Infor CloudSuite Industrial Industry Pack - Process User Guide

Infor CloudSuite 9.00

Publication Information

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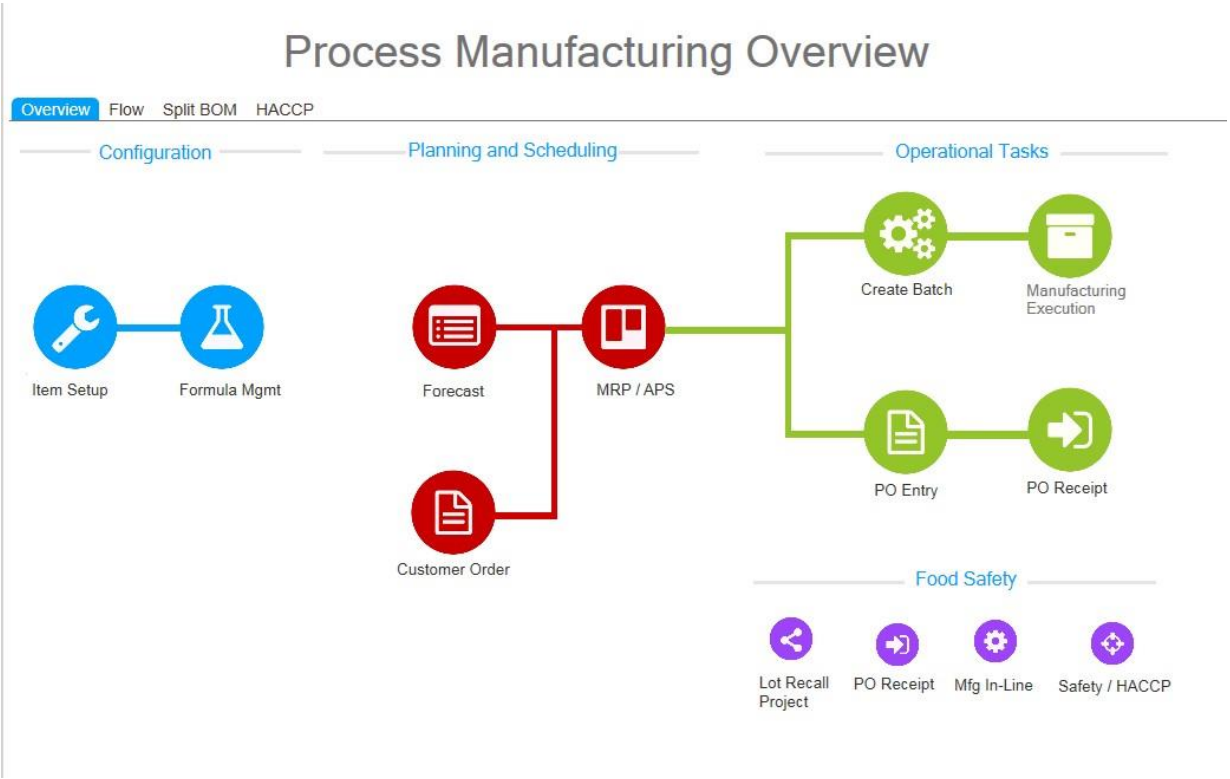
Contents

Concept Flow

You can use the overview flow as a starting point for creating and updating your process manufacturing information.

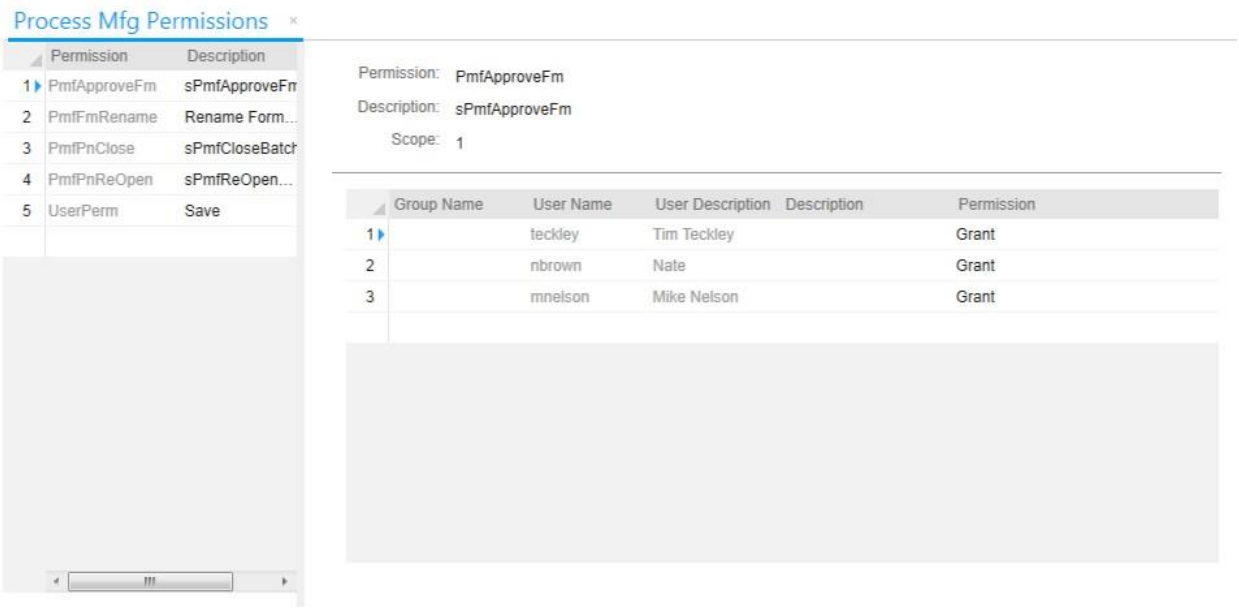


Configuration: Manufacturing Setup

User Permissions

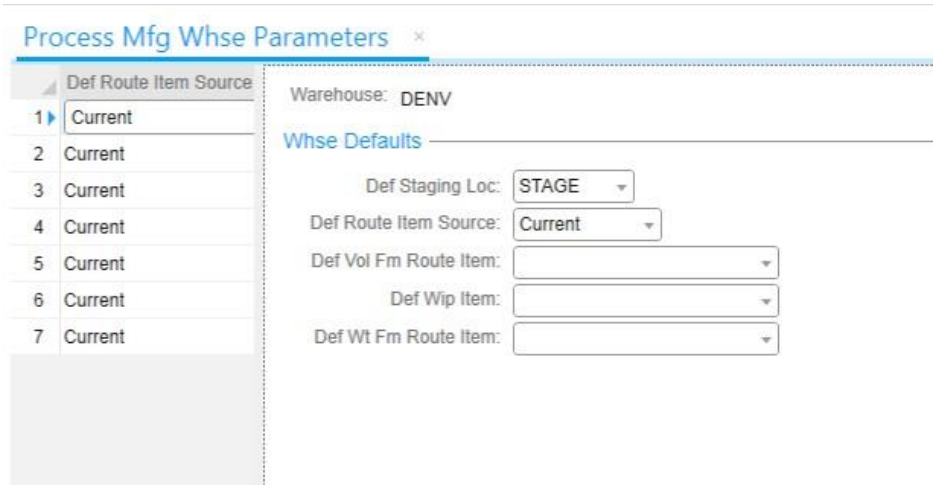
This module allows granting or denying permissions to be set for specific users. For example, denying permission to a user to approve a formula would keep that user from approving a formula in **PmfFormulas.**

PmfPerms (Process Mfg Permissions)



Warehouse Options

PmfWhseOptions (Process Mfg Whse Parameters)



Def Staging Loc – Apply a default staging location for products being shipped. This is not a requirement.

Def Route Item Source – Enter the default route item source for this warehouse, this will be utilized for production batches. This is not a requirement.

Def Vol Fm Route Item – If using the same route within manufacturing specifications set default here if for volume.

Def Wip Item – Enter the default WIP item.

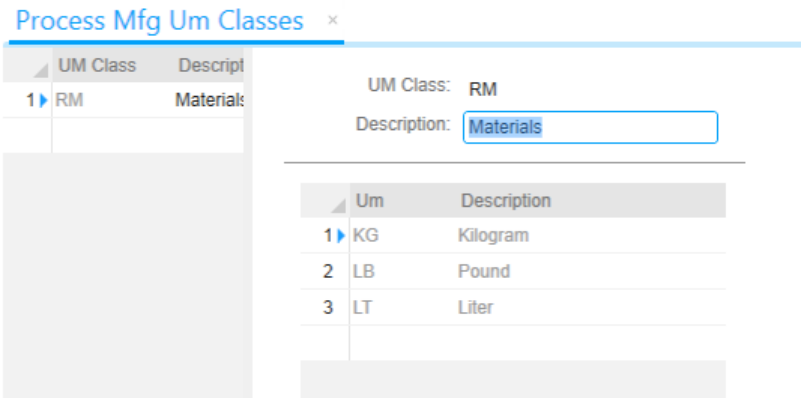
Def Wt Fm Route Item --- If using the same route within manufacturing specifications set default here if for weight.

Unit of Measure Classes

If a particular group of similar items all have the same (multiple) units of measure, a UOM class can be created to expedite the association process.

When a unit of measure class is attached to an inventory item, PMF will automatically fill in all of the units of measure from the item class; the density and base UOM of the item must be completed for this routine to work properly.

PmfUMClasses (Process Mfg Um Classes)



To create a new unit of measure class, turn off the filter and select .

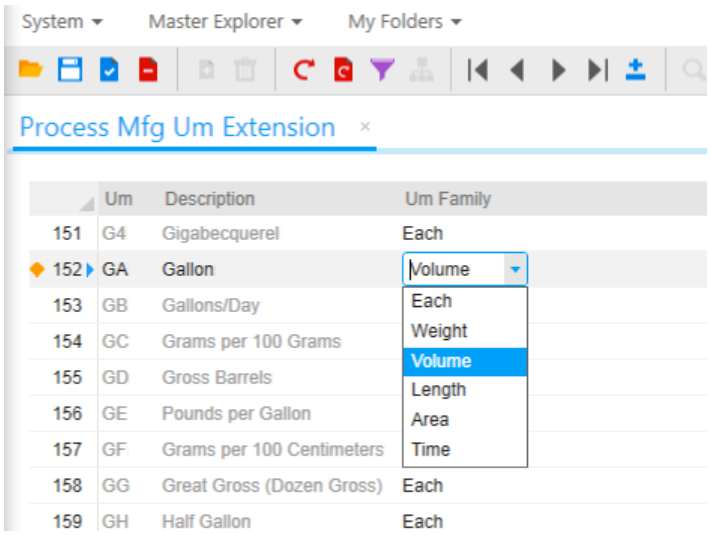
UM Class – Add a new UM class, such as RM for Raw Material.
Description – Add a description for this UM Class

In the grid below UM Class and Description is where you will add the different units of measure that will apply to this UM Class. To save and close form, select . To cancel and not save changes, select . To delete the record, select .

Unit of Measure Extension

This screen allows you to group units of measures by “families” or Types.

PmfUMExt (Process Mfg UM Extension)



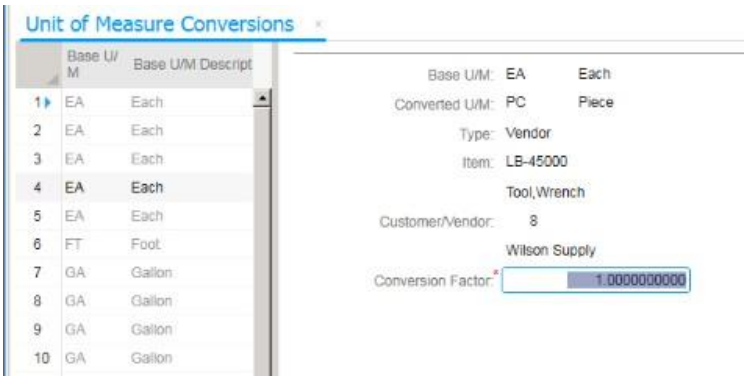
UM – Select the unit of measure in which you would like to place into a UM Family.
Description – This is a description of the selected unit of measure.
UM Family – This drop down box allows you to choose the pre---defined unit of measure family.
For the unit of measure “Gallon” the UM family “Volume” has been chosen.

To save, select . To save and close form, select . To cancel and not save changes, select .

Unit of Measure Conversions

A single inventory item may be purchased, sold, consumed or moved in a variety of different quantities and measures. In order to accommodate this, the system must maintain conversion rates between each unit of measure defined for a specified item.

UnitOfMeasureConversion (Unit of Measure Conversions)



To create a new unit of measure class, turn off the filter and select .

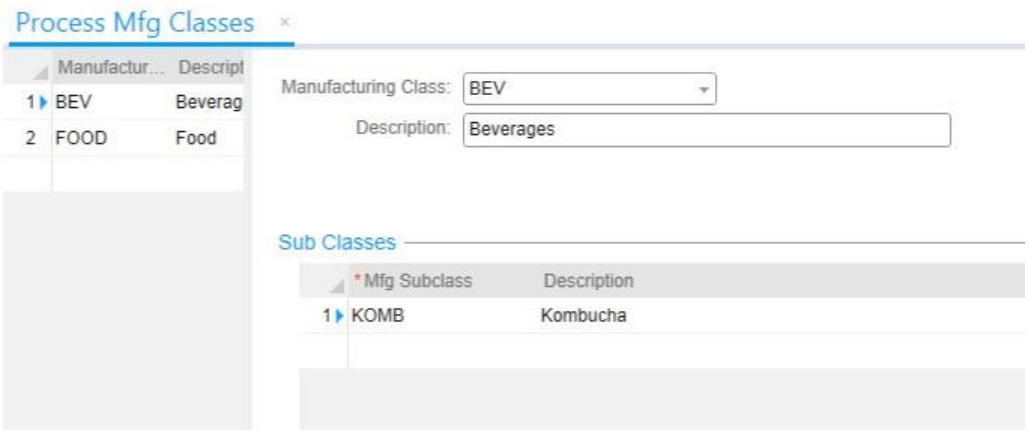
Base U/M --- The initial unit of measure that you will be converting.
Converted U/M – The unit of measure that will be converted from the base unit of measure.
Type – Select a type (Vendor, Customer, Item, or Global) that this UM will apply to.
Item – If you select vendor, customer, or item you will need to specify which here.
Customer/Vendor – If vendor or customer was selected for “Type”, you will need to specify which here.
Conversion Factor – Enter the conversion factor from the base unit of measure to the converted unit of measure. For example, the base unit ‘inch’ would have a conversion factor of 12 if converted unit of measure is ‘foot”.

To save and close form, select . To cancel and not save changes, select . To delete the record, select .

Manufacturing Classes

Creating manufacturing classes will create a categorization of the items produced. This will organize data for reporting and other organizational purposes.

PmfMFClasses (Process Mfg Classes)



To create a new unit of measure class, turn off the filter and select .

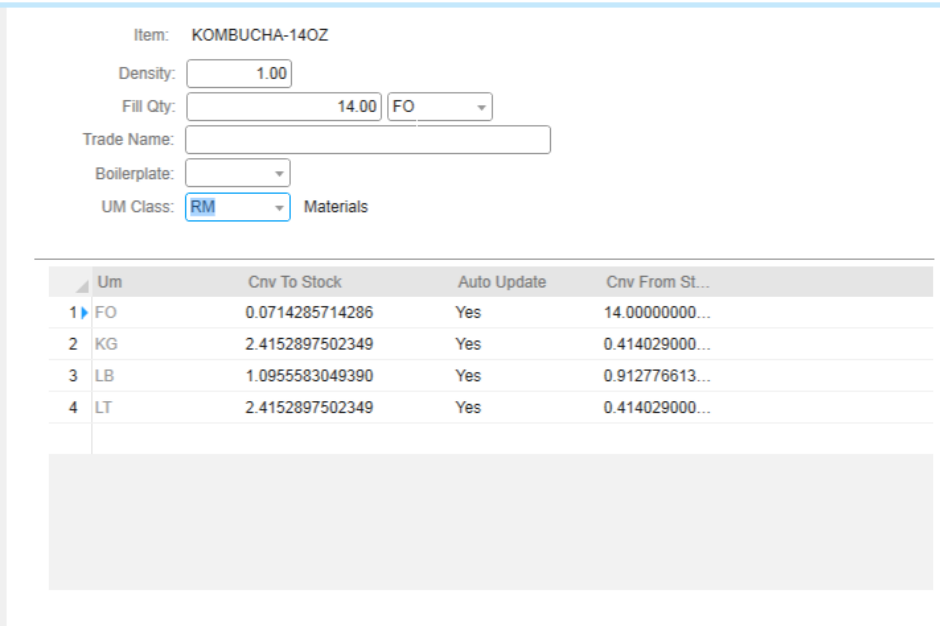
Manufacturing Class – Add a class here such as BEV to distinguish items as beverages.
Description --- Description of the manufacturing class.
Mfg Subclass/Description – Provide an identifier for the sub---class. A sub---class can be used throughout the system as an additional means of separating products for reporting purposes. In this example, KOMB/Kombucha is used as a subclass for manufacturing class BEV.

To save and close form, select . To cancel and not save changes, select . To delete the record, select .

Process Manufacturing Item Extension

Since the Industry Pack – Process is a solution specifically for those in the process manufacturing industry, additional information needs to be recorded regarding inventory items. The standard CloudSuite window has been appended to contain this additional information. This training manual is focused only on the PMF Process Manufacturing product. For information regarding the rest of the Items screen, please work with your CloudSuite reseller. Please note: for raw materials, there must be a conversion from any quantity unit of measure to a weight or volumetric unit of measure.

PmfItemExt (Process Mfg Item Extension)



To add a new item, make sure the filter is off, and select .

Density – Enter the appropriate value for this item. Depending on the settings, this value may auto-populate with the calculated formula density.

Fill Quantity – This field relates a quantity per stock unit of measure. If the stock UOM were LB, the conversion would be 1 LB. For an item with the stock UOM is 'case', enter the appropriate number of LB that makes that case.

Trade Name – If a product has a different trade name than what is displayed in the item short or long description, this field can be used to capture that name. Since it is a standard database field, it can be pulled on to reports, labels, etc.

Boilerplate – Item level boilerplate text that can be pulled on to custom reports.

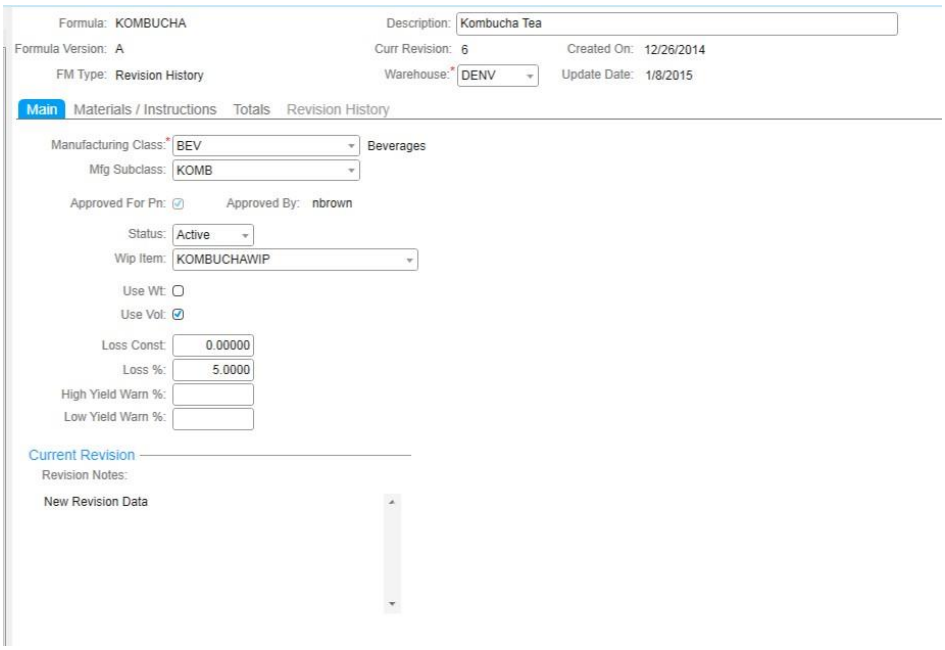
UOM Class – This will add all of the UOMs from the UOM class to this item. Any conversions that differ from the ones set up in Unit of Measure Classes will need to be updated prior to creating inventory or performing transactions.

To save and close form, select . To cancel and not save changes, select . To delete the record, select .

Formulas

Within the Industry Pack - Process, production batches are created. The inventory impact of these production batches is driven by the formulas and BOMs that are associated to inventory items. The Process Mfg Formulas task is where each of the formulas is set up.

PmfFormulas (Process Mfg Formulas)



To create a new formula, turn off the filter and select  .

Formula ID – Provide an identifier to be used for this formula. For simplicity sake, it is best to use the same ID as the item this formula produces.

Description – Enter a description for the formula. This will be used on several reports throughout the system, including the batch ticket.

Formula Version – differentiate between multiple versions of formulas.

Curr Revision – Shows how many times this formula has been revised.

Created On – The date the formula was created.

FM Type – Deciphers the type of formula:

- R&D – the current formula being used.
- Revision History – a formula that was previously an R&D formula but was then revised.
- Production – formula that is tied to a specific production batch.

Warehouse – This formula will only be used in the warehouse selected. **Main Tab**

Manufacturing Class --- Select the formula class this formula is associated to.

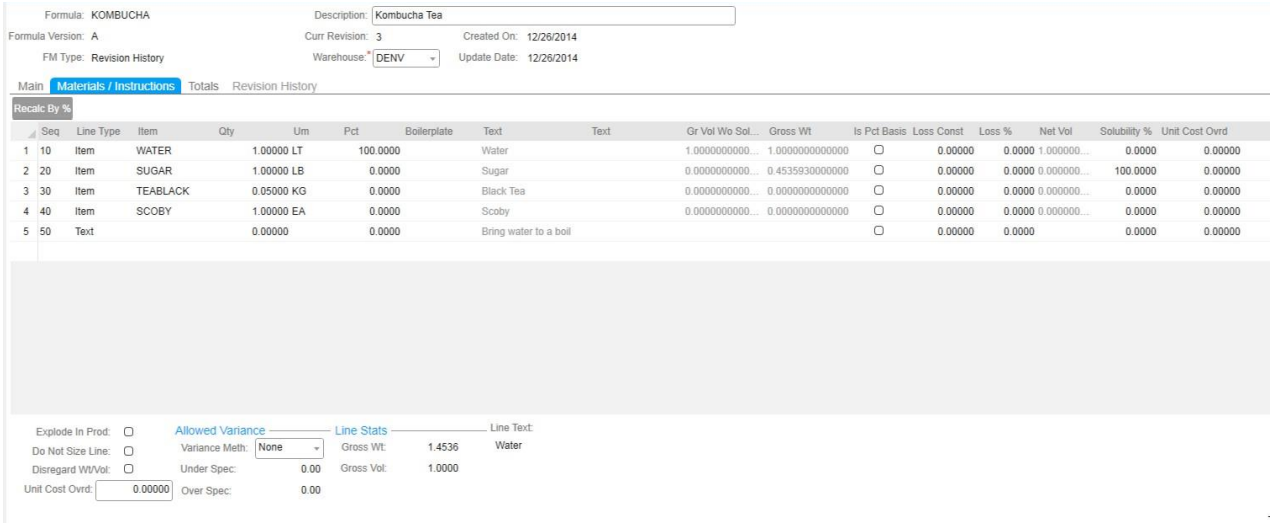
Mfg Subclass --- Select the subclass if applicable.

Approved for PN --- If this formula is approved for production, check this box. If this box is not checked, a user will be unable to create a production batch for the item.

Approved by – Shows the user that approved this formula.
Status – Select the appropriate status for the formula:
Active – This formula is active and may be used for production.
Inactive – This is a legacy formula or something no longer being produced. This is reversible and can mark to active.
Discontinued – Set formula if no longer being produced/legacy formula, this cannot be reversed.
Wip Item – Item that the formula gets produced to.
Use Wt --- When selected, this option will scale a production batch using the weight of the materials included. If the stock unit of measure for a component material is volumetric, there must be either a density or a UOM conversion within Item Extension.
Use Vl --- When selected, this option will scale a production batch using the volume of the materials included. If the stock unit of measure for a component material is a weight measure, there must be either a density on the or a UOM conversion within Item Extension. NOTE: If this is a BOM only formula, neither the 'formulate by weight' nor 'formulate by volume' box should be checked.
Loss Const --- This is a fixed amount for the entire formula. Any value entered here will be used to scale up total formula requirements. For example, if a 500 LB loss constant is entered in this field, when I need to produce a 20,000 LB batch, the system will require 20,500 LBs of material to account for that loss. The additional material requirements will be spread evenly across all formula items.
Loss % --- This is a loss based on the total formula quantity. This value will be used to scale up total formula requirements. For example, if a 2% loss factor is assigned and a production batch is created for 10,000 LB, the system will require 10,200 LBs of material to account for the loss. The additional material requirements will be spread evenly across all formula items.
High Yield Warn % --- If the calculated yield (based on raw materials issued and finished goods recorded as produced) is above this value, the user will be prompted with a warning.
Low Yield Warn % --- If the calculated yield (based on raw materials issued and finished goods recorded as produced) is below this value, the user will be prompted with a warning.
Revision Notes – Include any notes as to why or when this formulation was created.

To save and close form, select  . To cancel and not save changes, select  . To delete the record, select  .

Materials/Instructions



Seq – By default, the system will increment the sequence by 10 for each new line. This sequence can be manually adjusted to insert additional records between two existing records.

Type – Select the line type:

Item – An inventory item. Must have a valid Maintain Item and Maintain Inventory record.

Text – Freeform text instructions.

BP – Look up or enter a boilerplate text ID. For a refresher on boilerplate text, see above.

Quantity – Enter the quantity required of this line item for a standard production batch. Note: Even when using baker's percentage, start out with a quantity here and then edit in the % button shown above.

UM – This will default to the stock unit of measure defined for this item. Any valid UM with an appropriate weight or volume conversion can be used.

Pct – Percent of total weight or volume.

Boilerplate – default text that you will specify that can contain instructions (i.e Mix for 20 minutes).

Text – Displays the short description for the item ID entered.

Gr Vol Wo Solubility – Gross volume without solubility, this will show what the volume is without the solubility factor.

Gross Wt – weight before loss.

Is Pct Basis --- Should this line item be used as a percent basis for baker's percentage formulation? If this box is checked, when a user enters the Formulate by Percent screen, the row for these items will be unavailable for edit. The total of all 'perc' items will make up 100% and become the basis for scaling other materials.

LossConst – A specific quantity of this item that will be lost each time the formula is produced. For example, if 5 pounds of HFCS is always lost during the pouring process, the value in this field would be 5. Any amount entered as a loss constant will be in addition to the total formula loss noted on the 'Main' tab.

LossFact – A percentage of this item that will be lost each time the formula is produced. For example, if approximately 25% of the water added to a batch evaporates during processing, the value here would be 25.00. The system is interpreting this field as a percentage so it's

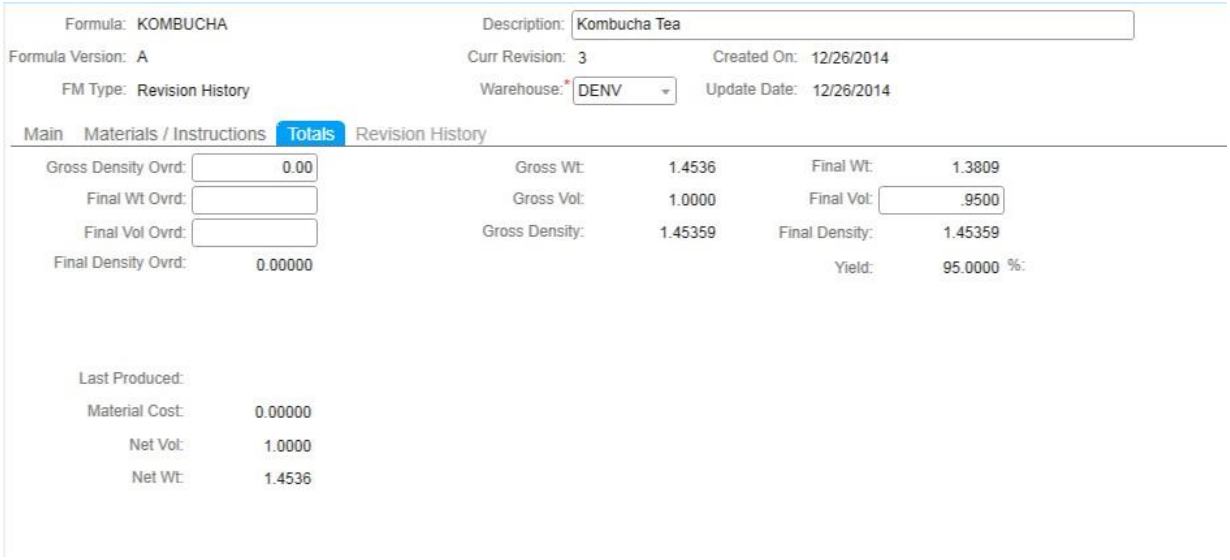
important to enter the percent as a whole number. Remember, any amount entered as a loss factor here will be taken in addition to the total formula loss.

Solubility % – Adding any percent will increase the weight by 100% of this item's weight, but the percent will increase the volume by that number.

Unit Cost Ovrd – Add a cost to override the defaulted unit cost for this item.

Totals

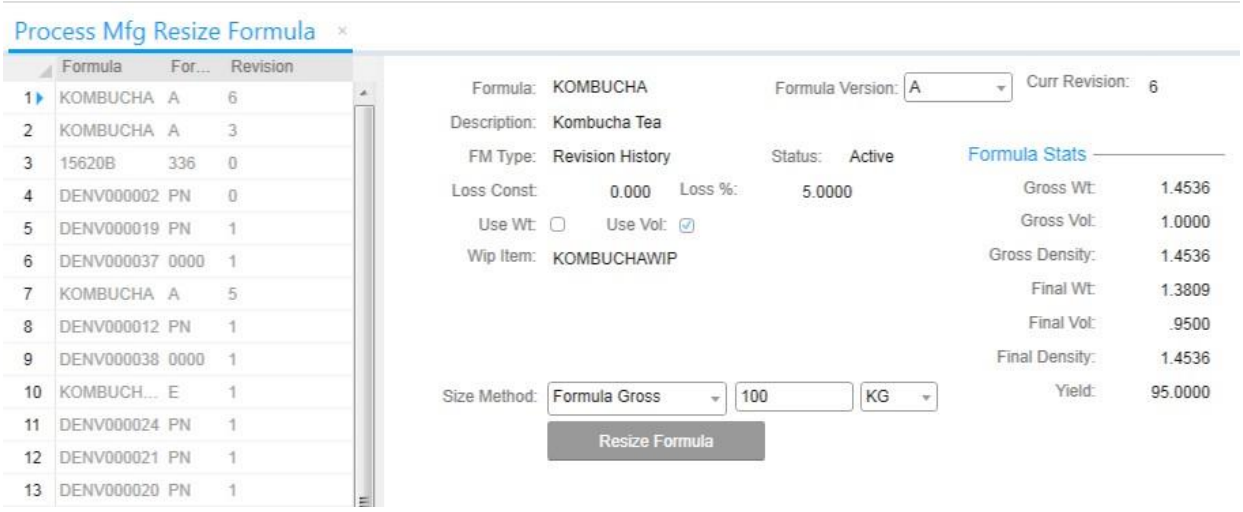
This screen will show you the totals of all that you entered in the previous formula screens.



Resizing a Formula

Within CSI Process Manufacturing, production batches are processed. The inventory impact of these production batches is driven by the formulas and BOMs that are associated to inventory items. The Process Formulas task is where each of the formulas is set up.

PmfFmResize (Process Mfg Resize Formula)



Formula – This is the name of the formula you will be re---sizing.
Curr Revision – Shows what revision is currently being utilized.
Description – Description of the formula being re---sized.
Use Wt/Vl – Change to Use Wt or Use Vl, for more information on these choices refer to the RD Formulas Section.
Size Method – Change the size of the formula to the needed amount.

Select Resize Formula. This allows you to re-size the formula based on several different sizing methods. For a more detailed description of the other fields, refer to the Formulas Section.

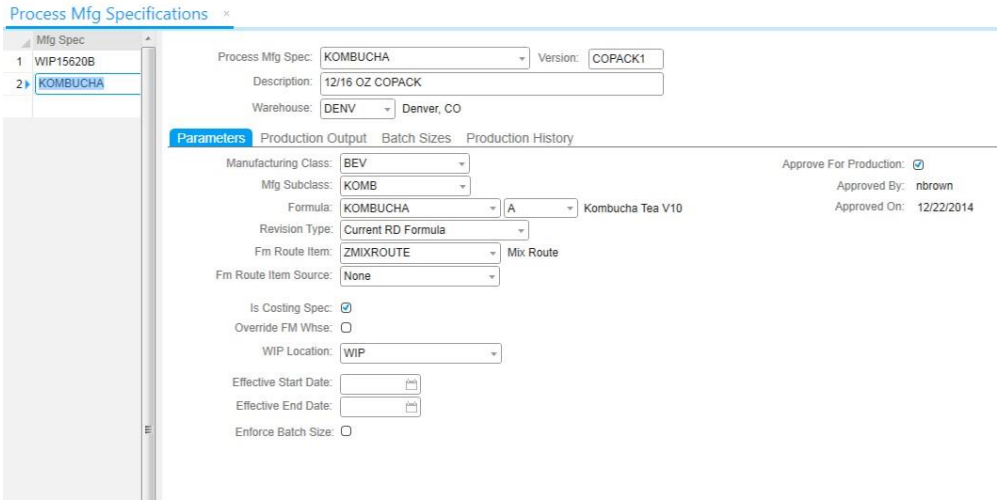
To save and close form, select . To cancel and not save changes, select .

Manufacturing Specifications

Create Manufacturing Specifications

A manufacturing specification is a combination of any formula, bill of material and/or route. The manufacturing spec can be called at the time of batch creation and will supersede the use of the default formula, route or BOM. Additionally, you can complete cost rollups to calculate standard cost, replacement cost, etc. using any existing manufacturing specification.

PmfMfSpecs (Pmf Mfg Specifications)



To create a new manufacturing specification, turn off the filter and select .

Process Mfg Spec – Enter in the name of the manufacturing specification. It is best practice to use the same name as the formula.

Description – Use to describe the manufacturing spec. In this example you can see that the description is for the amount this spec is to produce.

Warehouse – The warehouse that this specification that will be used for. **Parameters Tab**

Manufacturing Class – Add a class here such as BEV to distinguish the manufacturing spec as for beverages.

Mfg Subclass – Provide an identifier for the sub-class. A sub-class can be used throughout the system as an additional means of separating products for reporting purposes. In this example, KOMB/Kombucha is used as a subclass for manufacturing class BEV.

Formula – Enter the formula this manufacturing specification is connected to.

Revision Type – This box will let you know if the formula is current RD formula, a specific revision, or the latest approved revision.

FM Route Item – Instead of creating a route for each item, this item represents a route and can be used repeatedly.

Fm Route Item Source – Define where operations are pulled from off of the FM route item:

- Current
- Estimate
- Plans

Is Costing Spec – Check this box if the manufacturing spec is being used for costing purposes, is used

for rollup cost to set the standard cost.

Override FM Warehouse – This will override the default warehouse.

WIP Location – Where the WIP item will be produced to.

Effective Start/End Date – Enter in the dates the manufacturing spec will be effective.

Enforce Batch Size – Check this box if you must have the default batch size defined, this will force the user to select a batch size when creating a batch.

Approved for Production – Select if this manufacturing specification is ready to be used for production.

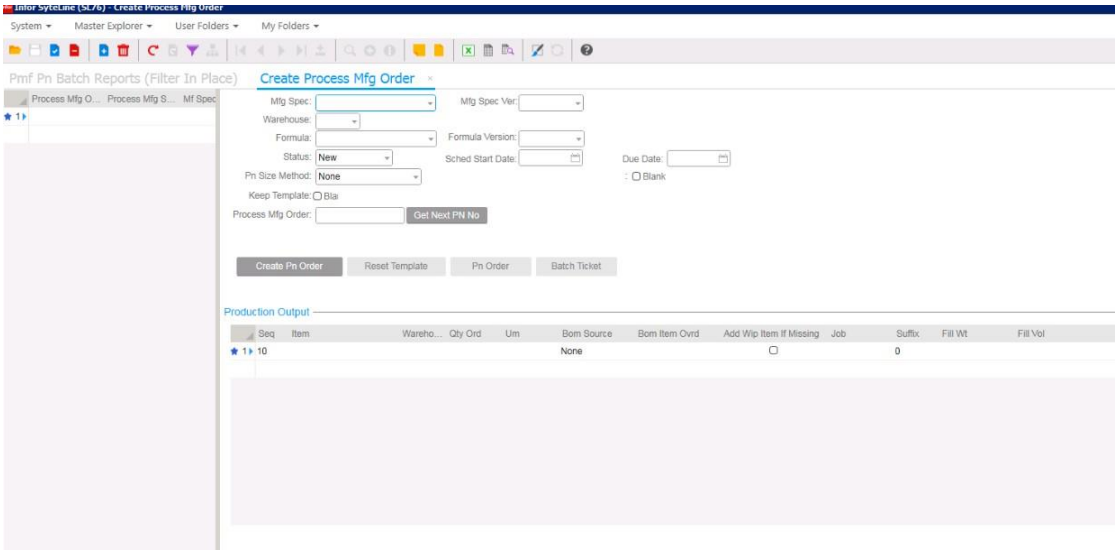
To save and close form, select  . To cancel and not save changes, select  . To delete the record, select  .

Production Execution

Create Process Order

This task is used to create a production batch. The production batch will combine all of the functions set up above (where applicable: formula, BOM, route, QC tests)

PmfPnCreate (Create Process Mfg Order)



To create a new manufacturing specification, turn off the filter and select .

Mfg Spec – If this batch should be processed using a manufacturing spec (allowing the substitution of formula or BOM), look that manufacturing spec ID up or enter it here.

Warehouse --- Enter of look up the warehouse that this finished good or WIP product should be made in to. (Note: This can be a different warehouse ID than the raw materials will be consumed from).

Formula – If the default formula (which will pull from the 'default formula' set up in O2 Maintain Items) will not be used, select the appropriate formula from this lookup.

Scheduled Start – Enter the scheduled start date and time for this production batch.

Due Date – Enter the due date for the production batch.

PN Size Method – Scaling can be done by:

- Formula Gross
- Formula Output
- Factor

Qty Ord

Keep Template – Select this checkbox to save this batch as a template for future batches.

Process Mfg Order ------ Either enter a manual production batch ID to be used for this batch or leave this field blank (to have a number assigned when one of the 'create batch' buttons is clicked).

Production Output

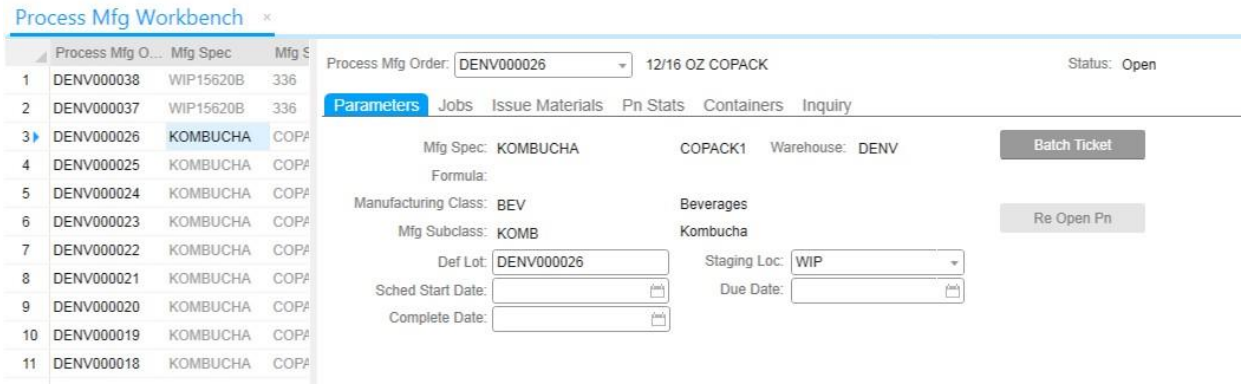
Seq – System generated sequence for batches that include multiple production ordered lines.
Item – Enter or look up the item ID that needs to be produced in this production batch.
Warehouse – Enter of look up the warehouse that this finished good or WIP product should be made in to. (Note: This can be a different warehouse ID than the raw materials will be consumed from).
Qty Ord – By default the system will scale by quantity ordered. Alternately, scaling can be done by final or gross weight or volume. Within the Qty Ord field, users can also set quantity multiples to assist with multiplication calculations. For example, if 40 cases are on each pallet and the production requirement is 5 pallets, the quantity ordered can be recorded at 5 * 40 = 200 Cs.
UM – Confirm the unit of measure being produced. By default, this will be the stock UOM for the item ID entered.
BOM Source - If a BOM other than the default should be used, look that value up in this field. (This is not a required field).
BOM Item Ovrd – This also allows the user to override the default BOM that will be used to produce this batch. (This is not a required field).
Add Wip Item If Missing – If batch production output will drive inventory negative, will create a job for remainder of the order.
Job/Suffix – From where we are consuming the material, if not specified will be defaulted.

To save and close form, select  . To cancel and not save changes, select  . To delete the record, select  .

Production Batches – Process Workbench

The process manufacturing workbench is the easiest location to record all production related transactions. From this one starting point, users can record production, material issues, labor, as well as validate and close a batch. This also provides a quick spot for visibility in to batch yield and materials short.

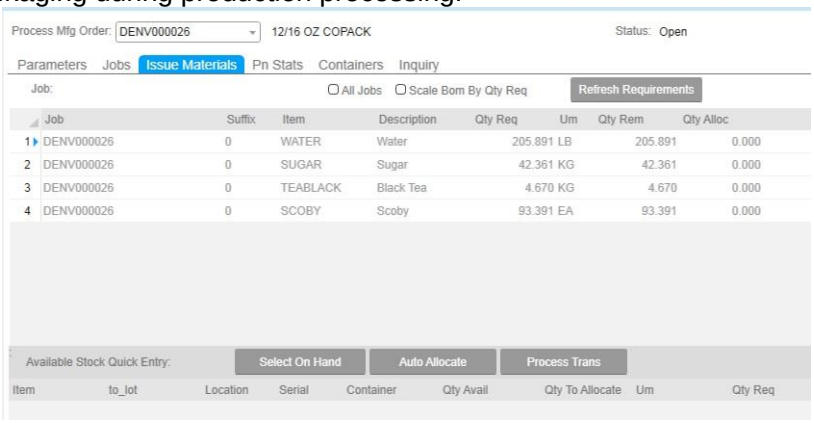
PmfPNs (Process Mfg Workbench)



Select Batch Ticket to load and print the batch ticket report.

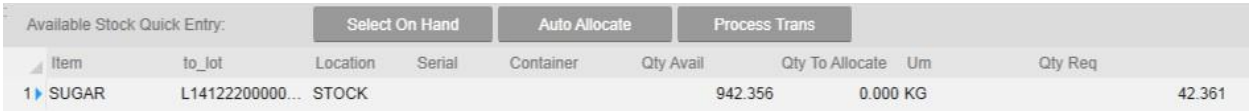
Issue Materials

This task allows users to record all relevant information regarding the consumption of raw materials, components and packaging during production processing.



Select Refresh Requirements to list the materials in the grid.

Select an item in the top grid and select Select On Hand to start selecting stock for these materials. Select On Hand will show the quantity available and the location in the bottom grid. Auto Allocate will select the lines automatically starting with the first line in the bottom grid and proceeding down the lines until the quantity required is fulfilled.

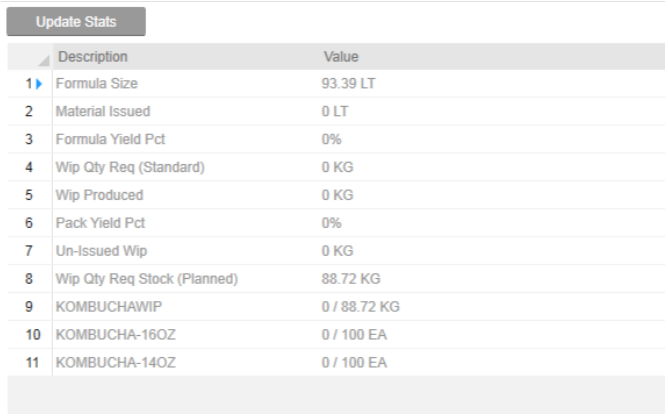


Select 

to process the transactions you have created to fulfill the quantity required in issue materials.

PN Stats

PN Stats will show the current stat for the selected production batch.



	Description	Value
1	Formula Size	93.39 LT
2	Material Issued	0 LT
3	Formula Yield Pct	0%
4	Wip Qty Req (Standard)	0 KG
5	Wip Produced	0 KG
6	Pack Yield Pct	0%
7	Un-Issued Wip	0 KG
8	Wip Qty Req Stock (Planned)	88.72 KG
9	KOMBUCHAWIP	0 / 88.72 KG
10	KOMBUCHA-16OZ	0 / 100 EA
11	KOMBUCHA-14OZ	0 / 100 EA

Containers

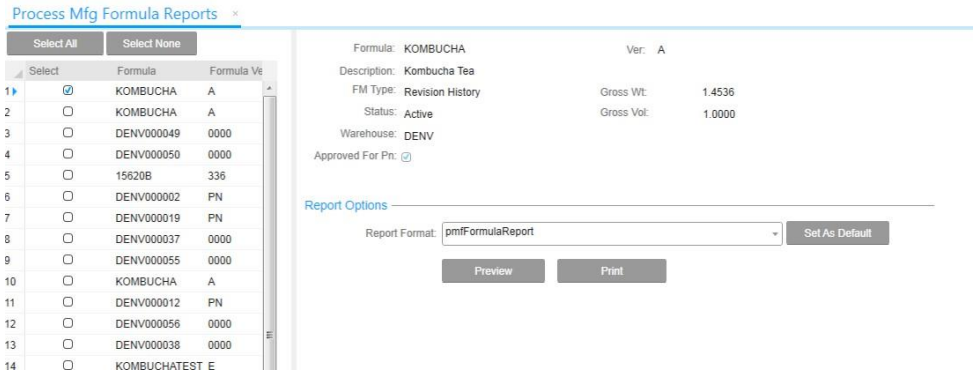
Select 

to add or view the containers needed for this production job.

Reporting

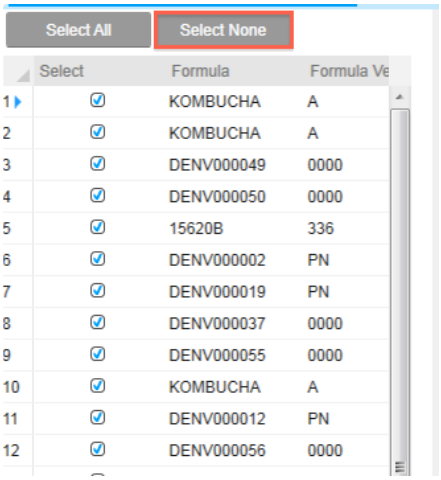
Formula Report

PmfFmReports (Process Mfg Formula Reports)

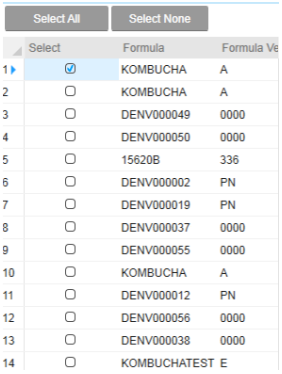


First turn off the filter by clicking  .

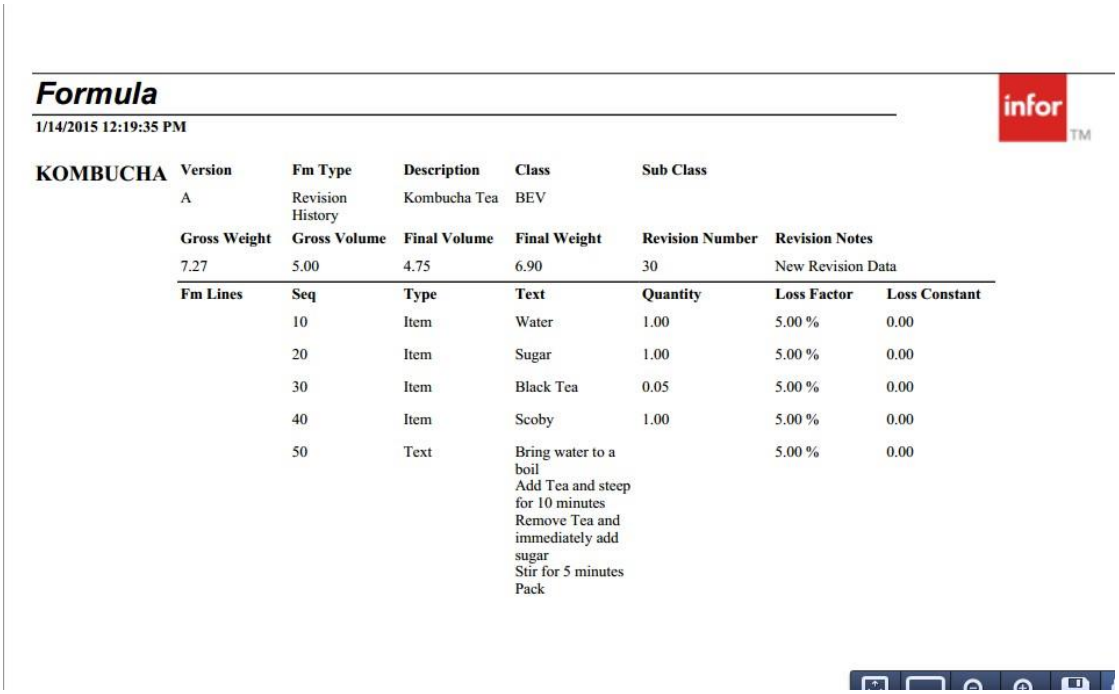
In the right hand column, click  to deselect all of the formulas.



Check the select box,  , next to the formula that is being printed.


Select All
Select None
Select
Formula
Formula Ve
1 KOMBUCHA A
2 KOMBUCHA A
3 DENV000049 0000
4 DENV000050 0000
5 15620B 336
6 DENV000002 PN
7 DENV000019 PN
8 DENV000037 0000
9 DENV000055 0000
10 KOMBUCHA A
11 DENV000012 PN
12 DENV000056 0000
13 DENV000038 0000
14 KOMBUCHATEST E

Select Preview and the report below will then be created:



Formula

1/14/2015 12:19:35 PM

infor™

KOMBUCHA

Version	Fm Type	Description	Class	Sub Class	
A	Revision History	Kombucha Tea	BEV		
Gross Weight	**Gross Volume**	**Final Volume**	**Final Weight**	**Revision Number**	**Revision Notes**
7.27	5.00	4.75	6.90	30	New Revision Data

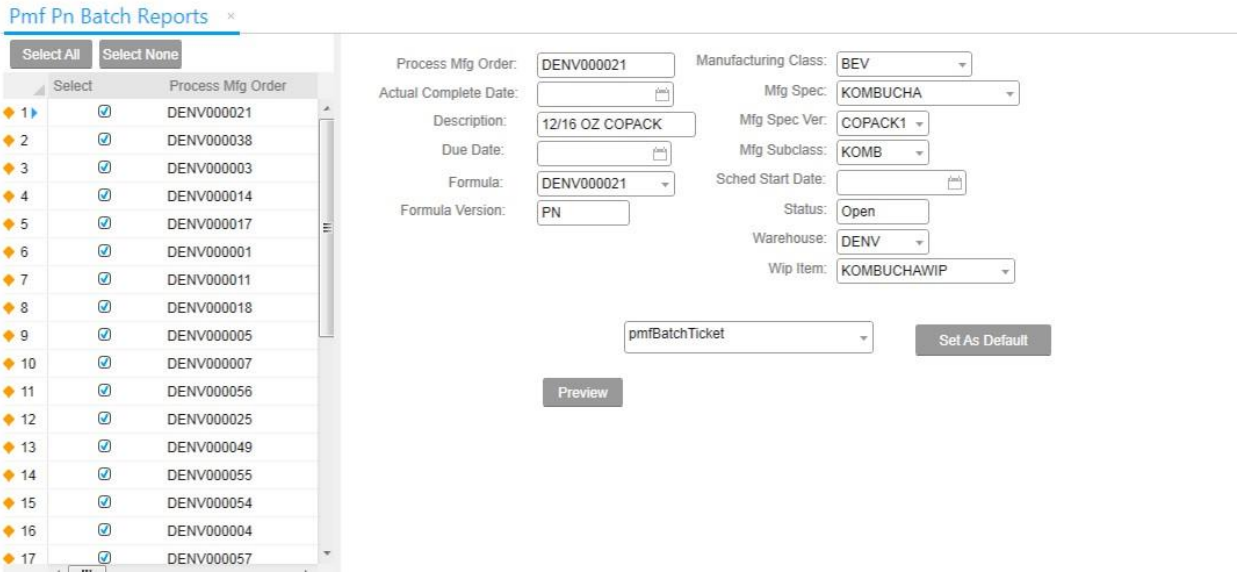
Fm Lines	Seq	Type	Text	Quantity	Loss Factor	Loss Constant
	10	Item	Water	1.00	5.00 %	0.00
	20	Item	Sugar	1.00	5.00 %	0.00
	30	Item	Black Tea	0.05	5.00 %	0.00
	40	Item	Scoby	1.00	5.00 %	0.00
	50	Text	Bring water to a boil Add Tea and steep for 10 minutes Remove Tea and immediately add sugar Stir for 5 minutes Pack		5.00 %	0.00

Batch Ticket

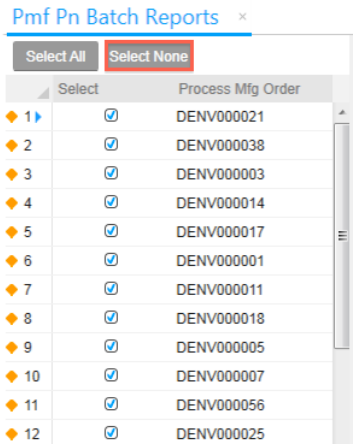
This report will allow users to print off batch tickets, batch list, or review production history.

First turn off the filter by clicking  .

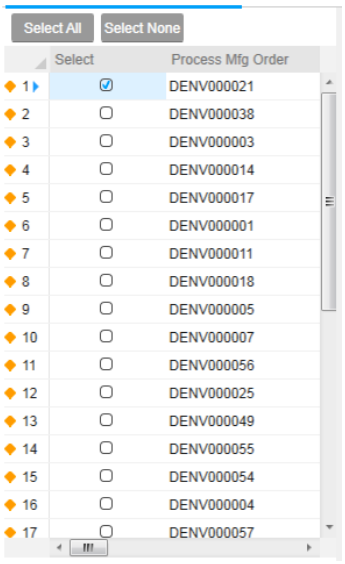
PmfProductionBatchReports (Pmf Pn Batch Reports)



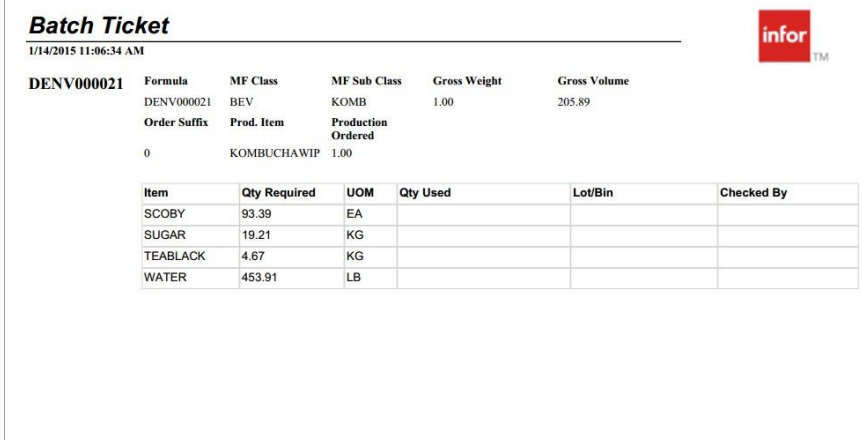
In the right hand column, click  to deselect all of the batches.



Check the select box,  , next to the necessary batch that the batch ticket is needed:



Select Preview and the report below will then be created:



Batch Ticket

1/14/2015 11:06:34 AM

DENV000021

Formula	MF Class	MF Sub Class	Gross Weight	Gross Volume
DENV000021	BEV	KOMB	1.00	205.89

Order Suffix	Prod. Item	Production Ordered
0	KOMBUCHAWIP	1.00

Item	Qty Required	UOM	Qty Used	Lot/Bin	Checked By
SCOBY	93.39	EA			
SUGAR	19.21	KG			
TEABLACK	4.67	KG			
WATER	453.91	LB			