

7.11. Inventory Planning Tab

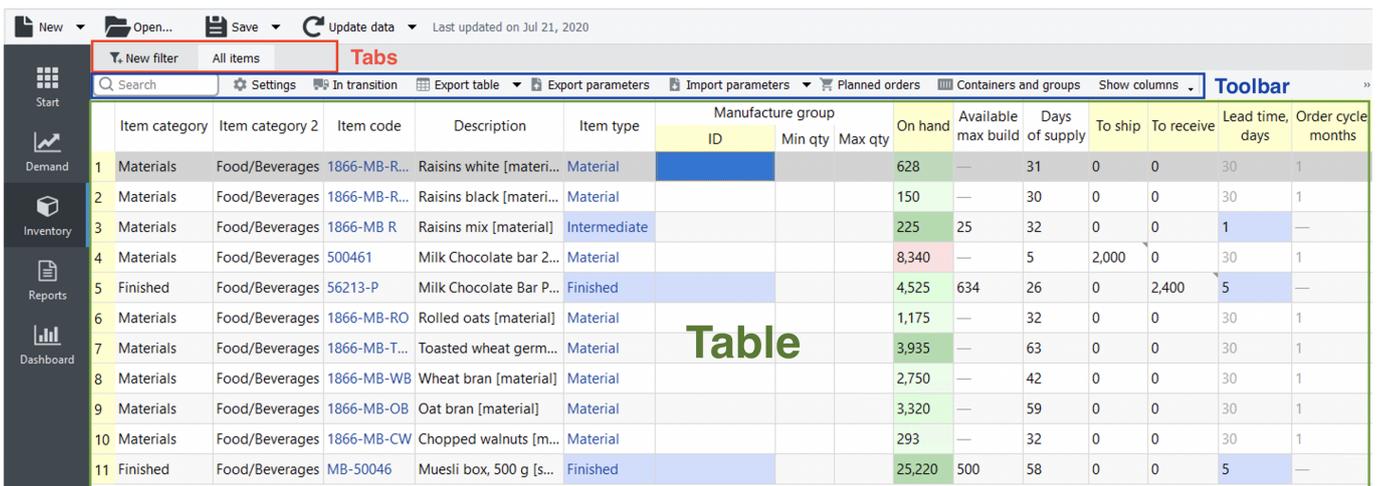
The goal of the **Inventory planning** tab is to generate an [ordering plan](#) for locations that are not replenished from DCs. Ordering plan for DCs is on the [Distribution center tab](#).

Depending on the Streamline configuration, an ordering plan may include any combination of the following:

- a transfer plan showing replenishments from DCs;
- a material requirements plan and a production plan;
- a purchase plan indicating items that should be ordered from suppliers.

A [planning item](#) in an ordering plan [belongs](#) to one of the four mentioned plans. Besides the ordering plan, this tab provides a range of other important [outcomes](#), including expected overstock and stockout amounts.

Inventory planning tab contains a set of tabs or reports, a toolbar, and a table under each tab (see figure below).



By default, the tab area includes only one report **All items** and the **New filter** button that opens the [Filter dialog](#). In this dialog, you can specify the filtering criteria for the new custom report. As soon as you configure the filter, Streamline creates a new report based on it and adds it to the set of tabs as a newly created tab.

Capabilities of reports

The **All items** report, as well as any other custom report, is customizable. The table below shows the customizations and the scope they are applied to.

Customization	Scope
Show/hide a particular set of columns of the report using the Settings .	All of your reports at once.
Recalculate the report based on the given replenishment parameters .	

Customization	Scope
Display the necessary set of planning items by creating a new report using filters or editing the filter of the current report.	Current report
Sort the report by any column or a set of columns.	

Also, you can [export](#) any report to an Excel file.

As you see, reports in this tab are interactive, since allowing manual change of the parameters, and are recalculated after the change. There are [several ways](#) to change replenishment parameters. The easiest one is modifying them right in the report by editing the columns having a yellow background.

As soon as any of the [parameters](#) has been changed, Streamline automatically recalculates the [outcomes](#) of the **Inventory planning** tab. Hence, **Inventory planning** tab always shows you the [Ordering plan](#) and the [Projected inventory levels](#) at the current state of the parameters.

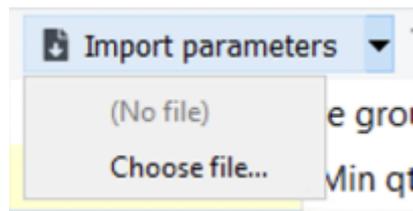
Toolbar



- **Search** toolbar is used to search for a particular phrase in the **Item code** and **Description** columns of the currently active report. The search is not case-sensitive and searches for the substring in a string. To start the search or find the next occurrence, press **Enter**, or **F3**, or click on the search icon.
- **Settings** button opens the **Inventory planning** settings which are applied to all of the reports of this tab.
- **Edit filter** button opens the filter dialog for the currently selected report where you can edit filtering criteria.
- **In transition details** button opens the [In transition details dialog](#).
- **Export table** button command exports the currently active report to an Excel file. Next to the button is a little black triangle that shows you additional exporting options:
 - **Export to XLSX** command exports the currently active report to an Excel file as well as the **Export table** button.
 - **Export to database** executes the [Export inventory forecast](#) and [Export inventory planning table](#) exporting queries configured in the **Database connection**. This option is active if the project is connected to a database through the **Database connection**.
- **Export parameters** button exports [the replenishment parameters](#) into the on-the-fly created Excel file where they can be edited.
- **Import parameters** button loads the Excel file created using the **Export parameters** button. You can optionally choose any other Excel file to load. To do this:

1. Click on a little triangle near the button.

2. Select the **Choose file...** command.



3. Choose the file and click **OK**.

- **Planned orders** button opens the [Planned orders preview dialog](#).
- **Overall purchase value** shows the total value of the current order in the supplier's currency. In other words, it is the sum of the [Current order, Value](#) column.

Table

Each report in the **Inventory planning** tab contains a table. Columns of these tables are the same for each of them. Table columns can be divided into the following categories:

- [Inventory information](#) – descriptive information about the planning item.
- [Replenishment parameters](#) – the inputs of the inventory replenishment process. Some of them are [constraints](#) used in the optimization.
- [Outcomes](#) – an ordering plan and other inventory characteristics that are calculated based on the forecasts and replenishment parameters.

Sorting the table

There is an ability to sort each report by a particular table column or even a set of columns in both directions. To sort by a single column, click at its header (see figure below). To reverse the sort, click the column header again.

	Item category 2	Item code	Description	Item type	Manufacture group		
					ID	Min qty	Max qty
1	Food/Beverages	1866-MB R	Raisins mix [material]	Intermediate			
2	Food/Beverages	1866-MB-CW	Chopped walnuts [m...	Material			
3	Food/Beverages	1866-MB-OB	Oat bran [material]	Material			
4	Food/Beverages	1866-MB-R...	Raisins black [materi...	Material			
5	Food/Beverages	1866-MB-R...	Raisins white [materi...	Material			
6	Food/Beverages	1866-MB-RO	Rolled oats [material]	Material			
7	Food/Beverages	1866-MB-T...	Toasted wheat germ...	Material			
8	Food/Beverages	1866-MB-WB	Wheat bran [material]	Material			
9	Food/Beverages	500461	Milk Chocolate bar 2...	Material			
10	Food/Beverages	56213-P	Milk Chocolate Bar P...	Finished			
11	Food/Beverages	MB-50046	Muesli box, 500 g [s...	Finished			

Sorting is stable. It means that it keeps the order of records original for the records with equal values in the sorted column. This feature allows sorting by an ordered set of given columns.

Consider an example shown in the figure below.

Category 2	Category 3	Item code	Description	Item type	Supplier
Food/Beverages	Grocery	5985-WSG	White sugar	Material	1125
Food/Beverages	Grocery	1115-WSg	White sugar granulated, 4 lb	Finished	
Food/Beverages	Cereals	1866-MB-RO	Rolled oats	Material	3850
Food/Beverages	Cereals	1866-MB-TWG	Toasted wheat germ	Material	3850
Food/Beverages	Cereals	1866-MB-WB	Wheat bran	Material	1125
Food/Beverages	Cereals	1866-MB-OB	Oat bran	Material	59004
Food/Beverages	Cereals	1866-MB-CW	Chopped walnuts	Material	59004
Food/Beverages	Cereals	1866-MB-R wh...	Raisins white	Material	60308
Food/Beverages	Cereals	1866-MB-R bla...	Raisins black	Material	59004

Let's sort this table by the following three columns in the order - **Category 2**, **Category 3**, and **Description**. And, for instance, sort them in ascending order. To do this, we should start clicking column headers in the backward direction, since the result of the currently sorted column has a higher priority over the previous sorted columns. So, let's start with the **Description** column (see figure below).

Category 2	Category 3	Item code	Description	Item type	Supplier
Consumer goo...	Toys & Games	DVC-AB	Arm Boom	Material	54002
Consumer goo...	Toys & Games	DVC-BP	Buttom Plate	Material	54002
Consumer goo...	Toys & Games	DVC-C	Canopy	Material	54002
Food/Beverages	Cereals	1866-MB-CW	Chopped walnuts	Material	59004
Consumer goo...	Toys & Games	DVC-27k	Drone with 2.7K HD Video ...	Finished	
Food/Beverages	Cereals	1868-MBgr	Muesli box + 25% gratis, 6...	Finished	
Food/Beverages	Cereals	1866-MB	Muesli box, 500 g	Finished	

Then, by the **Category 3** (see figure below).

Category 2	Category 3	Item code	Description	Item type
Food/Beverages	Cereals	1866-MB-CW	Chopped walnuts	Material
Food/Beverages	Cereals	1868-MBgr	Muesli box + 25% gratis, 6...	Finished
Food/Beverages	Cereals	1866-MB	Muesli box, 500 g	Finished
Food/Beverages	Cereals	1866-MB-OB	Oat bran	Material
Food/Beverages	Grocery	5985-WSG	White sugar	Material
Food/Beverages	Grocery	1115-WSg	White sugar granulated, 4 lb	Finished
Consumer goo...	Toys & Games	DVC-AB	Arm Boom	Material

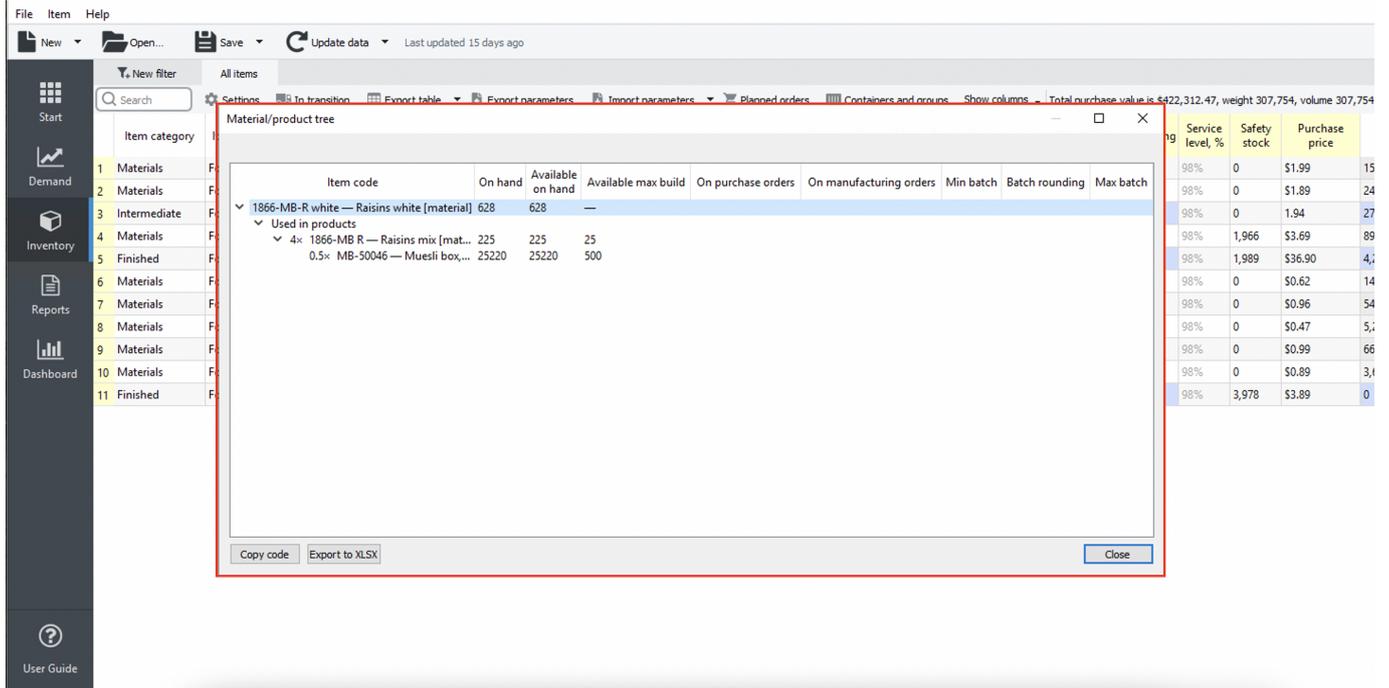
And finally, by the **Category 2** (see figure below).

Category 2	Category 3	Item code	Description	Item type
Consumer goo...	Toys & Games	DVC-AB	Arm Boom	Material
Consumer goo...	Toys & Games	DVC-AE	Arm Elbow	Material
Consumer goo...	Toys & Games	DVC-VC27	Video Camera 2.7 HD	Material
Food/Beverages	Cereals	1866-MB-CW	Chopped walnuts	Material
Food/Beverages	Cereals	1866-MB-WB	Wheat bran	Material
Food/Beverages	Grocery	5985-WSG	White sugar	Material
Food/Beverages	Grocery	1115-WSg	White sugar granulated, 4 lb	Finished

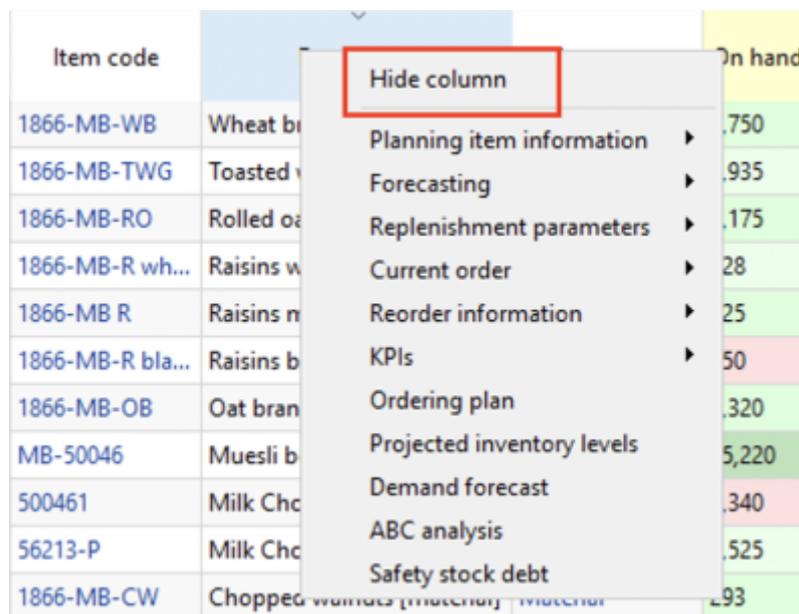
If you accidentally click on the header of a wrong column, repeat the right sequence all over again.

Additional capabilities of the table

Clicking on the **Item code** of the item moves you to the Demand tab and sets the cursor on a tree of a proper item code. Clicking on the **Item type** of the item, Streamline opens a Material/Product tree dialog for this item code.



Also, in order to quickly **hide columns**, right-click on the name of the column and select the hide column option in the drop-down menu.



Description

The table below describes all of the columns.

Column	Description
	<i>Inventory information</i>

Column	Description
<Item category>	Streamline shows the column configured as item category in the table. The name, imported for this column, is displayed in the column header.
<Location category>	Streamline shows the column configured as location category in the table. The name, imported for this column, is indicated in the column header.
<Item info field>	Streamline shows the characteristic of the item imported through the Info field data type in the table. The name, imported for this characteristic, is shown in the column header.
Item code	An identifier of the item also known as SKU.
Location	It shows the store or the warehouse where the Item code is stored.
Transfer region	Shows the name of the transfer region for the Location belongs to. This column is shown if the transfer region data type is imported. It is used for inventory optimization via intersite transfers .
DC	It displays the distribution center name the planning item is supplied from.
Description	This column shows the description of the Item code .
Model type	It displays the type of the forecasting model selected to generate the forecasts for the planning item.
Item type	It indicates the type of the item in the context of manufacturing. There are three types of items, Material , Intermediate and Finished item . This column is shown if bill of materials was imported. A blank cell in this column refers to a regular item; it is not involved in any manufacturing process.
Supplier	Shows the code of the supplier for the planning item.
Purchase price	It is the price you pay the supplier for the item in the supplier's currency. This column is shown if the item purchase price was imported.
Note	Shows the annotation for the planning item. Notes can be created using the context menu of the table or at the Demand forecasting tab .
<i>Replenishment parameters</i>	
On hand	The amount of the Item code that is currently in stock at the Location .
To ship	Shows the total quantity on open sales orders and backorders. If open sales orders and backorders are imported separately from the inventory information, this column shows a little triangle in the corner of the cell. If you hover over it, Streamline shows a popup containing a list of pending shipments.
To receive	Shows the total amount on open purchase, transfer, and manufacturing orders. If those orders are imported separately from the inventory information, this column shows a little triangle in the corner of the cell. If you hover over it, Streamline shows a popup containing a list of pending arrivals.
Lead time	Shows the interval of time between transfer/purchase order placement and its receipt. Streamline shows dashes for <i>Finished</i> and <i>Intermediate</i> item, meaning that the lead time for them can't be given. By default, it equals to zero.
Order cycle	Shows how often the item is ordered from the supplier or distribution center. Order cycle can be set in months or days, or attached to the Lead time period.
Service level	It is the percentage of the time (in the long run) that the item is available in stock.
Safety stock periods	Shows the number of future periods which demand is used as the Safety stock .
<i>Replenishment constraints</i>	
Min lot	It is the minimum quantity of the planning item that you can order from your supplier or distribution center.
Max lot	It is the maximum amount of the planning item that you can order from your supplier or distribution center.

Column	Description	
Rounding	It is a constraint that rounds the Net order amount up to the given quantity. It allows Streamline to take into account how many items come packed in a carton, allowing the application to suggest exactly the right amount of the item to order.	
Display qty	It is the minimum number of units a shelf has to display. This parameter typically arises in the retail business. You can control how this amount is used when the final safety stock is calculated.	
Shelf life	It is the desired time the item can be in stock. Streamline converts this time period into a shelf life quantity. And this amount is used as a maximal limitation on the Net order quantity when the current order quantity is calculated. A cell in this column has a red background if the Net order quantity exceeds the shelf life quantity.	
Shelf life exceeding	It shows the average percentage of the current order quantity that we might have to: send to a clearance sale, return to the supplier and so on. If you just discard the expired product, the percentage should be very small. If you recycle them (e.g. roast the meat or make a clearance sale), the numbers may be larger.	
<i>Outcomes</i>		
Days of supply	Shows how many days of the future demand, starting from the project date , the current On hand (including orders to ship) can cover. You can change the representation units for this indicator, <i>days</i> or <i>months</i> in the Settings .	
Safety stock	Indicates the safety stock for the planning item. Its calculation depends on the Model type , the inventory replenishment strategy , the method set in the Settings , and availability of the Display qty constraint.	
Safety stock debt	This section indicates three characteristics of safety stock: 1) safety stock debt received from the lower echelon; 2) safety stock debt accumulated at the current echelon; and the 3) safety stock debt calculated at the current echelon and then passed to the upper echelon.	
	Received	The total of the safety stock debts passed from the lower echelon.
	Accumulated	The accumulated safety stock debt that is calculated at the current echelon.
	Passed	The safety stock debt passed to the upper echelon.
Gross margin	Shows the gross profit margin of the planning item.	
Turn-earn index	Indicates the item gross margin accumulated over the last 12 months.	

Column	Description
Current order	This section displays information on the current order.
	Qty It is the recommended quantity to order currently. An example of this column calculation can be found in the Ordering plan calculation article .
	Net order It is the current order quantity before application of constraints .
	Excess order Shows the excess part of the current order quantity that is gotten due to the application of the constraints. In other words: Excess order = Qty - Net order
	Value Shows the value of the current order line in the supplier's currency. It is calculated based on the given item purchase price .
	Margin This column shows the gross profit margin calculated for the current order. The <code>sellout_time</code> equals to the Days of supply of the current order when it is calculated. This column is shown if the Annual interest rate is set in the Project settings .
	Days of supply Shows how many days of the future demand, starting from the Delivery date , the current order quantity can cover.
	Order type Indicates the order type the current order line belongs to. There are three types of orders, Purchase , Transfer and Manufacturing . Streamline automatically determines it based on the Source from and the Item type columns. If those are not given, Streamline considers the order to be a purchase.
	Source from Displays the source from where the planning item is currently ordered. This column shows: <ul style="list-style-type: none"> • supplier code, if the Supplier code data type is imported; • source location for intersite transfers; • distribution center name, if the DC column is configured.
Delivery date Shows the promised date on which the planning item is to be delivered. Its calculation depends on the Order type . Below we describe how it is determined.	
Next order date	It indicates the date the next order should be placed by. This column is automatically calculated for the exported order lines as you click the Create button in the Planned orders preview dialog . In this case, the date is calculated as: Next order date = Today date + Order cycle , where <i>Today date</i> is the current date set on your machine. Streamline also populates this column for the items to receive that have Sendout date given. In this case, the formula is: Next order date = Sendout date + Order cycle.

Column	Description
Reorder point	Displays the inventory level at which a replenishment order should be placed. It is the sum of the lead time demand and the Safety stock . This column is shown if the Min/max replenishment strategy is set in the Settings .
Max inventory	It is the maximum inventory level for the item in the current period. This column is shown if the Min/max replenishment strategy is applied.
DC fill rate	It indicates the percentage of the current DC demand that DC on hand can cover. The current DC demand is the total of all the current replenishment orders from the lower echelon plus DC current order quantity calculated based on its sales demand.
Stockout	It is the maximal expected inventory shortage during the Lead time period.
Overstock	Shows the expected inventory level at the end of the Lead time plus Order cycle period.
Write-offs	Indicates the total of the projected write-offs over the forecast horizon .
Ordering plan	This section contains ordering recommendations for the whole forecast horizon. The current order recommendations are shown in the first column of this section. The values in the plan indicate the quantities that should be ordered in the corresponding periods. After you export the current order recommendations, Streamline shows the date to place the next order by in the Next order date column of the table. To understand how this plan is calculated and see the placement dates for all of the recommended orders, you can address to the Ordering plan calculation article . This section is hidden by default; you can show it by enabling the option Show entire ordering plan in the Settings .
Demand forecast	This section shows the final demand forecast for every period within the forecast horizon.
Projected inventory levels	This section comprises the expected inventory levels at the end of each period within the forecast horizon. To understand how these are calculated, address to the Ordering plan calculation article . This section is hidden by default; you can show it by enabling the option with the same name in the Settings .

Constraints **Min lot**, **Max lot**, and **Rounding** can't be given for manufacturing items. Streamline shows dashes in these columns for them. Empty cells or zero values in the **Min lot**, **Max lot**, and **Rounding** columns mean that no constraints are applied in the optimization.

Streamline allows for changing the way the **Inventory value** and **Non-moving inventory value** KPIs are calculated. You can set Streamline to account for the [To receive](#) quantity of purchase orders when it calculates these in the [Settings](#).

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Safety stock can be used as input, in case you need to set it manually. Data entered into Streamline manually has a higher priority over the defaults and outcomes.

The table below shows how Streamline determines the expected **Delivery date** for an order line depending on the **Order type**.

Order type	Location	Condition	Delivery date
Purchase	Location/DC		<i>Today date</i> + supplier Lead time
Transfer	Location	The location is linked to a DC (the DC column is not empty)	<i>Today date</i> + Lead time from DC to the location
		The location is not linked to a DC	<i>Today date</i> + 1 day
Manufacturing	Location/DC		<i>Today date</i> + 0 days

Where *Today date* is the current local date set in your operating system.

Color-coding

The table in the **All items** report has a color-coding helping you recognize red-flag items. To describe the color-coding, let's introduce the following notation:

- $D(LT)$ - expected demand for the **Lead time**.
- $D(LT+OC)$ - expected demand for the **Lead time** plus **Order cycle** period.
- $ToReceive(LT+OC)$ - the total item quantity to be received during the **Lead time** plus **Order cycle** period.
- $ToShip(LT+OC)$ - the total item quantity to be shipped during the **Lead time** plus **Order cycle** period.

Below we describe the meaning of colors used in the colored columns or sections of the table.

On hand

Color	Meaning
<i>Pink</i>	The quantity is insufficient to cover $D(LT)$.
<i>Light-green</i>	The quantity is enough to satisfy $D(LT)$.
<i>Green</i>	The quantity is enough to satisfy $D(LT+OC)$.

Stockout and Overstock

Color	Meaning
<i>Pink</i>	Indicates stockouts in the Stockout column.
<i>Green</i>	Highlights overstocks in the Overstock column.

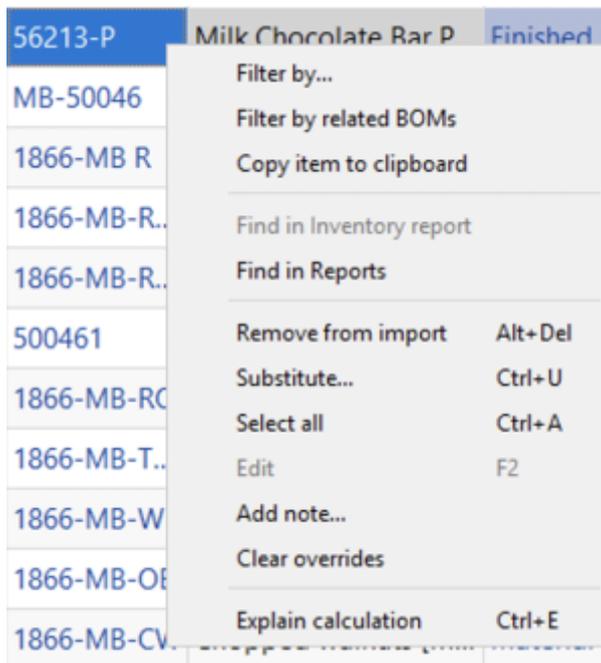
Demand forecast and Projected inventory levels

Color	Meaning
<i>Pink</i>	Designates periods with stockout.
<i>Light-green</i>	Specifies periods in which demand will be fully covered with (On hand + $ToReceive(LT+OC)$ - $ToShip(LT+OC)$) quantity.

Context menu

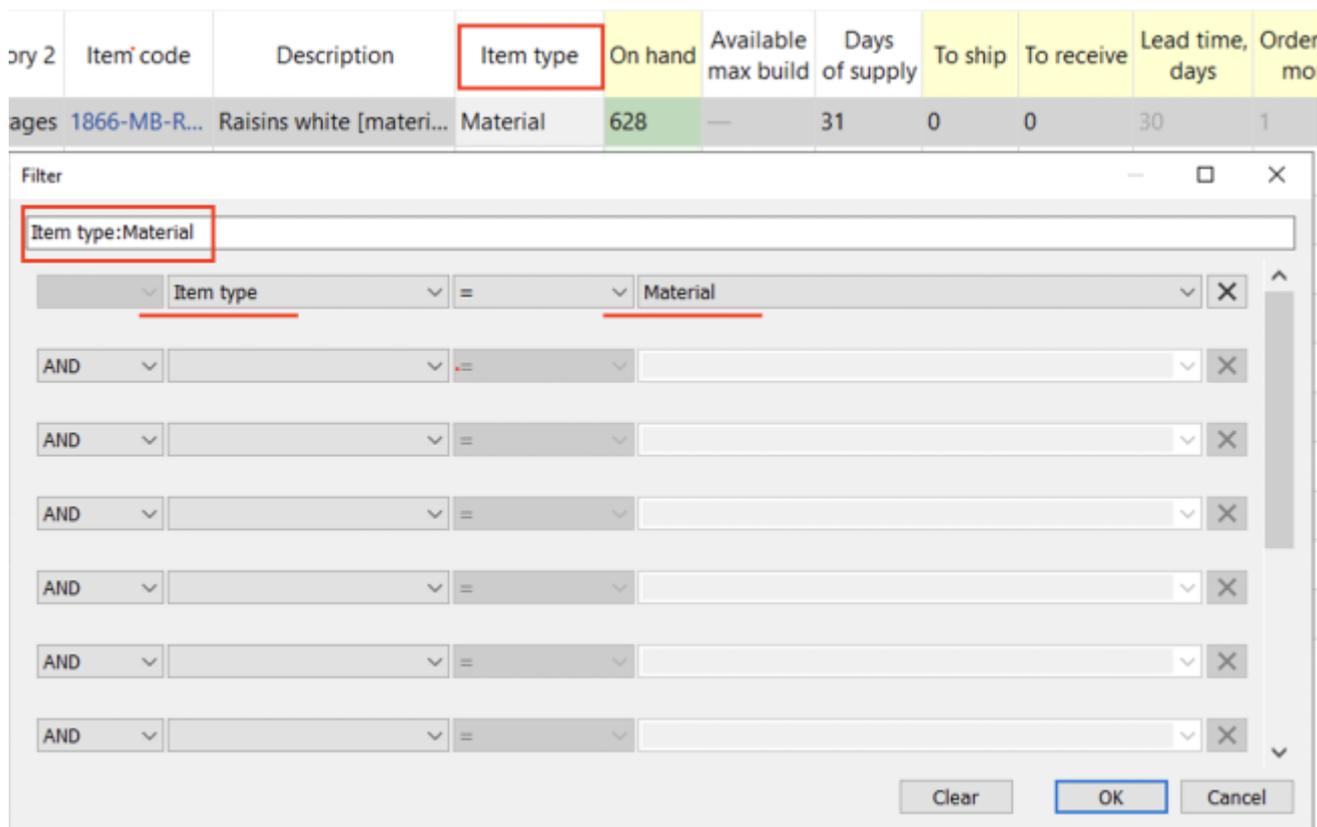
The **All items** report (or any other custom report) has a context menu that includes the most commonly used operations applied to the currently selected planning item in the table.

To open the context menu, right-click on the planning item (see figure below).



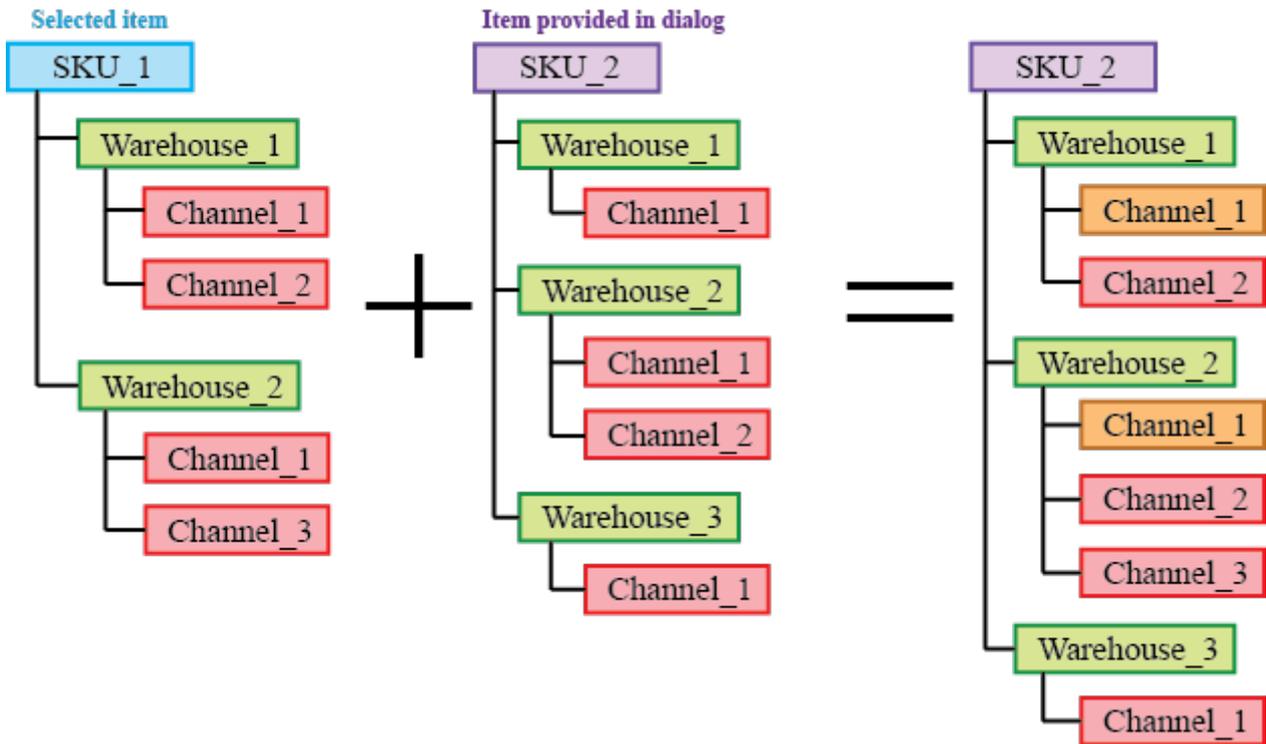
Below we give a description of the commands.

- **Filter by...** will open a new filter dialog with automatically applied criterias so you can quickly sort using these specifications.



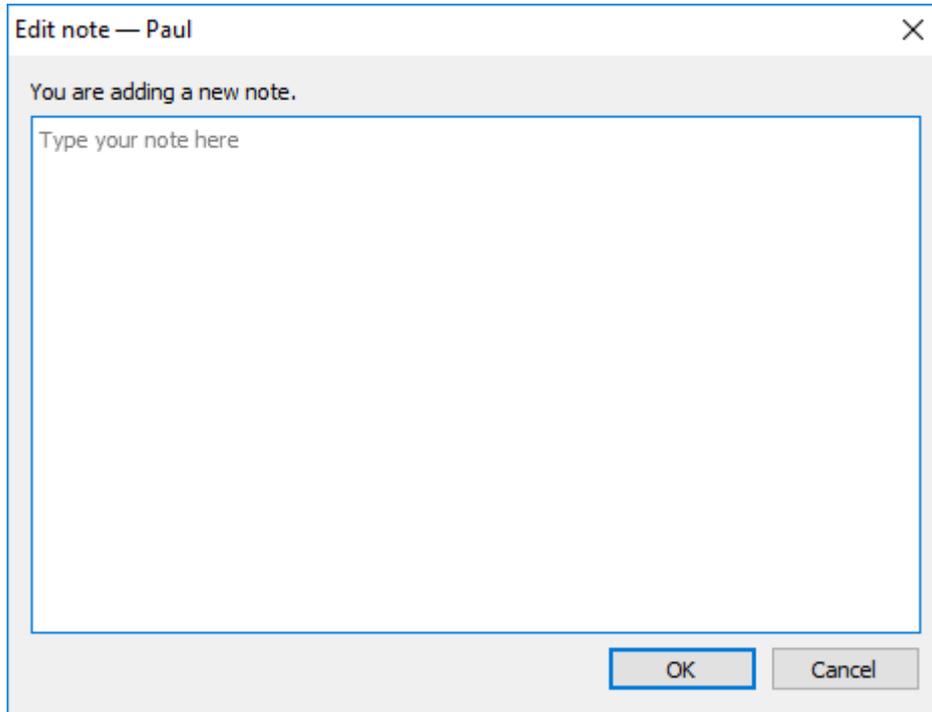
- **Filter by related BOMs** will open a new filter dialog where you can separate items related to the selected BOM.
- **Copy item to clipboard** copies the item code of the selected planning item to the clipboard.
- **Find in Reports** will take you to the selected item in Reports tab.

- **Remove from import...** bans the selected item code (not planning item) from import.
- **Substitute** merges the selected planning item with the planning item which code is provided in the appeared window on a channel basis (see figure below). If the provided item code exists in the project, this operation removes the item code of the selected planning item from the project, otherwise, it renames it.



Orange in the figure above indicates the channels with merged histories.

- **Select all** selects all items in the report.
- **Edit** switches the selected cell into editing mode allowing you to enter a new value for the parameter. This command is only active for the cells in editable columns (the headers shown in yellow). It can be used for a [mass changing](#) of a certain replenishment parameter for a given set of planning items.
- **Add note** opens the **Edit note** dialog (see figure below) where you can add, remove, or edit the note for the selected planning item.



- **Clear overrides** will revert back all the changes that have been made to the selected item.
- **Explain calculations** shows the [Explain inventory calculation dialog](#) for the selected item.

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[Next: Filter Dialog](#)

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