Table A-19: Objects

Name	Type	Description
<b>Number</b>	string	Facility profile number
<b>Name</b>	string	Facility name
<b>WebSite</b>	string	Facility website
<b>Phone</b>	string	Facility phone
<b>Fax</b>	string	Facility fax
<b>StreetAddress</b>	tSCRMAddress	Facility street address
<b>PostalAddress</b>	tSCRMAddress	Facility postal address

## tCompany

Represents a company used by output

Table A-20: Objects

Name	Type	Description
<b>CompanyInfo</b>	tCompanyInfo	See <a href="#">tCompanyInfo</a> on page A-15
<b>AdministrativeInfo</b>	tSCRMAdministrativeInfo	See <a href="#">tSCRMAdministrativeInfo</a> on page A-16
<b>BusinessUnits</b>	tSCRMBusinessUnits[]	See <a href="#">tSCRMBusinessUnits</a> on page A-16
<b>ParentCompanies</b>	tSCRMEntityNumber[]	A collection of parent companies for a company
<b>ChildCompanies</b>	tSCRMEntityNumber[]	A collection of child companies for a company
<b>CrossRefs</b>	tSCRMEntityCrossRef[]	A collection of cross references for a company
<b>Facilities</b>	tSCRMEntityNumber[]	A collection of facilities associated with a company

## tCompanyInfo

Represents general company Summary data

Table A-21: Objects

Name	Type	Description
<b>Number</b>	string	Company profile number
<b>Name</b>	string	Company name
<b>WebSite</b>	string	Company website
<b>Phone</b>	string	Company phone
<b>Fax</b>	string	Company fax
<b>StreetAddress</b>	tSCRMAddress	Company street address
<b>PostalAddress</b>	tSCRMAddress	Company postal address

## tSCRMAddress

Represents an address

Table A-22: Objects

Name	Type	Description
<b>Street1</b>	string	Street address or a postal address
<b>Street2</b>	string	Street address or a postal address
<b>City</b>	string	City of a street address or a postal address
<b>State</b>	string	State or province of a street address or a postal address
<b>PostalCode</b>	string	Postal code of a street address or a postal address
<b>Country</b>	string	Country of a street address or a postal address

## tSCRMAdministrativeInfo

Represents entity administrative information

Table A-23: Objects

Name	Type	Description
<b>specialAttributes</b>	string[]	Special attributes for a facility or company
<b>specialNotes</b>	string	Special notes for a facility or company

## tSCRMBusinessUnits

Represents business units associated with an entity

Table A-24: Objects

Name	Type	Description
<b>Names</b>	string[]	Business unit names
<b>Status</b>	string	Status for business units

## tSpecRelatedSourcingApprovalInfo

Represents specification-related sourcing approval information for a facility

Table A-25: Objects

Name	Type	Description
<b>Number</b>	string	Sourcing approval number
<b>PKID</b>	string	Sourcing approval PKID
<b>SpecNumber</b>	string	Related specification number



## tSCRMSourcingApprovalInfo

Represents non-specification related sourcing approval information for a facility

Table A-26: Objects

Name	Type	Description
<b>Number</b>	string	Sourcing approval number
<b>PKID</b>	string	Sourcing approval PKID

## tCustomLookup

This describes one custom lookup option used by qualitative lookup extended attributes

Table A-27: Objects

Name	Type	Description
<b>Category</b>	string	Each extended attribute displays one category of options. This is the name of one category. The name does not have to already exist.
<b>Value</b>	string	The text displayed for this custom lookup option
<b>ExternalId</b>	string	A key for this option from a third-party system
<b>Sequence</b>	integer	The user interface displays options by sequence number. Lower numbers display before higher ones.
<b>Status</b>	integer	See <a href="#">Status Codes</a> on page A-6

## tNutrientDataWrapper

This describes the nutrient items for one specification

Table A-28: Objects

Name	Type	Description
<b>specificationIdentifier</b>	tSpecificationIdentifier (See <a href="#">tSpecificationIdentifier</a> on page A-8)	Specification number, issue number, and list of cross references
<b>SpecType</b>	integer	A specification type code. See <a href="#">Condition D - Specification Types</a> on page A-2.
<b>NutrientItems</b>	tNutrientItem[] (See <a href="#">tNutrientItem</a> on page A-18)	Nutrient items for the specification

## tNutrientItem

This describes one nutrient item for one specification

Table A-29: Objects

Name	Type	Description
<b>InfoodsCode</b>	string	INFOODS tag name for the type of nutrient
<b>ValuePer100Gms</b>	double	The amount of the nutrient per 100g of the item
<b>UOM</b>	tUOM	ISO code, ID, and abbreviated name for the unit for ValuePer100Gms
<b>Source</b>	string	Source description
<b>Comments</b>	string	Additional notes

## tActivityInfo

Represents activity information used as output

Table A-30: Objects

Name	Type	Description
<b>ActivitySummary</b>	tActivitySummary	Activity summary
<b>PrimaryActionItemInfo</b>	tPrimaryActionItemInfo	Activity primary action item
<b>RelatedItemInfos</b>	tRelatedItemInfo[]	An array of activity related items

## tActivitySummary

Represents an activity summary information

Table A-31: Objects

Name	Type	Description
<b>Title</b>	string	Activity title
<b>Number</b>	tSpecificationNumber	Activity number
<b>Type</b>	tIDName	Activity type
<b>Originator</b>	string	Activity originator
<b>Status</b>	string	Activity status
<b>SpecialNotes</b>	string	Special notes
<b>SpecReaderNotificationFlag</b>	boolean	Notify specification reader of this activity
<b>EffectiveDate</b>	DateTime	Effective date
<b>InactiveDate</b>	DateTime	Inactive date
<b>LastEditDate</b>	DateTime	Last edit date

## tPrimaryActionItemInfo

Represents an activity primary action item

Table A-32: Objects

Name	Type	Description
<b>ItemName</b>	string	Primary action item name
<b>ItemNumber</b>	tSpecificationNumber	Primary action item number
<b>ItemStatusDependentFlag</b>	boolean	Specification status is dependent on the status of this activity.

## tRelatedItemInfo

Represents an activity related item

Table A-33: Objects

Name	Type	Description
<b>Type</b>	tIDName	Related item type
<b>Name</b>	string	Related item name
<b>Number</b>	tSpecificationNumber	Related item number
<b>Status</b>	string	Related item status
<b>Comments</b>	string	Related item comments

## tIDName

Represents a combination of ID and Name (value).

Table A-34: Objects

Name	Type	Description
<b>ID</b>	string	ID part of a list item
<b>Name</b>	string	Name/Value part of a list item

## tCustomSectionMetaDataInputCriteria

Abstract object that represents custom section identifying information used as input criteria, such as the custom section id OR custom section number

### *Subtypes*

- tCustomSectionID
- tCustomSectionNumber

## tCustomSectionID

Represents an entity ID, such as custom section ID

### *Supertype*

tCustomSectionMetaDataInputCriteria

Table A-35: Objects

Name	Type	Description
<b>customSectionID</b>	string	Custom section profile ID

## tCustomSectionNumber

Represents an entity number, such as custom section number

### *Supertype*

tCustomSectionMetaDataInputCriteria

Table A-36: Objects

Name	Type	Description
<b>customSectionNumber</b>	string	Custom section profile number

## tCustomSection

Represents a custom section used by output

Table A-37: Objects

Name	Type	Description
<b>Number</b>	string	Custom section number
<b>ID</b>	string	Custom section ID
<b>DynamicTags</b>	string[]	Custom section dynamic tags
<b>HideHeader</b>	boolean	Custom section Hide Header
<b>customSectionRows</b>	tCustomSectionRow[]	See <a href="#">tCustomSectionRow</a> on page A-20
<b>customSectionColumns</b>	tCustomSectionColumn[]	See <a href="#">tCustomSectionColumn</a> on page A-21

## tCustomSectionRow

Represents general custom section row summary data

Table A-38: Objects

Name	Type	Description
<b>Sequence</b>	int	Custom section row sequence
<b>ID</b>	string	Custom section row ID
<b>DynamicTags</b>	string[]	Custom section row dynamic tags

## tCustomSectionColumn

Represents general custom section column summary data

Table A-39: Objects

Name	Type	Description
<b>Sequence</b>	int	Custom section column sequence
<b>ID</b>	string	Custom section column ID
<b>Width</b>	int	Custom section column width
<b>PrintWidth</b>	double	Custom section column print width
<b>DynamicTags</b>	string[]	Custom section column dynamic tags

## tExtendedAttribute

Represents an extended attribute used by output

Table A-40: Objects

Name	Type	Description
<b>ID</b>	string	Extended attribute ID
<b>DynamicTags</b>	string[]	Extended attribute dynamic tags

## tSpecIngredientStatementInfo

Represents specification material statement information used as output

Table A-41: Objects

Name	Type	Description
<b>SpecificationIdentifier</b>	tSpecificationIdentifier (See <a href="#">tSpecificationIdentifier</a> on page A-8)	A specification identifier
<b>IngredientStatement</b>	string	A material statement for the specification
<b>CombinedStatement</b>	string	A combined statement for the specification

## tEQNumber

Represents an entity ID, such as custom section ID or extended attribute ID

Table A-42: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number

## tEQExtendedAttribute

Represents an eQ extended attribute used by output

Table A-43: Objects

Name	Type	Description
<b>eqNumber</b>	tEQNumber	EQ number
<b>extension</b>	tExtension	See <a href="#">tExtension</a> on page A-22

## tExtension

Represents general eQ extended attribute summary data

Table A-44: Objects

Name	Type	Description
<b>Any</b>	XmlElement	See <a href="#">Extended Attribute Types Schema</a> on page A-22
<b>MustUnderstand</b>	int	
<b>MustUnderstandSpecified</b>	boolean	

### Extended Attribute Types Schema

Please see the Extended Attribute type schema document, [ExtendedAttributeTypes.xsd](#), located in the Web\Integration\Contracts\Prodika\Schema folder for details

## tEQComplianceInfo

Represents an EQ compliance data

Table A-45: Objects

Name	Type	Description
<b>eqIdentifier</b>	tEQIdentifier	EQ Number and type
<b>ComplianceWith</b>	tComplianceItem	Compliance name and external ID
<b>AllergensContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AdditivesContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>IntolerancesContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AllergensNotContained</b>	tComplianceItem	Compliance name and external ID
<b>AdditivesNotContained</b>	tComplianceItem	Compliance name and external ID
<b>IntoleranceNotContained</b>	tComplianceItem	Compliance name and external ID
<b>AllergensPossiblyContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AdditivesPossiblyContained</b>	tComplianceItemContained	Compliance name and Measurement and Source

Table A-45: Objects

<b>IntolerancesPossiblyContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AllergensFreeText</b>	String	Allergens free text
<b>IntolerancesFreeText</b>	String	Intolerance free text
<b>AdditivesFreeText</b>	String	Additives free text

## tEQIdentifier

Represents EQ number and type information used by output

Table A-46: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number
<b>ModelTypeID</b>	string	EQ type

## tComplianceItem

Represents EQ compliance name information used by output

Table A-47: Objects

Name	Type	Description
<b>Name</b>	string	Compliance with value
<b>ExternalID</b>	string	External ID

## tComplianceItemContained

Represents EQ compliance items information used by output

Table A-48: Objects

Name	Type	Description
<b>ComplianceItem</b>	tComplianceItem	Allergen or Intolerance or Additive value
<b>MaxPer100Grams</b>	tMeasurement	Allergen or Intolerance or Additive measurement
<b>Source</b>	string	Allergen or Intolerance or Additive Source

## tEQSummary

Represents EQ summary data

Table A-49: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number
<b>EQLabel</b>	string	EQ label
<b>EQType</b>	string	EQ type
<b>Status</b>	string	EQ status
<b>DateSent</b>	DateTime	EQ send data to supplier

Table A-49: Objects

<b>DueDate</b>	DateTime	EQ due date
<b>DateReceived</b>	DateTime	EQ receive data from supplier
<b>IsSupplierInitiated</b>	boolean	Is or not supplier initiated
<b>IsImported</b>	boolean	Is or not imported to GSM
<b>Comments</b>	string	EQ comments
<b>PrimaryOwner</b>	String	EQ primary owner
<b>AdditionalAdmins</b>	String	EQ additional administrators
<b>SupplierContactInfo</b>	tSupplierContactInfo	Supplier contact information
<b>CompanyContactInfo</b>	tCompanyContactInfo	Supplier contact information
<b>MaterialName</b>	string	Imported specification value

### **tSupplierContactInfo**

Represents EQ supplier contact information used by output

Table A-50: Objects

Name	Type	Description
<b>ContactName</b>	string	Contact name
<b>CompanyName</b>	string	Company name
<b>ProdikaSCRMNo</b>	string	Prodika SCRM#
<b>EmailAddress</b>	string	Email address

### **tCompanyContactInfo**

Represents EQ supplier company contact information used by output

Table A-51: Objects

Name	Type	Description
<b>ContactName</b>	string	Supplier contact name
<b>CompanyName</b>	string	Supplier company name

### **tEQIdentifier**

Represent EQ number and type information used by output

Table A-52: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number
<b>ModelTypeID</b>	string	EQ type



## tNutrientInfo

Represent an EQ nutrient data

Table A-53: Objects

Name	Type	Description
<b>EQIdentifier</b>	tEQIdentifier	EQ number and type
<b>NutrientItems</b>	tNutrientItem[]	EQ nutrient details

## tEQCriteriaItem

Represents an EQ criteria item data

Table A-54: Objects

Name	Type	Description
<b>EQIdentifier</b>	tEQIdentifier	EQ number and type

## tLegacySystem

Represents a syndicate target system

Table A-55: Objects

Name	Description
<b>externallyManaged</b>	Identifies whether this cross reference value is managed externally.
<b>referenceNumber</b>	Identifies the reference number of the TIP item in the syndicate target system.
<b>systemName</b>	Identifies the syndicate target system code in Agile PLM for Process.

