|  |  |
| --- | --- |
|  |  |
| Test Script  SAP S/4HANA - 17-09-20 | public |
| Recipe Handover to Production - Bill of Material (1QG\_DE) |

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# Purpose

You can use this business process to create and update a bill of material using a recipe as data source. A bill of material is created to enable the manufacturing of the product.

The creation or update of BOMs typically occurs when the development department completes product definition and the information is finalized and approved for use in production.

The BOM is synchronized to the recipe to enable processing of all subsequent recipe changes.

You can hand over formula items and their quantities to production to fully support the procurement of the ingredients.

The handover of process parameters to production is not covered by this scope item and must be set up by the customer.

This document provides a detailed procedure for testing this scope item after solution activation, reflecting the predefined scope of the solution. Each process step, report, or item is covered in its own section, providing the system interactions (test steps) in a table view. Steps that are not in scope of the process but are needed for testing are marked accordingly. Project-specific steps must be added.

# Prerequisites

This section summarizes all the prerequisites for conducting the test in terms of systems, users, master data, organizational data, other test data and business conditions.

## System Access

|  |  |
| --- | --- |
| System | Details |
| System | Accessible via SAP Fiori launchpad. Your system administrator provides you with the URL to access the various apps assigned to your role. |

## Roles

Assign the following business roles to your individual test users. Alternatively, if available, you can create business roles using the following spaces with pages and predefined apps for the SAP Fiori launchpad and assign the business roles to your individual test users.

Note These roles or spaces are examples provided by SAP. You can use them as templates to create your own roles or spaces.

For more information about business roles, refer to Assigning business roles to a user in the [Administration Guide to Implementation of SAP S/4HANA with SAP Best Practices](https://help.sap.com/viewer/S4HANA2020_AdminGuide) .

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name (Role) | ID (Role) | Description (Space) | ID (Space) | Log On |
| * Production Engineer - Process Manufacturing   Maintains manufacturing-relevant master data such as master recipe and resource.  Coordinates with PLM department, production supervisors, and others relevant for manufacturing. | SAP\_BR\_PRODN\_ENG\_PROC | Production Engineering - Process Manufacturing | SAP\_BR\_PRODN\_ENG\_PROC |  |

## Master Data, Organizational Data, and Other Data

The sample specification, recipe and materials have been created in your system during activation. The sample data has generic recipes/materials for reference.

Use your own master data or the following sample data to go through the test procedure

|  |  |  |  |
| --- | --- | --- | --- |
| Data | Sample Value | Details | Comments |
| Recipe | PLMPI\_OUTPT1/000/000 | Product 1 (Blue) | General Recipe |
| Recipe | 000000000XXX/000/000 | Recipe created in the preceeding test script(1QC- Formulation - Recipe Development ) | XXX is primary output specification id that was automatically in 1QC- Formulation - Recipe Development test script |
| Plant | 1010 | Plant 1 DE |  |
| Material | SGPI001 | OUTPUT 1 |  |
| Material | SGPI002 | OUTPUT 2 |  |
| Material | SGPI003 | OUTPUT 3 |  |
| Material | RMPI001 | Input 1 (WATER) |  |
| Material | RMPI002 | Input 2 (AGENT 2) |  |
| Material | RMPI003 | Input 3 (AGENT 3) |  |
| Material | RMPI004 | Input 4 (AGENT 4) |  |
| Material | RMPI005 | Input 5 (Blue Color) |  |
| Material | RMPI006 | Input X (Orange Color) |  |
| Material | RMPI007 | Input 7 (Agent 7) |  |

For more information on creating master data objects, see the following [Master Data Scripts (MDS)](https://support.sap.com/content/dam/SAAP/Sol_Pack/BP_OP_ENTPR/BP_OP_ENTPR_S4HANA2020_7_Master_Data_EN_XX.htm)

Table 1: Master Data Script Reference

|  |  |
| --- | --- |
| Master Data ID | Description |
| BNR | Create Product Master of Type "Raw Material" |
| BNS | Create Product Master of Type "Semi-Finished Good" |

## Business Conditions

Before this scope item can be tested, the following business conditions must be met.

|  |  |
| --- | --- |
| Scope Item ID | Business Condition |
| 1QC – Formulation - Recipe Development | Recipe is created using Manage Recipe app. |

For testing purposes the objects listed in chapter [Master Data, Organizational Data, and Other Data](#unique_5) [page ] 4 were already created automatically in your system.

## Preliminary Steps

### Change Number Creation

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

General Recipes are copied to site recipes that consider site-specific changes in the formula. Recipe Development offers functionality to convert recipes to bills of material and keep them synchronized. This creates a tight integration between R&D and Manufacturing.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as Production Engineer - Process Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the Fiori App | Open Create Change Master (CC01) app. | The Create Change Master app is launched. |  |
| 3 | Find Recipe | On the Create Change Master Initial Screen, enter the following data:  Change Number: CN001 | Change Number is entered. |  |
| 4 | Press Enter | Press Enter. | The Create Change Master: Change Header screen appears. |  |
| 5 | Enter Change Master data | In the Create Change Master: Change Header screen, enter the following data:  In the Field next to Change Number: Change Master for BOM creation for SGPI001  Valid From: Select Today's Date  Change no. status: 01 Active | Fields are updated. |  |
| 6 | Press Enter | Press Enter. | Create Change Master: Object Types screen opens. |  |
| 7 | Select checkboxes for Bill of Material | In the Object types table, in the Bill of Material row, select the following checkboxes:  Actv.  Object  MgtRec | Checkboxes are selected. |  |
| 8 | Choose Save | Choose the Save button. | The Change Master is created. |  |

### Material Assignment

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

General Recipes are copied to site recipes that consider site-specific changes in the formula. An example for such changes is the material assignment for the formula items.

To be able to do such change, material should be assigned to the specifications. In case you wish to continue with the recipe created in the test script 1QC Formulation – Recipe Development, you need to assign a material to the primary output specification of that recipe.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as Production Engineer - Process Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the app | Open the Manage Real Substances (F2477) app. | The Manage Real Substances screen is displayed. |  |
| 3 | Find Real Substance | In the ID field, enter the real substance specification ID that is created the test script. | Real Substance ID is entered |  |
| 4 | Execute Search | Click the Go button. | Recipes are filtered and the requested real substance is shown in the result list. |  |
| 5 | Display Real Substance | Select the Real Substance that you created in the 1QC - Formulation - Recipe Development test script. | The real substance is displayed. |  |
| 6 | Check the material | Check whether material is assigned for the Primary output. If not assigned proceed to step 7, else proceed to [Review Recipe and Decide Handover to Production - BOM](#unique_9) [page ] 11 |  |  |
| 7 | Switch to Edit Mode | Click the Edit button. | The screen switches to edit mode. |  |
| 8 | Assign Material | In the Material Assignments table, enter the following filter data:  Material: SGPI002  Or  SGPI003  Plant: 1010 | Materials are assigned to the real substance. |  |
| 9 | Save Real Substance | Click the Save button. | Real substance is saved. |  |

# Overview Table

This scope item consists of several process steps provided in the table below.

If your system administrator has enabled spaces and pages on the SAP Fiori launchpad, the homepage will only contain the essential apps for performing the typical tasks of a business role.

You can find all other apps not included on the homepage using the search bar.

If you want to personalize the homepage and include the hidden apps, navigate to your user profile and choose Settings > App Finder .

|  |  |  |  |
| --- | --- | --- | --- |
| Process Step | Business Role | App/Transaction | Expected Results |
| [Review Recipe and Decide Handover to Production - BOM](#unique_9) [page ] 11 | Production Engineer - Process Manufacturing | Manage Recipes (F2210) | Recipe is reviewed and decision has been taken to handover to Production. |
| [Copy General Recipe to Site Recipe and Assign Plant](#unique_11) [page ] 12 | Production Engineer - Process Manufacturing | Manage Recipes (F2210) | New site recipe created |
| [Check Assigned Materials and Release Site Recipe](#unique_12) [page ] 14 | Production Engineer - Process Manufacturing | Manage Recipes (F2210) | Site recipe is reviewed and released |
| [Define Plant Specific Target Bill of Material for the Recipe for Synchronization](#unique_13) [page ] 16 | Production Engineer - Process Manufacturing | Manage Recipes (F2210) | Synchronization details are saved |
| [Simulate and Execute Synchronization of the Recipe into Bill of Material](#unique_14) [page ] 17 | Production Engineer - Process Manufacturing | Manage Recipes (F2210) | Simulation of synchronization, conflicts resolved Manufacturing Bill of Material created for site recipe |
| [Check Manufacturing Bill of Material (MBOM)](#unique_15) [page ] 19 | Production Engineer - Process Manufacturing | Maintain Bill Of Material - Create, change & display BOMs (F1813) | Review of generated Bill of Material |

# Test Procedures

This section describes test procedures for each process step that belongs to this scope item.

## Review Recipe and Decide Handover to Production - BOM

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

In this process step, you review the recipe type of the recipe.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as Production Engineer - Process Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the Fiori App | Open Manage Recipes (F2210) app. | The Manage Recipes (F2210) app is launched. |  |
| 3 | Find Recipe | On the Manage Recipes screen, set the following filters:  Recipe ID: PLMPI\_OUTPT1/000/000  Choose Go. | Recipe is displayed in result list. |  |
| 4 | Open Recipe | Select the recipe PLMPI\_OUTPT1/000/000 in the result list and select Display Recipe in the context menu. | The Display Recipe application is opened for recipe PLMPI\_OUTPT1/000/000. |  |
| 5 | Check Recipe Type | Check the Recipe Type of the recipe in the header section. | The Recipe Type of Recipe PLMPI\_OUTPT1\_1/000/000 is General Recipe.  Only Site Recipes can be handed over to manufacturing. General Recipes must first be copied to a Site Recipe to do this. This can be done by copying it to a new alternative. |  |

## Copy General Recipe to Site Recipe and Assign Plant

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

In this process, you can create a new alternate recipe.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Note | Note You have logged in as Production Engineer - Process Manufacturing and you are in the Manage Recipes (F2210) app. Please continue this procedure after completing the previous section - [Review Recipe and Decide Handover to Production - BOM](#unique_9) [page ] 11.  Recipe ID: PLMPI\_OUTPT1/000/000 |  |  |
| 2 | Copy Recipe | Choose You Can Also and select Copy to New Alternative Recipe to create a new site recipe. | Create Recipe (W0106) screen is displayed. |  |
| 3 | Fill Out Initial Screen | On the Create Recipe (W0106) screen in the New Recipe section, make the following entries:  Recipe Type: Site Recipe  Primary Output Specification: default value  Choose Continue.  Note The Recipe is not yet saved at this point. It is created in the system to prevent any conflicts, but all data is lost if you close the screen without saving it first. | The Create Recipe screen is displayed. |  |
| 4 | Rename Recipe | In the General Data tab, change the Description of the recipe.  Description: Product 1 (Blue)- Site Recipe | Recipe name is changed. |  |
| 5 | Assign Plant | Assign plant to the newly created site recipe.  Plant: 1010 | Plant assignment is made. |  |
| 6 | Save Recipe | Click Save. | New alternate recipe is created. |  |

## Check Assigned Materials and Release Site Recipe

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

In this process step you release site recipe.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Note | Note You have logged in as Production Engineer - Process Manufacturing and you are in the Manage Recipes (F2210) app. Please continue this procedure after completing the previous section - [Copy General Recipe to Site Recipe and Assign Plant](#unique_11) [page ] 12.  Recipe ID: PLMPI\_OUTPT1/001/000 |  |  |
| 2 | Navigate to Formula tab | Navigate to the Formula tab. | Formula tab details are displayed. |  |
| 3 | Change the view | In the Show drop-down, select Logistic Information. | Table view is changed. |  |
| 4 | Check the material | Check whether material is assigned for the Primary output and Input formula items. If assigned proceed to the Adjust Formula step, else do the next step. |  |  |
| 5 | (Optional) Assign materials | If primary output or input formula items do not have material assigned to them, assign the materials as follows:   * For Primary Output formula item, in the Material column, enter SGPI001, SGPI002, or SGPI003. * For Input formula items, in the Material column, enter RMPI001, RMPI002, RMPI003, RMPI004, RMPI005, RMPI006, or RMPI007. | Materials are selected for each formula item. |  |
| 6 | Adjust Formula | Adjust the quantity for PLMPI\_INPUT5 and PLMPI\_INPUT1  Note By experience you know that the colorant material-RMPI005 (Input 5) used in plant 1010, is a little more powerful than others despite the same specification. You decide to reduce its quantity a little bit and add some more water.  Make the following entries:  For the Line item PLMPI\_INPUT5 adjust the  Quantity to 4.9853  For the Line item PLMPI\_INPUT1 adjust the  Quantity to 86.0147 | Formula value is modified. |  |
| 7 | Set the status to For Release(Development) | Navigate to the General Data tab, in the Header Data section, choose the value help in the Status field. Select the status 210-For Release by Development. | Status is changed to For Release by Development |  |
| 8 | Set the status to For Release(Production) | In the Header Data section, choose the value help in the Status field. Select the status 220-For Release by Production. | Status is changed to For Release by Production |  |
| 9 | Release Site Recipe | In the Header Data section, choose the value help in the Status field. Select the status 310-Released for Production | Recipe is Released for production. |  |
| 10 | Save Recipe | Click Save. | Recipe is released. |  |

## Define Plant Specific Target Bill of Material for the Recipe for Synchronization

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

In this process step you create new BOM.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Note | Note You have logged in as Production Engineer - Process Manufacturing and you are in the Manage Recipes (F2210) app. Please continue this procedure after completing the previous section - [Check Assigned Materials and Release Site Recipe](#unique_12) [page ] 14.  Recipe ID: . PLMPI\_OUTPT1/001/000 |  |  |
| 2 | Start Synchronization | At the top of the screen, click You Can Also and select Synchronize Recipe to BOM. | Recipe Synchronization to Material BOM screen is displayed. |  |
| 3 | Click Edit | Click Edit button to start synchronization. | Recipe Synchronization to Material BOM screen can be edited and a new synchronization unit is created. |  |
| 4 | Create BOM | In the row with the Material SGPI001, make the following entries:  Plant 1010  BOM Usage: Production  Alternative BOM: 01 | Details are entered in Recipe Synchronization to Material BOM. |  |
| 5 | Click Save | Click Save. | Updates are saved. |  |

## Simulate and Execute Synchronization of the Recipe into Bill of Material

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

In this process step, you can synchronize BOM and resolve conflicts.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Note | Note You have logged in as Production Engineer - Process Manufacturing and you are in the Manage Recipes (F2210) app. Please continue this procedure after completing the previous section - [Define Plant Specific Target Bill of Material for the Recipe for Synchronization](#unique_13) [page ] 16.  Recipe ID: PLMPI\_OUTPT1/001/000. |  |  |
| 2 | Select the row | Select the row where you have updated the plant values in the previous step. | Row is selected. |  |
| 3 | Simulate and Execute Synchronization of the recipe into a BOM | Click Start Synchronization. | The Map Recipe Version to MBOM dialog box is displayed. |  |
| 4 | Select change number | Select a Change Number that was created as a prerequisite to this test script and click Save and Continue. | The Reconciliation Workbench is displayed. |  |
| 5 | Select conflicts | In the Conflicts table, select the rounding conflicts (Type: R2BR). | Conflict type R2BR gets selected. |  |
| 6 | Resolve conflicts | Lines appear in the Solution Proposals table. Select the checkbox in the Row with Action type R2BC - Convert into Gram (g)  Click Apply Solutions in the header of the Conflicts table.  Note Recipes can handle up to six decimal digits, while BOMs only three. The Reconciliation Workbench offers solutions to handle this situation. | Conflicts are resolved. |  |
| 7 | Save Manufacturing BOM (MBOM) | Click Save button. | The material BOM is saved with the updated quantities and UoMs. |  |

## Check Manufacturing Bill of Material (MBOM)

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

In this process step you check manufacturing bill of material.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as Production Engineer - Process Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the Fiori App | Open Maintain Bill Of Material - Create, change & display BOMs (F1813) app. | The Maintain Bill Of Material - Create, change & display BOMs (F1813) app is launched. |  |
| 3 | Find Generated BOM | Fill out the filters:  Material: SGPI001  Plant: 1010  BOM Usage: 1  Alternate BOM: 01  Click Go. | The generated BOM is displayed in the result list. |  |
| 4 | Check Generated BOM | Select the radio button and click the row to open the BOM and check the components. | The components and their quantities are the same as on the Reconciliation Workbench. |  |

# Appendix

## Process Integration

The process to be tested in this test script is part of a chain of integrated processes.

### Preceding Processes

You may first have completed the following processes and conditions before you start with the test steps:

|  |  |
| --- | --- |
| Process | Business Condition |
| Specification Management for Recipes(1QA) | A number of specifications have been created. |
| Formulation - Recipe Development (1QC) | A recipe was created. |

### Succeeding Processes

After completing the activities in this test script, you can continue testing the following business processes:

|  |  |
| --- | --- |
| Process | Business Condition |
| Make-to-Stock - Process Manufacturing Based on Production Order (2UG) | The production order is created and processed. |

Typographic Conventions

|  |  |
| --- | --- |
| Type Style | Description |
| Example | Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.  Textual cross-references to other documents. |
| Example | Emphasized words or expressions. |
| EXAMPLE | Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE. |
| Example | Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools. |
| Example | Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation. |
| <Example> | Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system. |
| EXAMPLE | Keys on the keyboard, for example, F2 or ENTER. |

|  |
| --- |
|  |
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