

User Manual

Aptean Food and Beverage ERP

Formulation Management

Product Documentation



Contents

- [Release notes](#)
 - [2603.0.0.0](#)
 - [2602.1.0.0](#)
 - [2602.0.0.0](#)
 - [2601.1.0.0](#)
 - [2601.0.0.0](#)
- [Introduction](#)
- [Setup](#)
 - [Manage permission sets](#)
 - [Set up formulation management](#)
 - [Set up R&D groups](#)
 - [Set up attribute aggregation](#)
 - [Set up phase or operation codes](#)
- [Formulation development](#)
 - [Create formulations](#)
 - [Manage formulation versions](#)
 - [Manage potency and active ingredients](#)
 - [Manage yield and loss and batch size](#)
- [Production integration](#)
 - [Convert formulations to production BOMs](#)
- [Quality and compliance](#)
 - [Aggregate ingredient properties](#)
 - [View and display formulation attributes](#)
 - [Nutritional content](#)
- [Project management integration](#)
 - [Identify opportunities as product development requests](#)
 - [Link formulation to R&D projects](#)
 - [View related formulas from projects](#)
 - [ELN notebook references](#)
- [Advanced features](#)
 - [Formulation comparison](#)
 - [Cost rollup analysis](#)



- [Formulation security](#)
- [Formulation search](#)
- [Excel integration features](#)
- [Associate customer and contact with formulations](#)
- [Configure formulation quoting defaults](#)
- [Create a sales quote from a formulation](#)
- [Integrations](#)
 - [Integration with Aptean Advanced Attributes](#)
 - [Integration with Aptean Status Management](#)
 - [Integration with Aptean Dynamic Comments](#)
 - [Integration with Aptean eSignature](#)
 - [Integration with Aptean Pricing Matrix](#)
 - [Integration with Aptean Production Scenarios](#)
 - [Integration with Aptean Dynamic Production](#)



Release notes

Article • 7/22/2026 • 1 min read

To view what's new or changed in each release of the Aptean Formulation Management extension, select the specific release version.

Date	Release version	Description
July 2026	2603.0.0.0	Major release
June 2026	2602.1.0.0	Minor release
April 2026	2602.0.0.0	Major release
March 2026	2601.1.0.0	Stability release
January 2026	2601.0.0.0	Initial release



2603.0.0.0

Release Note • 7/22/2026 • 1 min read

Enhancements/Modifications

With this release of the Aptean Formulation Management extension, the eSignature **Pending Status Change To** field and the delete protection for status-managed records are exchanged through the Aptean Status Management Integration Layer extension, so the Aptean eSignature extension no longer depends directly on Formulation Management.



2602.1.0.0

Release Note • 6/24/2026 • 1 min read

Resolved issues

The following issues has been resolved in this release.

ID	Description
375946	An error occurs when upgrading the Aptean Formulation Management for Life Sciences extension, because a field that was removed from a table extension was not marked with the required obsolete state, causing the database schema synchronization to fail with a field-cannot-be-located error.
378495	The system fails to include the Aptean Formulation Management for Life Sciences extension when installing the Life Sciences Advanced Bundle, because the extension was missing from the bundle dependency list.



2602.0.0.0

Release Note • 4/22/2026 • 3 min read

Features

With the features added in this release of the Aptean Formulation Management extension,

- You can associate a customer and optionally a contact person with each formulation through the **Customer Information** FastTab on the **Formulation Card** page, with automatic population of the **Customer No.** and **Contact No.** fields from CRM data when a project is linked. For more information, see [Associate customer and contact with formulations](#).
- You can configure a placeholder item for formulation quoting on the **Formulation Setup** page using the **Pending Formulation Item No.** field in the **Quoting Configuration** group, which serves as a placeholder in sales quotes for formulations that do not yet have an assigned production item. For more information, see [Configure formulation quoting defaults](#).
- You can create sales quotes directly from certified formulations using the **Create Sales Quote** action on the **Formulation Card** or **Project Card** page, with a dialog that collects the **Quantity** field, **Unit of Measure** field, and pricing while displaying calculated cost and markup suggestions. For more information, see [Create a sales quote from a formulation](#).
- You can refresh an existing formulation-based sales quote using the **Refresh from Formulation** action on the **Sales Quote** page when an item is assigned to the formulation, replacing the placeholder item with the actual production item and prompting to update pricing based on the new item. For more information, see [Create a sales quote from a formulation](#).
- The system validates the quote-to-order conversion on the **Sales Quote** page and blocks the operation when the sales quote line still uses the configured placeholder item, displaying a clear error message that guides the user to assign an actual item to the formulation and use the **Refresh from Formulation** action before retrying. For more information, see [Create a sales quote from a formulation](#).
- The system now displays an informational message on the **Formulation Card** page when changing the status of a certified formulation version, alerting users to the number of open sales quotes created based on the affected version so they can review and update quotes as needed. For more information, see [Manage formulation versions](#).

UI/UX changes

The following UI/UX changes have been made in this release.

- The **Customer Information** FastTab has been added to the **Formulation Card** page.



- The **Quoting Configuration** group with the **Pending Formulation Item No.** field has been added to the **Formulation Setup** page.
- The **Create Sales Quote** action has been added to the **Formulation Card** page.
- The **Create Sales Quote** action has been added to the **Project Card** page.
- The **Refresh from Formulation** action has been added to the **Sales Quote** page.
- An informational notification message has been added to the formulation version status change workflow on the **Formulation Card** page.



2601.1.0.0

Release Note • 3/25/2026 • 1 min read

Resolved issues

The following issue has been resolved in this release.

ID	Description
360156	The system uses an incorrect module code, preventing proper module identification and causing context-sensitive help URLs to fail.



2601.0.0.0

Release Note • 1/28/2026 • 3 min read

Features

With the features added in this release of the Aptean Formulation Management extension, you can:

- Create and manage formulations directly in Business Central using standard items, catalog items, and attributes as a single source of truth. For more information, see [Create formulations](#).
- Maintain controlled formulation versions with full history, effective dates, and certification to ensure only approved formulas are used in production. For more information, see [Manage formulation versions](#).
- Manage active ingredients and potency automatically, with system-calculated net and gross quantities that account for potency, overage, and loss. For more information, see [Manage potency and active ingredients](#).
- Scale formulations to different batch sizes while preserving recipe integrity, including proportional or fixed scaling of processing operations. For more information, see [Manage yield and loss and batch size](#).
- Define phases and operations with standardized timing, resources, and costs, and reuse them consistently across formulations. For more information, see [Set up phase or operation codes](#).
- Automatically aggregate ingredient attributes such as nutrition, allergens, and physical properties to support regulatory compliance and labeling. For more information, see [Aggregate ingredient properties](#), [View and display formulation attributes](#), and [Quality and compliance](#).
- Analyze formulation costs using configurable cost scenarios, with detailed breakdowns of material, labor, and overhead contributions. For more information, see [Cost rollup analysis](#).
- Compare formulation versions side by side to evaluate changes in ingredients, quantities, processing steps, and costs. For more information, see [Formula comparison](#).
- Convert certified formulations directly into Production BOMs and Routings, ensuring seamless transition from R&D to manufacturing. For more information, see [Convert formulations to production BOMs](#).
- Control formulation visibility using private, shared, or group-based security to protect sensitive R&D work while enabling collaboration. For more information, see [Formulation security](#).
- Search formulations efficiently using ingredient, attribute, and status-based filters to quickly locate relevant recipes. For more information, see [Formulation search](#).
- Create and manage product development requests using Business Central opportunity records, with specialized PD type fields to distinguish between standard sales opportunities and those requiring R&D efforts. For more information, see [Identify opportunities as product development requests](#)



- Perform the functionalities related to Aptean Advanced Attributes and Aptean Dynamic Comments extensions that are relevant to Aptean Formulation Management extension. For more information, see [Integrations](#).

Integrations

The Aptean Formulation Management extension has been integrated with the following extensions:

- [Aptean Advanced Attributes](#)
- [Aptean Status Management](#)
- [Aptean Dynamic Comments](#)
- [Aptean Aptean eSignature](#)
- [Aptean Pricing Matrix](#)
- [Aptean Production Scenarios](#)
- [Aptean Dynamic Production](#)

For more information, see [Integrations](#).



Introduction

Article • 2/2/2026 • 2 min read

The Aptean Formulation Management (PFM) extension enables process manufacturers to create, control, and manage formulations directly in Microsoft Dynamics 365 Business Central to ensure product consistency, regulatory compliance, and repeatable manufacturing results. With this extension, you can define formulations using standard items and item attributes, calculate ingredient properties, and manage multiple versions through controlled revision and approval workflows. Approved formulations can be converted into production BOMs and routings, allowing seamless transition from formulation design to manufacturing execution. Key benefits of this extension are:

- **Centralized formula management:** Manage all formulas and ingredients using the standard Item master as a single source of truth, ensuring consistency across R&D, manufacturing, and finance.
- **Fast iteration and comparison:** Create unlimited formula variants and compare them side by side to evaluate alternatives without impacting approved or released versions.
- **Automated attribute calculations:** Aggregate potency, nutritional values, allergens, and other properties automatically using item attributes, removing the need for manual calculations.
- **Scalable formulas and simulations:** Scale formulas to different batch sizes and run cost or quantity simulations to assess production and financial impact before execution.
- **Controlled versioning and approvals:** Maintain full version history with effective dates and approvals, ensuring production always uses the correct authorized formula.
- **Seamless manufacturing integration:** Convert approved formulas directly into production BOMs and routings, reducing manual setup and ensuring alignment with manufacturing.
- **Formulation security and controlled access:** Formula versions can be designated as private, shared, or group-visible, ensuring sensitive or in-progress formulas are only accessible to authorized users. Private formulas are visible only to their owner, shared formulas are available to the wider team, and group-visible formulas support controlled collaboration within specific departments or roles.
- **Clear production instructions:** Provide batch routing notes and process instructions directly to the production floor for consistent and repeatable execution. Together, these capabilities support controlled formula development, accurate manufacturing execution, and informed decision-making throughout the product lifecycle.



Setup

Article • 2/2/2026 • 1 min read

The following setups are required.

- [Manage permission sets](#)
- [Set up report data designer](#)
- [Set up formulation management](#)
- [Set up R&D groups](#)
- [Set up Attribute Aggregation](#)
- [Set up phase or operation codes](#)



Manage permission sets

Article • 2/2/2026 • 3 min read

Permission sets in Business Central define a user's access level to various features and data within this extension.

We provide the following system permission sets:

- Direct
- Indirect

Direct permission sets

Users with this permission set can perform specific actions directly without requiring additional approvals or workflows. These sets include permissions to read, modify, delete, and create data.

The direct permission set ID for this extension is *FORMMGT199FDW*.

Indirect permission sets

Users with this permission set can perform specific actions. This is used in conjunction with other permission sets and typically involves additional conditions or approvals before an action can be completed.

The indirect permission set ID for this extension is *FORMMGTBASIC199FDW*.

User-defined permission sets

In addition to the system permission sets we provide, you can create new permission sets or copy system permission sets and modify or delete access to specific entities according to your requirements. For more information, see [Assign permissions to users and groups](#).

Assign a permission set

1. Select the Search icon , enter **Users**, and then choose the related link.
The **Users** list page opens.
2. Navigate to the username for which you want to assign the permission set and select it.
The **User Card** page opens.
3. On the **User Permission Sets** FastTab, in the **Permission Set** field, enter the valid permission set for this extension.
The associated fields are automatically updated based on the entered value. The user has the necessary



permissions to use the features of the the Aptean Formulation Management extension, ensuring secure and role-based access.



Set up formulation management

Article • 2/2/2025 • 3 min read

On the **Formulation Setup** page, you must configure the number series for formulation records, production BOM versions, routing versions, default operation scaling methods, and formulation security settings.

The following steps describe how to set up the formulation management fields.

1. Select the Search icon , enter **Formulation Setup**, and then choose the related link.
The **Formulation Setup** page opens, displaying a list of existing groups.
2. On the **General** FastTab, in the **Default Op. Scaling Method** field, select the desired scaling method. This method determines how operations and phases are scaled when formulation quantities change. The available options are:
3. *Proportional*: Operations scale proportionally with the formulation quantity changes. For example, if you double the batch size, mixing times and processing durations will also double.
4. *Fixed*: Operations maintain fixed durations regardless of formulation quantity changes. This is useful for operations like setup times or quality checks that don't vary with batch size.
5. On the **Numbering** FastTab, enter the following fields:

Field	Description
Formulation Nos	Select the code for the number series that will be used to assign numbers to formulation records.
Production BOM Version Nos	Select the code for the number series that will be used to assign numbers to production BOM version records, when formulations are converted to production BOMs
Routing Version Nos	Select the code for the number series that will be used to assign numbers to routing version records, when formulations operations and phases are converted to routing.

6. On the **Formulation Security** FastTab, select the **Formula Visibility** field value to define the default visibility level for new formulations. The available options are:
7. *Private*: Formulations are visible only to the user who created them.
8. *Shared*: Formulations are visible to all users with appropriate permissions.
9. *Group*: Formulations are visible only to members of a specific R&D group. This balances security with controlled collaboration within defined teams.
10. In the **Owner Code** field, specify the default owner for new formulations based on the selected visibility level.
The behaviour of this field depends on the **Formula Visibility** field setting:



- For *Private* formulations: The system automatically assigns the current user's user ID as the owner.
- For *Shared* formulations: This field remains empty as shared formulations have no specific owner.
- For *Group* formulations: Use the lookup to select an R&D group code that will own the formulations.

Note

You cannot manually enter values in this field. Use the lookup function to modify the **Owner Code** field value, which ensures proper validation and security controls are maintained.



Set up R&D groups

Article • 1/2/2026 • 2 min read

R&D groups provide controlled access to formulations within specific research and development teams. Use R&D groups to organize users into teams and control formulation visibility when using group visibility settings.

To create R&D groups, follow these steps:

- 1. Select the Search icon , enter **R&D groups**, and then choose the related link.
The **R&D groups** page opens, displaying a list of existing groups.
- 2. On the action bar, select **New** to create a new R&D group or select an existing **Code** field value to open an existing group.
The **R&D Group Card** page opens.
- 3. Enter the required information for the following fields:

Field	Description
Code	Enter a unique code to identify the R&D group. This code will be used when assigning group ownership to formulations with group visibility. The code cannot be blank and must be unique across all R&D groups.
Description	Enter a descriptive name for the R&D group. This helps users identify the purpose or focus area of the group, such as beverage development team or nutritional products R&D.

To manage group membership, follow this step:

- 4. On the **Users** FastTab, enter the required information for the following fields:

Field	Description
User ID	Select the unique identification of the team member to add to the R&D group. The system validates that the user exists and is active in the system.
User Name	Specifies the full name of the selected user.



Set up attribute aggregation

Article • 2/2/2026 • 2 min read

Configure how ingredient attributes are aggregated to calculate formulation properties such as nutritional content, allergen information, and regulatory compliance data.

To set up attribute aggregation, follow these steps:

- 1. Select the Search icon , enter **Formulation Attribute Aggregation Setup**, and then choose the related link. The **Formulation Attribute Aggregation Setup** page opens.
- 2. On the action bar, select **Initialize from Item Attributes** to automatically create setup records for existing item attributes.
- 3. Enter the required information for the following fields:

Field	Description
Attribute ID	Select the item attribute that will be aggregated. Select from existing item attributes configured in the system.
Aggregation Method	Select how attribute values are combined across formulation ingredients. The available options are: <i>Sum</i> , <i>Weighted Average</i> , <i>Maximum</i> , <i>Minimum</i> , <i>Logical OR</i> , and <i>Logical AND</i> .
Category	Select the category used for reporting and display purposes.
Default Unit of Measure	Enter the unit of measure for the aggregated result.
True Value	Enter the value that represents true in calculations for boolean attributes using <i>Logical OR/AND</i> methods.
Hide Attribute Value	Select the checkbox to hide the raw attribute value and show only the converted result in formulation displays.
Convert Attribute Value	Select the checkbox to apply unit conversions or calculations to raw attribute values before aggregation.



Set up phase or operation codes

Article • 1/30/2026 • 2 min read

Configure phase and operation codes to define standardized processing steps for formulations. Phase/Operation codes provide templates for manufacturing operations that can be reused across multiple formulations.

To set up phase/operation codes, follow these steps:

- 1. Select the Search icon , enter **Phases/Operations**, and then choose the related link.
The **Phases/Operations** page opens.
- 2. On the action bar, select **New** to create a new phase/operation code.
- 3. Enter the required information for the following fields:

Field	Description
Code	Enter a unique code to identify the phase or operation. This code cannot be blank and must be unique across all phase/operation records.
Resource Name	Enter a descriptive name for this phase or operation. This helps users identify the purpose of the operation, such as mixing, heating, or quality check.
Resource Type	Select the type of resource used for this operation. The available options are: <i>Work Centre</i> and <i>Machine Centre</i> . Leave blank if no specific resource is required.
Resource No.	Select the specific work center or machine centre number based on the Resource Type field value selection. When you select a resource, the system automatically populates cost and timing information from the work center or machine center master data.
Operation Unit of Measure	Enter the unit of measure for this operation. The system automatically populates this field from the work center or machine center when a resource is selected. This field is required and cannot be blank.
Setup Time	Enter the default setup time required for this operation. This represents the time needed to prepare equipment or materials before processing begins.
Run Time	Enter the default run time for this operation. This represents the actual processing time required to complete the operation.
Wait Time	Enter the default wait time for this operation. This represents time spent waiting between operations or for resources to become available.
Move Time	Enter the default move time for this operation. This represents time required to transport materials or products between operations.



Direct Unit Cost	Enter the direct unit cost for this phase or operation. When a <i>Work Center</i> or <i>Machine Center</i> is selected for Resource No. field, the system automatically populates this value from the resource master data. For operations without specific resources, you can enter a custom cost.
Indirect Cost %	Enter the indirect cost percentage for this phase or operation. This percentage is applied to the direct unit cost to calculate additional overhead costs. The value must be zero or greater.
Overhead Rate	Enter the overhead rate for this phase or operation. This represents additional fixed costs associated with the operation. When a <i>Work Center</i> or <i>Machine Center</i> is selected for Resource No. field, the system automatically populates this value from the resource master data.
Unit Cost	Enter the total calculated unit cost for the operation. The system calculates this value using the formula: $\text{Unit Cost} = (\text{Direct Unit Cost} \times (1 + \text{Indirect Cost \%} \div 100)) + \text{Overhead Rate}$. You can also enter a value directly, and the system will back-calculate the direct unit cost.
Scaling Method	Select how this operation scales when formulation quantities change. The available options are: <i>Proportional</i> : Operation times scale proportionally with batch size changes. <i>Fixed</i> : Operation times remain constant regardless of batch size. Note: The system assigns the default scaling method from the Formulation setup page when creating new codes.

When you modify an existing **Phase/Operation Code** field, the system automatically updates all related formulation lines that use this code. The system only updates formulations with the **Status** field value set to *New* or *Under Development* to preserve certified formulations.

The system prompts for confirmation before updating existing formulations.

Integration with formulations

Phase/Operation code integrate seamlessly with formulation development. When you add a **Line type** of *Phase/Operation* to a formulation line, the system automatically creates a phase operation detail record that copies all default values from the **Phase/Operation Code** field.

The **Phase Operation Detail** section maintains the specific timing and cost information for that formulation instance, allowing customization without affecting the master **Phase/Operation Code** field.



Formulation development

Article • 2/2/2026 • 1 min read

Refer the following formulation development.

- [Manage formulation versions](#)
- [Create formulations](#)
- [Manage potency and active ingredients](#)
- [Manage yield and loss and batch size](#)



Create formulations

Article • 2/2/2026 • 5 min read

Formulations represent product recipes with ingredients, quantities, processing instructions, and quality parameters. Each formulation can have multiple versions to support development iterations and regulatory approvals.

To create a new formulation, follow these steps:

- 1. Select the Search icon , enter **Formulations**, and then choose the related link.
The **Formulations** page opens.
- 2. On the action bar, select **New** to create a new formulation or select the required **Formulation No.** field value to open an existing formulation.
The **Formulation** page opens.
- 3. On the **General** FastTab, enter the required information in the following fields:

Field	Description
Formulation No.	Select the unique identifier for the formulation record. The system assigns this value based on the number series set up on the Formulation Setup page.
Description	Enter a name or description of the formulation, often the product name or recipe name.
Version Nos	Select the number series from which the version number is assigned. This controls how version numbers are generated when creating new formulation versions.
Active Version	Specifies which version of the formulation is currently active (certified). This field is not editable and shows the version number that is currently certified for production use.
Effective Date	Select the date on which this formulation version becomes effective for production use. If this value is left blank, the formulation can be used immediately upon certification.
Status	Select the current lifecycle status of this formulation version. The available options are: <i>New</i> , <i>Under Development</i> , <i>Certified</i> , and <i>Closed</i> . This value is set to <i>New</i> by default.
Notes	Enter general notes or a description of the formulation.

- 4. On the **Product Information** FastTab, enter the required information in the following fields:

Field	Description
Product Type	Select whether the formulation output is linked to a regular <i>Item</i> or a <i>Catalog Item</i> . The available options are: <i>Item</i> and <i>Catalog Item</i> . This value is blank by default.



Product No

Select the *Item No.* or *Catalog Item No.* option that this formulation is intended to produce. This field is filtered based on the **Product Type** selection.

5. On the **Output** FastTab, enter the required information in the following fields:

Field	Description
Output Quantity	Enter the standard batch size that the formulation produces, if using batch size. This determines the base quantities for all ingredient calculations.
Output Unit of Measure	Select the manufacturing batch unit of measure.
Yield %	Enter the expected overall yield of the formulation batch as a percentage of output versus input. For example, enter 95 if you expect a 5% loss during processing. The value must be between 0 and 100.

6. On the **Serving** FastTab, enter additional information:

Field	Description
Serving Size UOM	Enter the serving size for nutritional calculations in the Output Unit of Measure field, if applicable.
Serving Size	Enter the serving size for nutritional calculations in the Serving Unit of Measure field, if applicable.
Serving Unit of Measure	Select the unit of measure for the serving size. This may differ from the Output Unit of Measure field value for consumer packaging purposes.
Serving Count	Specifies the number of servings produced by this formulation batch based on the Output Quantity and Serving Size UOM field values. This field is not editable.

7. On the **Security** FastTab, enter additional information:

Field	Description
Formulation Visibility	Select the visibility level of this formulation. The available options are: <i>Private</i> (visible only to the creator), <i>Shared</i> (visible to all users with appropriate permissions), <i>Group</i> (visible only to members of a specific R&D Group).
Owner Code	Select the owner of this formulation. For <i>Private</i> formulations, the system displays the creator's user ID (read-only). For <i>Group</i> formulations, select the R&D group code that owns the formulation. For <i>Shared</i> formulations, this field remains empty. This field is editable only for <i>Group</i> visibility and when the formulation is not certified.



8. On the **Notes** FastTab, enter additional information:

Field	Description
Notebook ID/Name	Enter a reference to the lab notebook identifier or name.
Page Number	Enter the page number in the lab notebook where this formulation is documented.
Experiment Reference	Enter the experiment reference code or identifier in the lab notebook.

9. On the **Production Integration** FastTab, view the automatically generated production records:

Field	Description
Production BOM No.	Specifies the production BOM number generated from this formulation for traceability. This field is automatically populated when the formulation is converted to production structures.
Production BOM Version	Specifies the production BOM version generated from this formulation for traceability.
Routing No.	Specifies the routing number generated from this formulation for traceability when operations and phases are included.
Routing Version Code	Specifies the routing version code generated from this formulation for traceability.
Production Scenario No.	Specifies the production scenario number generated from this formulation for integration with production planning systems.

To add formulation lines, follow these steps:

After setting up the formulation header, you must add ingredient lines and processing instructions on the **Lines** FastTab.

10. On the **Lines** FastTab, select **New Line** to add ingredients and instructions.

11. For each line, configure the line type and identification.

12. In the **Line Type** field, select the type of line you are adding. The available options are:

- *Phase/Operation*: use for processing steps, mixing instructions, temperature controls, and timing requirements.
- *Item*: use for ingredients from inventory that are tracked in the item master.
- *Catalog Item*: use for non-inventory ingredients that need to be tracked in formulations.
- *Formulation*: use for sub-formulations to create hierarchical formulation structures.
- *Production BOM*: use to reference existing production BOMs for ingredients or sub-assemblies.



- *Comment/Instruction*: use for text-based instructions, warnings, or notes that do not represent physical ingredients.

13. In the **No.** field, select the number based on the line type. The **Description** field specifies the description.

14. For ingredient lines (*Item, Catalog Item, Formulation, Production BOM*), configure the quantity information.

15. In the **Active Quantity** field, enter the desired active amount of this ingredient. This is the primary editable field for quantity entry. The system uses this value to automatically calculate the net and gross quantities based on the ingredient type and potency settings.

For active ingredients with potency, when the **Component Type** is set to *Active ingredient* and the item has a potency attribute configured, the system performs the following calculations:

- Net quantity = active quantity ÷ (potency % ÷ 100) × (1 + overage % ÷ 100)
- Gross quantity = net quantity ÷ (1 – loss % ÷ 100)
- The **Overage %** field adds extra material to compensate for potency variations.

For non-active ingredients, when the **Component Type** is not *Active ingredient* or the item has no potency attribute, the system performs the following calculations:

- Net quantity = active quantity
- Gross quantity = net quantity ÷ (1 – loss % ÷ 100)

The **Overage %** field has no effect in this scenario since potency calculations are not applied.

The **Quantity (Net)** field displays the calculated net quantity required for the batch after potency and overage adjustments. This field is automatically calculated and not editable.

The **Quantity (Gross)** field displays the total quantity required, including loss allowances. This field is automatically calculated and not editable.

22. In the **Unit of Measure Code** field, select the unit of measure for all quantity fields on this line.

23. In the **Loss %** field, enter the expected scrap percentage for this ingredient during processing.

24. In the **Overage %** field, enter any overage added for potency compensation. This field applies only when the **Component Type** is *Active ingredient* and the item has a potency attribute.

For advanced ingredient management, configure the component classification.

25. In the **Component Type** field, select the component classification for this ingredient. The available options are:

- *Active ingredient*
- *Dependent ingredient*
- *Filler*



26. In the **Active Ingredient Line No.** field, for dependent ingredients, select the line number of the active ingredient that this ingredient is associated with.
27. In the **External Cost** field, the system allows manual cost input for specialized pricing scenarios. For more information, see cost rollup analysis.

Adding phase/operation lines

When you select *Phase/Operation* as the **Line type**, the system enables specialized functionality for managing processing steps, timing, and resource requirements.

For phase/operation lines, enter the required information:

Field	Description
No.	Select the required value.
Description	Specifies the phase/operation description.

When you create a phase/operation line, the system automatically creates a corresponding phase/operation detail record. To configure phase/operation details, follow these steps:

1. Select a formulation line with the **Line Type** field value is set to *Phase/Operation*.
2. The phase/operation details group becomes visible and editable on the formulation line.
3. Configure the resource and timing information.



Manage formulation versions

Article • 4/22/2026 • 2 min read

Version control enables iterative formulation development while maintaining historical records and supporting regulatory approval workflows.

To create a new formulation version, follow these steps:

1. On the **Formulation** page, on the action bar, select **Versions**. The **Formulation Versions** page opens.
2. Select **New** to create a new version.
3. Configure the version parameters.
 - **Version No.:** Enter a unique version identifier. The system can auto-generate this based on the number series configured in **Version nos** on the formulation.
 - **Description:** Enter a description of changes or purpose of this version, such as "cost optimization".
 - **Status:** Select the lifecycle status: *New*, *Under Development*, *Certified*, or *Closed*. Only one version per formulation can be *Certified* at a time.
 - **Effective Date:** Specify when this version becomes effective for production use.

The system maintains complete traceability between versions and prevents modifications to certified formulations to ensure regulatory compliance and change control.

Version change notification for open sales quotes

When activating a new formulation version or changing the certified status of an active version, the system displays an informational notification alerting users to the number of open sales quotes that were created based on the affected version. This notification ensures users are aware of potential commercial document impacts and can review and update quotes as needed.

The notification is displayed as a non-blocking dialog that allows users to proceed with the version change while being fully informed. Users can navigate to the affected quotes directly from the notification to take appropriate action.



Manage potency and active ingredients

Article • 2/2/2026 • 1 min read

Potency management enables automatic quantity adjustments based on actual ingredient potency levels, ensuring consistent product quality despite ingredient variability.



Manage yield and loss and batch size

Article • 2/2/2026 • 5 min read

Yield and loss percentages ensure accurate material requirements planning by accounting for processing efficiency and material losses during production.

Configure yield and loss parameters

To configure formulation yield, follow these steps:

1. Select the Search icon , enter **Formulations**, and then choose the related link. The **Formulations** page opens.
2. Select the required **Formulation No.** field value to open an existing formulation. The **Formulation** page opens.
3. On the **Output** FastTab, enter the required information in the **Yield %** field. Enter the expected overall yield of the formulation batch as a percentage of output versus input. For example, enter 95 if you expect 5% loss during processing. The value must be between 0 and 100.

When you enter a yield percentage, the system automatically calculates the adjusted output quantity using the formula:

Adjusted output quantity = Output Quantity × (Yield % ÷ 100).

This adjusted quantity represents the actual expected output after accounting for processing losses.

The yield percentage affects cost calculations in the **Cost Analysis** page by increasing the effective cost per unit of output. For more information, see [Cost rollup analysis](#).

4. On the **Lines** FastTab, configure loss percentages for individual ingredients.

Loss %: Enter the expected loss (scrap) percentage for this ingredient during processing.

The system uses the loss percentage to calculate the gross quantity from the net quantity using the formula:

Gross Quantity = Net Quantity ÷ (1 - Loss % ÷ 100).

For example, if the net quantity is 100 kg and the loss percentage is 5%, the gross quantity becomes 105.26 kg (100 ÷ 0.95).

Scale formulation batch sizes

Formula scaling enables proportional adjustment of all ingredient quantities when changing batch sizes, maintaining recipe integrity while accommodating different production requirements.

To scale a formulation, follow these steps:

1. On the **Formulation** page, on the action bar, select **Scale formula**. The **Scale formula** dialog opens.
2. In the **New output quantity** field, enter the desired batch size for the scaled formulation. The system calculates the scaling factor using the formula:

Scaling Factor = New Output Quantity ÷ Current Output Quantity.



3. Select **OK** to apply the scaling operation.

The system performs the following scaling operations:

- **Ingredient scaling:** All ingredient active quantities are multiplied by the scaling factor. The system recalculates net and gross quantities based on the new active quantities, maintaining potency and loss percentage relationships.
- **Phase/operation scaling:** Phase operations scale according to their configured scaling method:
 - *Proportional scaling:* Setup time, run time, wait time, and move time are multiplied by the scaling factor. This is appropriate for operations where processing time correlates directly with batch size, such as mixing or heating operations.
 - *Fixed scaling:* All operation times remain constant regardless of batch size changes. This is appropriate for operations like quality checks, equipment setup, or cleaning procedures that require the same time regardless of batch quantity.

The system presents a scaling preview page that shows current and scaled run times for all phase operations, allowing users to review and confirm scaling decisions before applying changes.

To scale a formulation version, follow these steps:

4. Select the Search icon , enter **Formulation Versions**, and then choose the related link. The **Formulation Versions** page opens.
5. Select the required version to open the **Formulation version card** page.
6. On the action bar, select **Scale Formula**.
7. Enter the **New output quantity** and select **OK**.

The scaling process for formulation versions follows the same logic as formulation headers, ensuring consistency across all formulation development stages.



Production integration

Article • 2/2/2026 • 1 min read

Refer the following production integration.

- [Convert formulations to production BOMs](#)



Convert formulations to production BOMs

Article • 2/2/2026 • 12 min read

The convert formula to production BOM, routing and item production scenario functionality transforms certified formulations into standard Business Central manufacturing structures. This automated conversion creates production BOMs from ingredient lists and routings from processing operations, enabling seamless transition from R&D formulation to production manufacturing.

Conversion process

When initiated, the system presents conversion options to the user. Based on the selected parameters, it creates production BOMs from ingredient lines and routings from phase/operation lines, maintaining full traceability between the original formulation and generated manufacturing structures.

The system handles different line types appropriately: ingredient items become BOM components with calculated quantities, catalog items are converted to regular items first, phase/operation lines become routing operations, and comment/instruction lines are preserved as documentation in both BOMs and routings.

Prerequisites

Before conversion can occur, the formulation must meet specific requirements:

Requirement	Description
Certification Status	Formulation must have a certified version.
Product Information	Must specify product type (Item/Catalog Item) and product number.
Output Configuration	Must have output quantity and output unit of measure defined.
Manufacturing Setup	Production BOM numbers and routing numbers must be configured.
Formulation Setup	Production BOM version numbers and routing version numbers must be configured.

To convert a formulation to production structures, follow these steps:

1. Select the Search icon , enter **Formulations**, and then choose the related link. The **Formulations** page opens.
2. Select the formulation you want to convert to open the **Formulation Card** page.
3. On the action bar, select **Convert Formulation**. The **Formulation Conversion Parameters** page opens.
4. On the **General** FastTab, configure the basic conversion options.



5. Turn on the **Create Production BOM** toggle to select whether to generate a production BOM from ingredient lines. When turned on, the system converts all item, catalog item, and production BOM lines into BOM components with calculated quantities.
6. Turn on the **Create Production Scenario** toggle to create a production scenario that links the BOM and routing for integrated manufacturing planning. For more information, see Aptean [Production Scenarios](#).
7. On the **Routing Options** FastTab, specify how to handle routing creation.
8. In the **Routing Assignment** field, select the routing handling method:
 - *Retain routing*: Uses the existing routing number stored on the formulation header
 - *Assign existing routing*: Allows you to select an existing routing to assign to the item
 - *Create new routing*: Creates a new routing from phase/operation lines in the formulation
9. In the **Routing no.** field, if you selected *Assign existing routing*, select the existing routing to assign to the item.
10. On the **BOM options** FastTab, configure the BOM calculation method.
11. In the **BOM Calculation Type** field, select how quantities are calculated:
 - *Per Unit based*: Creates per-unit quantities by dividing by the formulation output quantity.
 - *Batch based*: Maintains batch-level quantities (requires Process Manufacturing).
12. Select **OK** to start the conversion process.

Production BOM creation

The system creates Production BOMs with the following logic:

BOM header: Uses the formulation's output unit of measure and description. Links back to the source formulation for traceability.

BOM lines: Each ingredient **Line type** field becomes a BOM component:

- *Item*: Direct conversion with quantity calculations.
- *Catalog Item*: Converted to regular items first, then added as BOM components.
- *Production BOM*: Referenced as sub-BOMs within the main BOM.
- *Formulation*: When formulations contain sub-formulas (formulation lines referencing other formulations), the system automatically converts these references to Production BOM references, creating a hierarchical BOM structure that mirrors the formulation hierarchy.
- *Comment/Instruction*: Added as BOM comments for documentation.



Quantity calculations

- *Per Unit based*: Component Quantity = Net Quantity ÷ Output Quantity
- *Batch based*: Component Quantity = Net Quantity (maintains batch quantities)

Routing creation

When phase/operation lines exist in the formulation, the system creates routings:

Routing header: Generated with automatic numbering and formulation traceability.

Routing lines: Each phase/operation becomes a routing operation with 10-number increments (10, 20, 30, etc.).

Operation details: Transfers phase/operation specifications including work centers, run times, and setup requirements.

Comments: Comment/instruction lines following operations are added as routing line comments.

Formulation updates

After successful conversion, the formulation header is updated with references to generated structures:

Field	Purpose
Production BOM No.	Links to the created production BOM.
Production BOM Version	Links to the BOM version (when versioning is used).
Routing No.	Links to the created or assigned routing.
Routing Version ode	Links to the routing version (when versioning is used).
Production Scenario No.	Links to the created production scenario.

Item updates

The system updates the target item with manufacturing references:

- **Production BOM No.** field is set to link the item to its BOM.
- **Routing No.** field is set to link the item to its routing.



Validation actions

Users can run **Check formulation** before conversion to identify and resolve issues without attempting the full conversion process.

Example

Scenario: Converting a certified chocolate bar formulation to production BOM

Formulation setup

- **Formulation No.:** CHOC001
- **Description:** Chocolate Bar Formula
- **Product Type:** Item
- **Product No.:** CHOCBAR001
- **Output Unit of Measure:** KG
- **Status:** Certified (Version 01)

Formulation lines

- Line 1: Item FLOUR001 (All Purpose Flour) - 2.5 KG
- Line 2: Item SUGAR001 (Granulated Sugar) - 1.8 KG
- Line 3: Item COCOA001 (Cocoa Powder) - 0.5 KG

Conversion process

1. Open Formulation CHOC001
2. Select **Convert Formulation**
3. Configure parameters:
 - **Create Production BOM:** *Yes*
 - **BOM Calculation Type:** *Per Unit Based*
4. Select **OK**

Result:

- Production BOM created with Status = *New*.



- Item CHOCBAR001 updated with **Production BOM No.**.
- BOM lines created matching formulation ingredients with exact quantities.
- Formulation header updated with production BOM reference.

Cost rollup analysis

Cost analysis provides visibility into formulation economics and supports pricing decisions and cost optimization initiatives.

Perform cost roll-up and analysis:

Analyze formulation costs using configurable cost scenarios to support pricing decisions, cost optimization, and financial planning. The cost analysis functionality provides detailed breakdowns of material and labor costs with support for what-if scenarios and version comparisons.

Set up cost scenarios

Cost scenarios define the cost basis used for formulation analysis, enabling comparison of different costing approaches and what-if analysis scenarios.

To create cost scenarios, follow these steps:

1. Select the Search icon , enter **Formulation cost scenarios**, and then choose the related link. The **Formulation cost scenarios** page opens.
2. On the action bar, select **New** to create a new cost scenario.
3. Configure the cost scenario parameters.

Field	Description
Code	Enter a unique identifier for the cost scenario. This code will be used when selecting cost scenarios for analysis.
Description	Enter a descriptive name for the cost scenario.
Item Cost Basis	Select the cost basis to use for inventory items. The available options are: <i>Unit Cost</i> , the system uses the standard unit cost from the item master data. <i>Last Direct Cost</i> , the system uses the most recent direct cost for the item. <i>Alternate Cost</i> , you must specify an alternate cost code and basis. This fields are editable when the Aptean Pricing Matrix extension is used. For more information, see Aptean Pricing Matrix . <i>External Cost</i> , the system uses the external cost field on the formulation line.



Catalog Item Cost Basis	Select the cost basis to use for <i>catalog items</i> (non-inventory items). The available options are: <i>Published cost</i> , the system uses the published cost field from the catalog item record. <i>Negotiated cost</i> , the system uses the negotiated cost field from the catalog item.
Alternate Cost Code	When using <i>Alternate cost</i> as the item cost basis, specify the alternate cost code to retrieve costs from the alternate cost system. For more information, see Aptean Pricing Matrix .
Alternate Cost Basis	When using alternate costs, select whether to use <i>Cost</i> or <i>Future cost</i> from the alternate cost records. For more information, see Aptean Pricing Matrix .
Default Scenario	Select this checkbox to designate this scenario as the default for new cost analyses. Only one scenario can be marked as default. When you mark a scenario as default, the system automatically removes the default flag from other scenarios.

Analyze formulation costs

The cost breakdown functionality provides detailed analysis of formulation costs, showing material costs, labor costs, and cost percentages for each component.

To analyze formulation costs, follow these steps:

1. Select the Search icon , enter **Formulations**, and then choose the related link.
2. Select the required **Formulation No.** field value to open the formulation.
3. On the action bar, select **Cost breakdown**. The **Cost breakdown** page opens.
4. In the **Cost scenario code** field, select the cost scenario to use for the analysis. If left blank, the system uses the default cost scenario.

The system displays detailed cost information for each formulation line:

Field	Description
Line Type	Displays the type of formulation line (Item, Catalog Item, Formulation, Phase/Operation, Production BOM).
No.	Displays the item number, catalog item number, Formulation number, phase/operation code, or production BOM number.
Description	Displays the description of the component or operation.
Formulation Quantity	Displays the net quantity as specified in the formulation recipe.



Adjusted Quantity	Displays the gross quantity including loss percentages and yield factors. This represents the actual quantity required for production.
Unit of Measure Code	Displays the unit of measure for the component or operation.
Unit Cost	Displays the cost per unit based on the selected cost scenario. For items, this reflects the cost basis specified in the cost scenario. For phase operations, this shows the unit cost from the phase/operation detail record.
Extended Cost	Displays the total cost calculated as Unit Cost × Adjusted Quantity in the item's base unit of measure. This represents the total cost contribution of each component.
Cost %	Displays the percentage contribution of each component to the total formulation cost.

Cost calculation methods by line type

The system calculates extended costs differently based on the formulation line type:

- *Item*: The system retrieves the unit cost based on the cost scenario's item cost basis. It converts quantities to base units of measure to calculate the extended cost.
- *Catalog Item*: For catalog items linked to inventory items, the system uses the item cost. For catalog items without item linkage, the system uses the catalog item cost basis (*Published Cost* or *Negotiated Cost*) specified in the cost scenario.
- *Formulation*: When a formulation references another formulation, the system recursively calculates the cost of the sub-formulation using the same cost scenario. The unit cost represents the total unit cost of the sub-formulation, and the total cost equals this unit cost multiplied by the required quantity.
- *Phase/Operation*: The total cost equals Run Time × Unit Cost from the associated work center or machine center. These costs represent labor and overhead expenses for processing operations.
- *Production BOM Lines*: The system calculates costs using the standard cost calculation engine for production BOMs.

Total cost calculations

The cost breakdown page displays summary totals that provide overall formulation cost information:

- **Total Batch Cost**: This field displays the total cost for the entire formulation batch. The system calculates this value by summing all extended costs from individual formulation lines.
- **Total Unit Cost**: This field shows the cost per unit of formulation output. The system calculates this value using the formula: Total Unit Cost = Total Batch Cost ÷ Adjusted Output Quantity.

The yield percentage affects the unit cost calculation by reducing the effective output quantity. For example, if the output quantity is 1000 units and the yield percentage is 95%, the adjusted output quantity becomes 950 units, resulting in a higher unit cost.



To compare formulation versions, follow these steps:

1. Create multiple versions of a formulation with different ingredient compositions or quantities.
2. Open the **Cost breakdown** page for each version using the same cost scenario.
3. Compare the **Total unit cost** and **Cost %** values to identify cost differences between versions.
4. Use the **Extended cost** column to identify which ingredients contribute most to cost differences between versions.

Users can export cost breakdown data to excel for further analysis and reporting.



Quality and compliance

Article • 2/2/2026 • 1 min read

Integration with regulatory compliance systems ensures formulations meet industry standards and support automated label generation.

To configure compliance attributes, follow these steps:

1. Set up attribute aggregation for regulatory properties such as allergen information, nutritional content, and physical characteristics.
2. Configure aggregation methods appropriate for each attribute type:
 - Use *Sum* for additive properties like calories or sodium content.
 - Use *Logical OR* for allergen presence across ingredients.
 - Use *Maximum* for properties like pH or temperature limits.
3. The system automatically calculates compliance values and supports integration with labeling systems for nutrition facts and regulatory statements.



Aggregate ingredient properties

Article • 2/2/2026 • 2 min read

Automated attribute aggregation eliminates manual calculations and ensures accuracy in nutritional labeling and regulatory compliance.

To configure attribute aggregation, follow these steps:

1. Select the Search icon  , enter **Formulation Attribute Aggregation Setup**, and then choose the related link. The **Formulation Attribute Aggregation Setup** page opens.
2. Configure aggregation rules for each attribute based on business requirements and regulatory standards. On the **Formulation** page, the **Formulation attributes** FactBox displays calculated values.
3. Select **Calculate** to refresh calculations with current ingredient data.

The system maintains audit trails for all calculations and supports regulatory documentation requirements.



View and display formulation attributes

Article • 2/2/2026 • 5 min read

Configure custom attribute views to display specific ingredient attributes in matrix format for formulation analysis. The view and display functionality enables focused analysis of nutritional, regulatory, or quality attributes across formulation ingredients.

Set up formulation attribute views

Formulation attribute views define which item attributes to display when analyzing formulation ingredients. Views enable focused analysis by showing only relevant attributes for specific purposes.

To create formulation attribute views

1. Select the Search icon , enter **Formulation Attribute View List**, and then choose the related link.
The **Formulation attribute view list** page opens, showing only views created by the current user.
2. On the action bar, select **New** to create a new attribute view.
The **Formulation attribute view** page opens.
3. Configure the attribute view header information:
 - **Code:** enter a unique identifier for the attribute view. This code is used when selecting views for formulation analysis.
 - **Description:** enter a descriptive name for the attribute view.
 - **Overview:** enter detailed information about the purpose and scope of this attribute view. This field supports multiple lines of text and helps users understand when to use this view.
4. On the **Lines** FastTab, add the item attributes to include in this view:
 - **Attribute:** select the item attribute name to include in the view. The lookup shows only active (non-blocked) item attributes configured in the system.

The system automatically validates that the selected attribute exists and is not blocked. Each attribute can be added only once per view to prevent duplication.
5. Add additional lines for each attribute you want to include in the view.
6. Save the attribute view for use in formulation analysis.



Attribute view management

Use configured attribute views to analyze ingredient attributes across formulation lines in a matrix format that facilitates comparison and analysis.

To display formulation attributes

1. Search icon , enter **Formulations**, and then choose the related link.
2. Select the required **Formulation No.** field value to open the formulation.
3. On the action bar, select **Display attributes for lines**.
The **Formulation attribute view list** page opens in lookup mode.
4. Select the attribute view to use for the analysis and choose **OK**.
The **Formulation attributes matrix** page opens.

The matrix displays formulation ingredients as rows and selected attributes as columns, providing a comprehensive view of attribute values across all ingredients.

Matrix display functionality

The **Formulation attributes matrix** page provides several features for effective attribute analysis:

- **Formulation View Code:** Displays the selected attribute view code and provides lookup functionality to change views without closing the matrix. When a different view is selected, the system refreshes the matrix with the new attribute selection.
- **Row Data:** Each row represents a formulation ingredient line, showing the item number, description, and quantity information.
- **Column Data:** Each column represents an item attribute from the selected view, displaying the attribute value for each ingredient.

Data collection process

When displaying attributes for formulation lines, the system performs the following process:

1. **Attribute collection:** the system collects all item attributes from ingredients used in the formulation lines.
2. **View filtering:** if a specific attribute view is selected, the system filters the collected attributes to show only those included in the view.



Analysis capability examples

The matrix display enables several types of formulation analysis:

- Nutritional analysis: create views focused on nutritional attributes such as protein content, fat content, carbohydrate levels, and vitamin concentrations.
- Allergen analysis: configure views to display allergen-related attributes, enabling quick identification of potential allergen sources across formulation ingredients.
- Quality analysis: set up views for quality-related attributes such as moisture content, pH levels, particle size, and other quality parameters.



Nutritional content

Article • 2/2/2026 • 2 min read

The **Nutritional Content Configuration** page allows administrators to specify which item attributes should be included in nutrition facts calculations.

To configure nutritional attributes, follow these steps:

1. Select the Search icon, enter **Nutritional Content Configuration**, and then choose the related link. The **Nutritional Content Configuration** page opens.
2. Select **New** to add a nutritional attribute.
3. Configure the attribute information: **Attribute**: Select the item attribute name that contains nutritional information.
4. Repeat for each nutritional attribute that should appear in nutritional content displays.
The available action **Formulation Attribute Aggregation Setup**: Opens the **Formulation Attribute Aggregation Setup** page to configure how attributes are calculated and aggregated across formulation ingredients. This setup determines the calculation method (for each nutritional attribute. For more information, see [Set up attribute aggregation](#) page.

Per-Serving calculation formula

The **Nutritional Content** FactBox is displayed on the **Formulation Card** and **Formulation Version Card** pages.

- For text-based attributes, values are displayed as-is without mathematical conversion.
- For numerical attributes: $\text{Per-Serving Value} = \text{Aggregated Total Value} \div \text{Serving Count}$

Example:

Formulation Output: 175g total

Serving Size UOM: 25g

Serving Count: 7

Formulation Lines:

- 100g Oats (contains 0.169 g protein/ gram)
- 50g Honey (contains 0.003 g protein/ gram)
- 25g Almonds (contains 0.212 g protein/ gram)



How the system calculates

1. Calculation: It multiplies each ingredient's protein content by its quantity:

- Oats protein: $100\text{g} \times 0.169\text{g/g} = 16.9\text{g}$
- Honey protein: $50\text{g} \times 0.003\text{g/g} = 0.15\text{g}$
- Almonds protein: $25\text{g} \times 0.212\text{g/g} = 5.3\text{g}$
- **Total protein in batch:** $16.9 + 0.15 + 5.3 = 22.35\text{g}$

2. Per-Serving conversion: Divides by 7 servings:

- **Protein per serving:** $22.35\text{g} \div 7 = 3.19\text{g}$

3. The **Nutritional Content Per Serving** FactBox shows Protein: 3.19g



Project management integration

Article • 2/2/2026 • 1 min read

Refer the following project management integration.

- [Identify opportunities as product development requests](#)
- [Link formulation to R&D projects](#)
- [View related formulas from projects](#)
- [ELN notebook references](#)



Identify opportunities as product development requests

Article • 2/2/2026 • 2 min read

Sales users can mark opportunities as product development requests to distinguish them from standard sales opportunities.

To mark an opportunity as a product development request, follow these steps:

- 1. Select the Search icon , enter **Opportunities**, and then choose the related link. The **Opportunities** page opens.
- 2. Select an existing opportunity or create a new one by selecting **New**.
- 3. On the **General** FastTab, in the **Opportunity type** field, select *PD*.
- 4. Complete additional opportunity information as required.
- 5. Select **Save** or close the page to save changes.

The system identifies this opportunity as a product development request. Product development requests require additional information beyond standard opportunities to support R&D planning and execution.

To capture PD request details, follow these steps:

- 6. Open the opportunity with the **Opportunity Type** field value set to *PD*.
- 7. On the **PD request details** FastTab, complete the following fields:

Field	Description
PD Type	Select the type of product development request. Select from configured Product development types.
PD Status	Specifies the current status of the PD request. Options: <i>Planned, In Progress, Completed, Cancelled</i> .
R&D Group	Select the R&D group responsible for this development request.
Target Completion Date	Select the expected completion date for the PD request.
Priority Level	Select the business priority of this development request.

- 8. In the **Description** field, provide detailed requirements and specifications for the development request.



Link formulation to R&D projects

Article • 2/2/2026 • 5 min read

Integration with project management enables tracking formulation development within broader product development initiatives.

To link a formulation to an R&D project, follow these steps:

1. Select the Search icon , enter **Formulations**, and then choose the related link. The **Formulation** page opens.
2. Open the formulation you want to link to a project.
3. On the **General** FastTab, in the **Project No.** field, select the project associated with this formulation development.
4. In the **Project Task No.** field, select the specific task within the project.

To assign a formulation to a project follow these steps:

5. On the **Project Card** page, select **Functions > Assign Formulation**.
6. Choose the type of assignment:
 - *Formulation*: Assign a formulation header to the project.
 - *Formulation Version*: Assign a specific formulation version to the project.
7. Select the formulation or version from the lookup page.
8. If the formulation is already assigned to another project, confirm the reassignment when prompted.

To assign a formulation to a specific project task, follow these steps:

11. On the **Project card**, navigate to the **Tasks** FastTab.
12. Select the project task line.
13. Select **Line > Assign Formulation**.
14. Choose between **Formulation** or **Formulation Version** assignment.
15. Select the formulation from the lookup and confirm the assignment.

The **Related Formulations** page features:

The **Related formulations** page provides comprehensive information about linked formulations:

Field	Description
Formulation No.	Specifies the formulation number. Select to drill down and open the formulation card.
Formulation Description	Specifies the formulation description from the header record.



Version No.	Specifies the version number. Blank for formulation headers, populated for specific versions.
Description	Specifies the version-specific description (for versions) or formulation description (for headers).
Status	Specifies the current status with color coding: <i>Certified</i> (green), <i>Under Development</i> (yellow), and <i>Closed</i> (gray).
Project Task No.	Specifies the project task number (visible when viewing project-level formulations).

 **Note**

The **Related formulations** page shows both formulation headers and formulation versions that are linked to the project or project task, providing complete visibility into all related development work.

Integration with project management and opportunity enables sales team to capture and route R&D requests, tracking formulation development within broader product development initiatives.

Set up product development types

Product development types categorize different types of R&D requests and enable proper workflow routing.

To configure product development types, follow these steps:

1. Select the Search icon  , enter **Product Development Types**, and then choose the related link. The **Product Development Types** page opens.
2. Select **New** to create a new product development type.
3. Fill the following fields:

Field	Description
Code	Enter the Product Development Type code. This field is mandatory and serves as the unique identifier.
Description	Enter the Product development description.



View related formulas from projects

Article • 2/2/2026 • 3 min read

The **Project Card** page provides multiple ways to view and manage formulations linked to the project.

To view related formulations to a project, follow these steps:

1. Select the Search icon , enter **Projects**, and then choose the related link.

The **Project** page opens.

2. Open the project card for your R&D project.

3. Use one of the following methods to view related formulations:

Method 1: Using the **Related formulation** FactBox

- On the **Related Formulas** FactBox view a summary of all formulations linked to this project.

Method 2: Using the **Related Formulation** action

4. On the action bar, select **Navigate > Formulation > Related Formulation**.

5. The **Related formulations** page opens, displaying all formulations and formulation versions linked to this project.

6. On the **Related formulations** page, you can:

- View formulation details including **Formulation No.**, **Description**, **Version No.**, **Status**, and **Project Task No.**.
- Select **Open** or drill down on a formulation number to open the detailed **Formulation Card** or **Form Version Card** page.
- View both formulation headers and specific versions linked to the project.

View related formulas from project tasks

Project tasks also provide access to view formulations linked to specific tasks within the project.

To view formulations linked to a project task, follow these steps:

1. Open the project card and navigate to the **Tasks** FastTab.
2. Select the project task line you want to view formulations for.
3. On the action bar, select **Line > Related formulation**. The **Related Formulations** page opens, filtered to show only formulations linked to the selected project task. The page displays formulations with their **Project Task No.** field matching the selected task.



ELN notebook references

Article • 2/2/2026 • 1 min read

Electronic Laboratory Notebook (ELN) integration provides traceability to experimental data and development records.

To configure ELN references on formulations, follow these steps:

- 1. Navigate to the **Formulation Card** page.
- 2. On the **ELN Notebook References** FastTab, view the following fields:

Field	Description
Notebook ID/Name	Specifies the lab notebook identifier or name for reference purposes. Enter the laboratory notebook or experimental record identifier.
Page Number	Specifies the page number in the lab notebook where this formulation is documented. Enter a value of 0 or greater.
Experiment Reference	Specifies the experiment reference code or identifier in the lab notebook.



Advanced features

Article • 2/2/2026 • 1 min read

Refer the following advanced features.

- [Formulation comparison](#)
- [Cost rollup analysis](#)
- [Formulation security](#)
- [Formulation search](#)
- [Excel integration features](#)



Formulation comparison

Article • 2/2/2026 • 2 min read

Side-by-side comparison of formulation versions supports change analysis and regulatory documentation.

To compare formulation versions, follow these steps:

1. Select the Search icon  , enter **Formulation Compare**, and then choose the related link. The **Formulation Compare** page opens.
2. Select the formulations and versions to compare. The system displays differences in ingredients, quantities, and processing parameters.



Cost rollup analysis

Article • 2/2/2026 • 6 min read

Cost analysis provides visibility into formulation economics and supports pricing decisions and cost optimization initiatives.

Perform cost roll-up and analysis

Analyze formulation costs using configurable cost scenarios to support pricing decisions, cost optimization, and financial planning. The cost analysis functionality provides detailed breakdowns of material and labor costs with support for what-if scenarios and version comparisons.

Set up cost scenarios

Cost scenarios define the cost basis used for formulation analysis, enabling comparison of different costing approaches and what-if analysis scenarios.

To create cost scenarios, follow these steps:

1. Select the Search icon , enter **Formulation cost scenarios**, and then choose the related link. The **Formulation cost scenarios** page opens.
2. On the action bar, select **New** to create a new cost scenario.
3. Configure the cost scenario parameters.

Field	Description
Code	Enter a unique identifier for the cost scenario. This code will be used when selecting cost scenarios for analysis.
Description	Enter a descriptive name for the cost scenario.
Item Cost Basis	Select the cost basis to use for inventory items. The available options are: <i>Unit Cost</i> , the system uses the standard unit cost from the item master data. <i>Last Direct Cost</i> , the system uses the most recent direct cost for the item. <i>Alternate Cost</i> , you must specify an alternate cost code and basis. This fields are editable when the Aptean Pricing Matrix extension is used. For more information, see Aptean Pricing Matrix . <i>External Cost</i> , the system uses the external cost field on the formulation line.
Catalog Item Cost Basis	Select the cost basis to use for <i>catalog items</i> (non-inventory items). The available options are: <i>Published cost</i> , the system uses the published cost field from the



	catalog item record. <i>Negotiated cost</i> , the system uses the negotiated cost field from the catalog item.
Alternate Cost Code	When using <i>Alternate cost</i> as the item cost basis, specify the alternate cost code to retrieve costs from the alternate cost system. For more information, see Aptean Pricing Matrix .
Alternate Cost Basis	When using alternate costs, select whether to use <i>Cost</i> or <i>Future cost</i> from the alternate cost records. For more information, see Aptean Pricing Matrix .
Default Scenario	Select this checkbox to designate this scenario as the default for new cost analyses. Only one scenario can be marked as default. When you mark a scenario as default, the system automatically removes the default flag from other scenarios.

Analyze formulation costs

The cost breakdown functionality provides detailed analysis of formulation costs, showing material costs, labor costs, and cost percentages for each component.

To analyze formulation costs, follow these steps:

1. Select the Search icon , enter **Formulations**, and then choose the related link.
2. Select the required **Formulation No.** field value to open the formulation.
3. On the action bar, select **Cost breakdown**. The **Cost breakdown** page opens.
4. In the **Cost scenario code** field, select the cost scenario to use for the analysis. If left blank, the system uses the default cost scenario.

The system displays detailed cost information for each formulation line:

Field	Description
Line Type	Displays the type of formulation line (<i>Item, Catalog Item, Formulation, Phase/Operation, Production BOM</i>).
No.	Displays the item number, catalog item number, formulation number, phase/operation code, or production BOM number.
Description	Displays the description of the component or operation.
Formulation Quantity	Displays the net quantity as specified in the formulation recipe.
Adjusted Quantity	Displays the gross quantity including loss percentages and yield factors. This represents the actual quantity required for production.



Unit of Measure Code	Displays the unit of measure for the component or operation.
Unit Cost	Displays the cost per unit based on the selected cost scenario. For items, this reflects the cost basis specified in the cost scenario. For phase operations, this shows the unit cost from the phase/operation detail record.
Extended Cost	Displays the total cost calculated as unit cost × adjusted quantity in the item's base unit of measure. This represents the total cost contribution of each component.
Cost %	Displays the percentage contribution of each component to the total formulation cost.

Cost calculation methods by line type

The system calculates extended costs differently based on the formulation line type:

- *Item*: The system retrieves the unit cost based on the cost scenario's item cost basis. It converts quantities to base units of measure to calculate the extended cost.
- *Catalog Item*: For catalog items linked to inventory items, the system uses the item cost. For catalog items without item linkage, the system uses the catalog item cost basis (*Published Cost* or *Negotiated Cost*) specified in the cost scenario.
- *Formulation*: When a formulation references another formulation, the system recursively calculates the cost of the sub-formulation using the same cost scenario. The unit cost represents the total unit cost of the sub-formulation, and the total cost equals this unit cost multiplied by the required quantity.
- *Phase/Operation*: The total cost equals Run Time × Unit Cost from the associated work center or machine center. These costs represent labor and overhead expenses for processing operations.
- *Production BOM Lines*: The system calculates costs using the standard cost calculation engine for production BOMs.

Total cost calculations

The cost breakdown page displays summary totals that provide overall formulation cost information:

Total batch cost: This field displays the total cost for the entire formulation batch. The system calculates this value by summing all extended costs from individual formulation lines.

Total Unit cost: This field shows the cost per unit of formulation output. The system calculates this value using the formula: Total Unit Cost = Total Batch Cost ÷ Adjusted Output Quantity.

The yield percentage affects the unit cost calculation by reducing the effective output quantity. For example, if the output quantity is 1000 units and the yield percentage is 95%, the adjusted output quantity becomes 950 units, resulting in a higher unit cost.

To compare formulation versions, follow these steps:



1. Create multiple versions of a formulation with different ingredient compositions or quantities.
2. Open the **Cost breakdown** page for each version using the same cost scenario.
3. Compare the **Total unit cost** and **Cost %** field values to identify cost differences between versions.
4. Use the **Extended cost** column to identify which ingredients contribute most to cost differences between versions.

Users can export cost breakdown data to Excel for further analysis and reporting.



Formulation security

Article • 2/2/2026 • 3 min read

Formulation visibility controls who can see and work with formulations and their versions.

This allows you to keep work private while developing, share formulas with specific teams, or make them available to everyone when ready.

The system automatically manages access so that users only see formulas they are allowed to use.

Default formulation visibility

On the **Formulation setup** page you can configure the default visibility using the **Default Formulation Visibility** field. For more information, see [Set up formulation management](#). When you create new formulation the header is created using this default, but new versions automatically inherit the header's visibility. Changing the default later does not affect existing formulations.

Visibility options:

Each formulation or formulation version can have one of the following visibility options:

- *Private*: Only you can see and edit the formulation
- *Shared*: Visible to all users
- *Group*: Visible only to users in selected R&D groups. For more information, see [Setup R&D groups](#).

To ensure consistent access, the system enforces a key rule: a formulation header can never be more restrictive than any of its versions. If the header were more restrictive than a version, users could lose access to versions they are otherwise allowed to see.

The formulation header automatically adjusts its visibility based on the most open visibility of its versions. When version security changes, the system evaluates all existing versions and updates the header if necessary.

For example, if a formulation header is initially Private and all of its versions are also Private, only the owner can see the formulation. If one of those versions is later changed to Group visibility, the formulation header is automatically updated to Group as well. This allows members of the group to open the formulation and access the shared version.

If another version is later changed to Shared, the header visibility is updated again and becomes Shared. At this point, all authorized users can open the formulation, while version-level rules still control which versions they can access.



Working with group visibility

When the default visibility in the **Formulation Setup** field value is set to *Group*, the system requires a valid R&D group to be specified.

Only users who belong to the selected R&D group are allowed to create formulas using this setup. If a user who is not a member of the group attempts to create a formulation, the system will block the action and display an error message indicating that the user does not belong to the required group.

Once created, the formula header and its initial version are both assigned *Group* visibility using the group defined in setup. From that point forward, only members of that group can see or work with the formula, unless the visibility is later changed to a less restrictive level, such as *Shared*.



Formulation search

Article • 2/2/2026 • 3 min read

To open the formulation search, follow these steps:

- 1. Select the Search icon , enter **Formulation Search**, and then choose the related link.
The **Formulation Search** page opens. The page displays search parameter fields at the top and results area below.

The formula search provides multiple filter options to narrow your search scope.

- 2. On the **Filters** group, enter the following fields as needed:

Field	Description
Formulation No. Filter	Specify a formulation number to limit the search to a single formulation. Select from existing formulations using the lookup.
Version No. Filter	Specify a version number to limit the search to a specific formulation version.
Filter by Status	Turn on this toggle to enable status-based filtering.
Status Filter	Specify the formulation status to filter by. Available when Filter by Status is enabled. The available options are: <i>New, Certified, Under Development, Closed</i> .

To configure search criteria, follow this step:

On the **Search Criteria** group, configure the following options:

Field	Description
Ingredient Search	Specify ingredients using the Item No. or Item Description field. Partial description matching is supported. Separate multiple ingredients with commas.
Ingredient Criteria	Specify matching logic. The available options: <i>Include at least one (OR logic), Must include all (AND logic)</i> .
Attribute Search	Specify attributes using attribute name from the formulation attribute aggregation setup. Partial name matching is supported. Separate multiple attributes with commas.
Attribute Criteria	Specify matching logic. The available options: <i>Include at least one (OR logic), Must include all (AND logic)</i> .



Search input examples

Ingredient search examples:

- Single ingredient: SUGAR-001
- Multiple ingredients (OR): SUGAR-001, VANILLA, Citric Acid
- Multiple ingredients (AND): SUGAR-001, VANILLA with *Must include all* selected

Attribute search examples:

- Single attribute: Protein Content
- Multiple attributes (OR): Protein Content, Fat Content, Fiber
- Multiple attributes (AND): Protein Content, Calories with **Must include all** selected

To clear search parameters, follow these steps:

1. Select **Clear** on the action bar.
2. The system clears all filters, search criteria, and results.
3. All search parameters return to their default values.

Search results fields:

The **Results** section displays the following information:

Field	Description
Formulation No.	Specifies the formulation number. Select to drill down and open the formulation card.
Version No.	Specifies the formulation version number. Blank for formulation headers.
Description	Specifies the formulation or version description.
Status	Indicates the current formulation status.
Ingredient Match Count	Specifies how many of the selected ingredients were found in the formulation.
Matches All Ingredients	Specifies whether the formulation contains all specified ingredients (when using AND logic).
Attribute Match Count	Specifies how many of the selected attributes were found in the formulation properties/results.
Matches All Attributes	Specifies whether the formulation has all specified attributes (when using AND logic).



 Note

If you don't have permission to view a formulation, the system displays a warning message.



Excel integration features

Article • 2/2/2026 • 3 min read

To open the formulation search, follow these steps:

- 1. Select the Search icon  , enter **Formulation search**, and then choose the related link. The **Formulation Search** page opens. The page displays search parameter fields at the top and results area below. The formula search provides multiple filter options to narrow your search scope.
- 2. On the **Filters** group, enter the following fields as needed:

Field	Description
Formulation No. Filter	Specifies a formulation number to limit the search to a single formulation. Select from existing formulations using the lookup.
Version No. Filter	Specifies a version number to limit the search to a specific formulation version.
Filter by Status	Turn on this toggle to enable status-based filtering.
Status Filter	Specifies the formulation status to filter by. Available when Filter by Status toggle is turned on. The available options are: <i>New, Certified, Under Development, Closed</i> .

To configure search criteria, follow this step:

- 3. On the **Search Criteria** group, configure the following options:

Field	Description
Ingredient Search	Specifies ingredients using item number or item description. Partial description matching is supported. Separate multiple ingredients with commas.
Ingredient Criteria	Specifies matching logic. The available options: <i>Include at least one (OR logic), Must include all (AND logic)</i> .
Attribute Search	Specifies attributes using attribute name from the Formulation Attribute Aggregation Setup page. Partial name matching is supported. Separate multiple attributes with commas.
Attribute Criteria	Specifies matching logic. The available options: <i>Include at least one (OR logic), Must include all (AND logic)</i> .

Search input examples:

Ingredient search examples:



- Single ingredient: SUGAR-001
- Multiple ingredients (OR): SUGAR-001, VANILLA, Citric Acid
- Multiple ingredients (AND): SUGAR-001, VANILLA with *Must include all* selected

Attribute search examples:

- Single attribute: Protein content
- Multiple attributes (OR): Protein content, fat content, fiber
- Multiple attributes (AND): Protein content, calories with **Must Include All** checkbox selected.

To clear search parameters, follow these steps:

4. Select **Clear** on the action bar.
5. The system clears all filters, search criteria, and results.
6. All search parameters return to their default values.

Search results fields:

The **Results** section displays the following information:

Field	Description
Formulation No.	Specifies the formulation number. Select to drill down and open the Formulation Card page.
Version No.	Specifies the formulation version number. Blank for formulation headers.
Description	Specifies the formulation or version description.
Status	Indicates the current formulation status.
Ingredient Match Count	Specifies how many of the selected ingredients were found in the formulation.
Matches All Ingredients	Specifies whether the formulation contains all specified ingredients (when using AND logic).
Attribute Match Count	Specifies how many of the selected attributes were found in the formulation properties/results.
Matches All Attributes	Specifies whether the formulation has all specified attributes (when using AND logic).

Note

If you don't have permission to view a formulation, the system displays a warning message.



Associate customer and contact with formulations

Article • 4/22/2026 • 3 min read

You can associate a customer and optionally a contact person with each formulation through the **Customer Information** FastTab on the **Formulation Card** page. When a project is linked to the formulation, the customer and contact fields are automatically populated from the project's bill-to customer and contact information, ensuring consistency and reducing manual data entry.

To associate a customer and contact with a formulation, follow these steps:

1. Select the Search icon , enter **Formulations**, and then choose the related link.
The **Formulations** list page opens.
2. Select the formulation to configure.
The **Formulation Card** page opens.
3. Expand the **Customer Information** FastTab.
4. In the **Customer No.** field, select the customer to associate with the formulation.
The **Customer Name** field is automatically populated based on the selected customer.
5. Optionally, in the **Contact No.** field, select the contact person for the customer.
The **Contact Name** field is automatically populated based on the selected contact.

Note

The contact must be associated with the selected customer. If no customer is selected and a contact is chosen, the system automatically populates the **Customer No.** field from the contact's business relation record. When a project is linked and both the **Customer No.** field and **Contact No.** field are empty, the system automatically populates them from the project's bill-to fields.



Configure formulation quoting defaults

Article • 4/22/2026 • 2 min read

The **Formulation Setup** page allows you to configure a placeholder item for formulation quoting. The pending formulation item number serves as a placeholder in sales quotes for formulations that do not yet have an assigned production item.

To configure formulation quoting defaults, follow these steps:

1. Select the Search icon , enter **Formulation Setup**, and then choose the related link.
The **Formulation Setup** page opens.
2. In the **Quoting Configuration** group, in the **Default Pricing Markup %** field, enter the default markup percentage to apply to formulation cost calculations.
3. In the **Pending Formulation Item No.** field, select the item to use as a placeholder in sales quotes for formulations that do not yet have an assigned production item.

Note

The pending formulation item number must be a valid item in the system. This item is used temporarily in sales quote lines until an actual production item is assigned to the formulation.



Create a sales quote from a formulation

Article • 4/22/2026 • 5 min read

You can create sales quotes directly from certified formulations to initiate the commercial process before a production item is assigned. The system uses intelligent price lookup to determine the unit price from customer price lists or the standard item unit price, and maintains full traceability between the sales quote and the originating formulation number and version.

To create a sales quote from a formulation, follow these steps:

1. Select the Search icon , enter **Formulations**, and then choose the related link.
The **Formulations** list page opens.
2. Select the certified formulation to create a sales quote for.
The **Formulation Card** page opens.
3. Select the **Create Sales Quote** action.
The sales quote dialog opens, displaying read-only cost reference fields.
4. In the **Document Date** field, enter the document date for the sales quote.
5. In the **Quote Valid Until Date** field, enter the expiration date for the sales quote.
6. In the **Quantity** field, enter the quantity for the quote line.
7. In the **Unit of Measure** field, select the unit of measure.
8. In the **Unit Price** field, review or adjust the unit price. The system determines the price from customer price lists or the standard item unit price.
9. Review the read-only cost reference fields: **Cost Scenario Code** field, **Total Batch Cost** field, **Total Unit Cost** field, and **Suggested Unit Price** field.
10. Select **OK** to create the sales quote.
The system creates a sales quote linked to the formulation. If no production item is assigned to the formulation, the configured pending formulation item number is used as a placeholder on the quote line.

Note

The formulation must be in *Certified* status to create a sales quote. The sales quote maintains a reference to the formulation number and version for traceability.

Refresh a sales quote from a formulation

When an item is assigned to a formulation after a sales quote has been created, you can refresh the sales quote to replace the placeholder item with the actual production item. The refresh replaces the pending formulation item on the quote line and prompts whether to update pricing based on the new item.



To refresh a sales quote from a formulation, follow these steps:

1. Select the Search icon , enter **Sales Quotes**, and then choose the related link.

The **Sales Quotes** list page opens.

2. Select the formulation-based sales quote to refresh.

The **Sales Quote** page opens.

3. Select **Refresh from Formulation**.

The system replaces the placeholder item with the actual production item assigned to the formulation and prompts whether to update pricing based on the new item.

Note

The **Refresh from Formulation** action is available only when the formulation has an assigned production item that differs from the current item on the quote line. Negotiated values on the quote are preserved during the refresh. The refresh action is available only when the formulation has an assigned production item.

Placeholder item validation on quote-to-order conversion

The system prevents the conversion of a formulation-based sales quote to a sales order when the quote line still uses the configured placeholder item. This validation ensures that only quotes with actual production items can be converted to orders, maintaining data integrity in the order fulfillment process.

When a user attempts to convert a formulation-based sales quote that contains the placeholder item, the system blocks the operation and displays an error message guiding the user to assign an actual item to the formulation and use the **Refresh from Formulation** action on the sales quote before retrying. Non-formulation quotes continue to convert using standard Business Central logic.



Integrations

Article • 2/2/2026 • 1 min read

The Aptean Formulation Management extension has been integrated with the following extensions:

- [Aptean Advanced Attributes](#)
- [Aptean Status Management](#)
- [Aptean Dynamic Comments](#)
- [Aptean Aptean eSignature](#)
- [Aptean Pricing Matrix](#)
- [Aptean Production Scenarios](#)
- [Aptean Dynamic Production](#)



Integration with Aptean Advanced Attributes

Article • 2/2/2026 • 1 min read

When the Aptean Formulation Management extension is used in conjunction with the Aptean [Advanced Attributes](#) extension, the system provides the foundation for ingredient attribute management and aggregation calculations. Item attributes configured on the **Advanced Attributes** page are automatically available for formulation aggregation setup. This integration enables comprehensive nutritional analysis and regulatory compliance reporting.



Integration with Aptean Status Management

Article • 2/2/2026 • 1 min read

When the Aptean Formulation Management extension is used in conjunction with the Aptean [Status Management](#) extension, the system enables workflow control for formulation approval processes with configurable status transitions and electronic signature integration. This ensures proper change control and regulatory compliance throughout the formulation development lifecycle.



Integration with Apteian Dynamic Comments

Article • 2/2/2026 • 1 min read

When the Apteian Formulation Management extension is used in conjunction with the Apteian [Dynamic Comments](#) extension, the system enables collaborative formulation development through structured commenting and communication workflows. Users can add contextual comments to formulation lines, track development discussions, and maintain audit trails of formulation changes and decisions throughout the R&D process.



Integration with Apteian eSignature

Article • 2/2/2026 • 1 min read

When the Apteian Formulation Management extension is used in conjunction with the Apteian [eSignature](#) extension, the system provides digital signature capabilities for formulation approval workflows. This integration ensures regulatory compliance by capturing electronic signatures during formulation certification, version approvals, and critical change authorizations, maintaining complete audit trails for FDA and other regulatory requirements.



Integration with Aptean Pricing Matrix

Article • 2/2/2026 • 1 min read

When the Aptean Formulation Management extension is used in conjunction with the Aptean [Pricing Matrix](#) extension, the system provides dynamic pricing scenarios based on ingredient costs, market conditions, and customer-specific pricing agreements. This enables real-time cost analysis and supports pricing decisions during formulation development and commercialization phases.



Integration with Aptean Production Scenarios

Article • 2/2/2026 • 1 min read

When the Aptean Formulation Management extension is used in conjunction with the Aptean [Production Scenarios](#) extension, the system enables seamless transition from formulation development to production planning. When formulations are converted to production structures, the system automatically creates production scenarios that link BOMs, routings, and resource requirements, facilitating integrated manufacturing planning and capacity analysis.



Integration with Aptean Dynamic Production

Article • 2/2/2026 • 1 min read

The Aptean Formulation Management extension integrates seamlessly with the Aptean [Dynamic Production](#) extension to enable advanced production planning and execution capabilities. This integration provides enhanced BOM line functionality and component type management for dynamic production scenarios.

