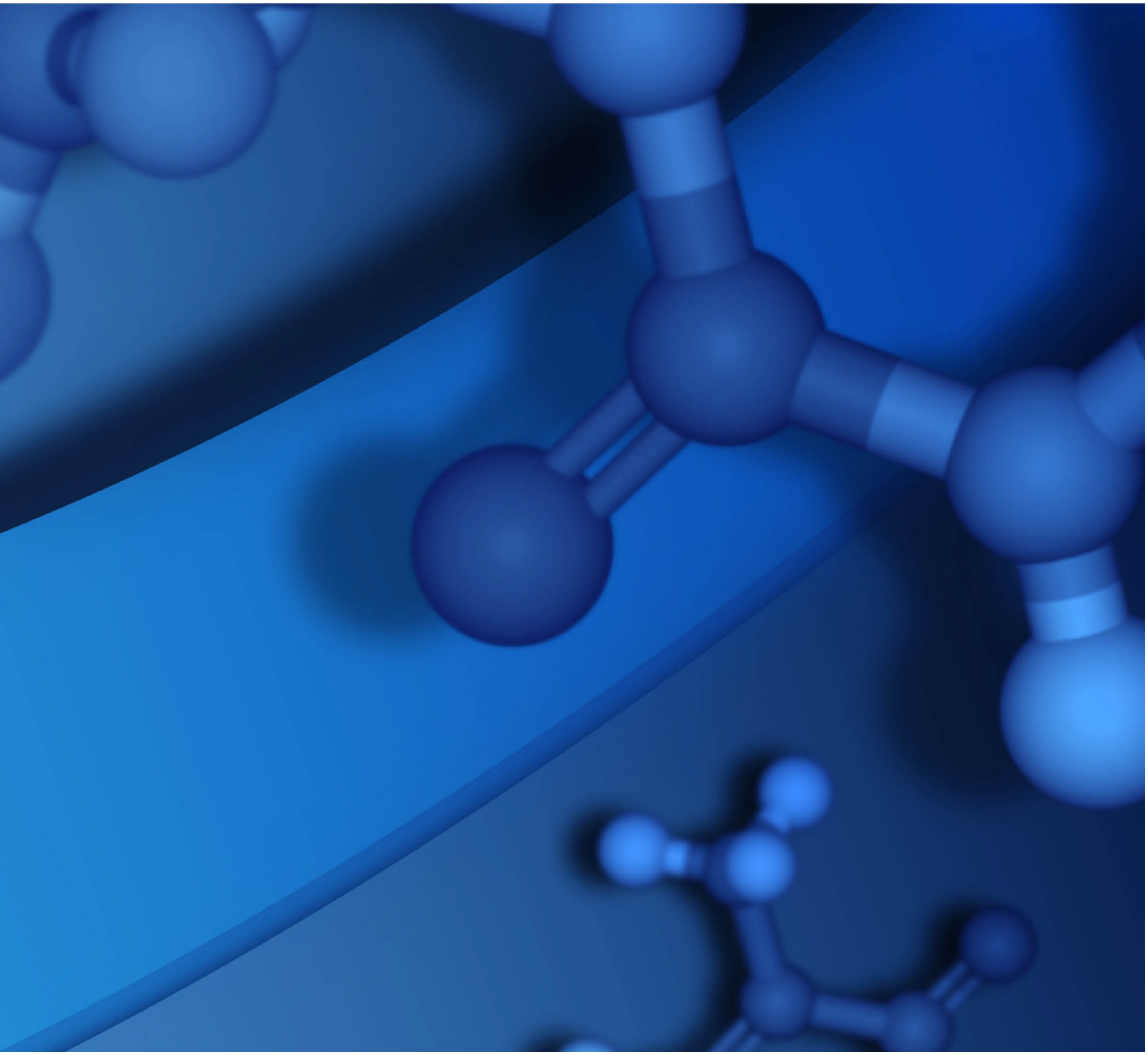
USER GUIDE

BIOVIA INVENTORY

1.2 SP3



Acknowledgments and References

BIOVIA may grant permission to republish or reprint its copyrighted materials. Requests should be submitted to BIOVIA Support, either through electronic mail to support@accelrys.com, or in writing to:

BIOVIA Support
5005 Wateridge Vista Drive, San Diego, CA 92121 USA

Table of Contents

Chapter 1 Introduction to BIOVIA Inventory

Chapter 5 Monitoring Consumables with Dashboard Widgets

1

Introduction to BIOVIA Inventory

Intended Audience

This user guide is intended for users of BIOVIA Inventory who are responsible for receiving and managing consumables in inventory.

Accelrys Becomes BIOVIA

Accelrys and Dassault Systèmes have joined forces with the purpose of “providing business and people with 3DEXPERIENCE universes to imagine sustainable innovation capable of harmonizing Product, Nature & Life.” BIOVIA continues to support those products previously released by Accelrys, but some products names have been re-branded as described in the following table.

Note: This release references the new product names. However, some areas of the user interface may not be updated until a future release.

Previous Accelrys Product Name	Current BIOVIA Product Name	Abbreviation
Accelrys Laboratory Information Management System	BIOVIA Laboratory Information Management System	LIMS
Accelrys Inventory Management	BIOVIA Inventory	IM
Accelrys Environmental Monitoring	BIOVIA Environmental Monitoring	EM
Accelrys Lab Execution System	BIOVIA Lab Execution System	LES
Accelrys Electronic Batch Records	BIOVIA Electronic Batch Records	EBR

Introduction

BIOVIA Inventory (IM) is a web-based module of BIOVIA Laboratory Information Management System (LIMS). The IM module is installed on the BIOVIA LIMS server and allows eligible users to receive and manage consumables used in your environment. The term *consumable* refers to any inventoried material that is used in your labs You can add/receive individual consumables into the system as well as multiple consumables of the same type and cases of consumables. You can also print labels associated for the consumables when you receive them or anytime while they are in inventory.

The actions that you can perform on a consumable in inventory are dictated by the workflow of its associated Consumable Type configured by your system administrator—for example, Check Out, Check In, Update Quantity, Approve, Waste.

The BIOVIA Inventory module automatically depletes the quantity of stock as consumables are used. This can be done manually while the consumable is in inventory or when you check a consumable back into inventory after use. The system automatically adjusts the quantity of a consumable when it is subsampled into aliquot quantities. For systems that are integrated with the BIOVIA Lab Execution System (LES), the quantity of a consumable is automatically reconciled through the LIMS procedure session that was executed to produce a consumable such as a solution.

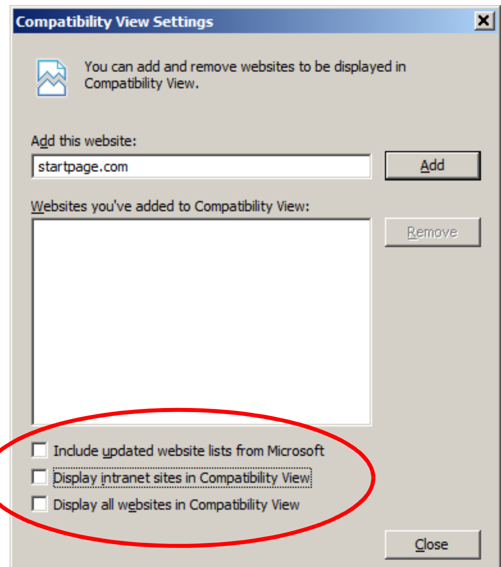
The system automatically flags any consumables that have reached their expiry date. Consumables expire at 23:59 on the configured expiration date. When integrated with BIOVIA LES, the IM module allows the use of an expired consumable providing the user has the appropriate eligibility.

Once a consumable is depleted or discarded (that is, “wasted”), it is no longer displayed in the *Inventory* home page. However, the information for the wasted consumables is stored in the LIMS database.

Browser Requirements for BIOVIA LIMS Clients

Before you begin using BIOVIA Inventory, verify the following options have been set correctly:

- If you will be accessing various Pipeline Project protocols while executing the workflow of your consumables, verify that your browser’s Pop-up Blocker Settings are set to “Allow pop-ups” from the BIOVIA LIMS site address. Refer to *Signing On* on page 1-4.
- Verify that the Internet Explorer Compatibility View settings are turned off:
  1. In the main menu bar of the IE browser window, select **Tools>Compatibility View settings**.
  2. In the *Compatibility View Settings* dialog, make sure all the check boxes in the lower part of the screen are cleared, as shown below.



Turning Off Compatibility View

3 Click **Close**.

Required User Eligibilities for BIOVIA Inventory

Some users may only be allowed to view the consumables in the system, while others will be able to process their workflows. Your access to the consumables is determined by the user eligibilities granted to you by your system administrator. These global eligibilities are assigned to the User Role in which you belong.

Required eligibilities for managing consumables:

- **Can View Consumables**—Allows eligible users to view the consumables in the *Inventory* tab in the main menu bar.
- **Can Make/Receive Consumables**—Allows eligible users to receive consumables into inventory as well as make/prepare a consumable prior to receiving it (for example, a solution).
- **Can Collect from Expired Consumables**—Allows eligible users to use an expired consumable in an BIOVIA LIMS procedure session. When the user scans the barcode on a consumable during the procedure session, the system will determine if the consumable has expired, and if so, allows its use.

- **Can Process Consumables**—Allows eligible users to process the workflow actions for consumables as defined by their workflows (for example, Prepare, Check Out, Check In, Update Quantity, Print Labels, Waste). Not all workflow actions may be available if further access restrictions have been defined at the workflow level.

Required eligibilities for running and managing reports:

- **Can View Reports**—Allows users to view registered reports and run only those reports in the system whose status is “Active.”
- **Can Administer Reports**—Allows users to view and manage all of the reports in the system (all status codes).

Integrating with the BIOVIA Lab Execution System

You can use BIOVIA Inventory in conjunction with the BIOVIA Lab Execution System (LES). All consumable data available within the IM module can be electronically captured in an LES procedure session. This is configured in the consumable's workflow.

Signing On

To launch BIOVIA LIMS:

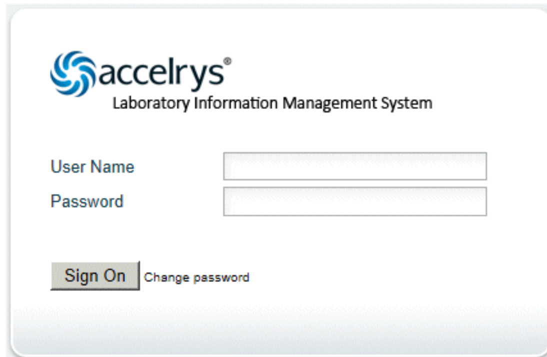
1. From a LIMS client machine, open an Internet Explorer browser and enter the following URL in the address bar:

   http://<*computer name*>:<*port number*>

   where *computer_name* is the name of the server on which the application is installed, and *port_number* is the port number specified during installation (typically port 80).

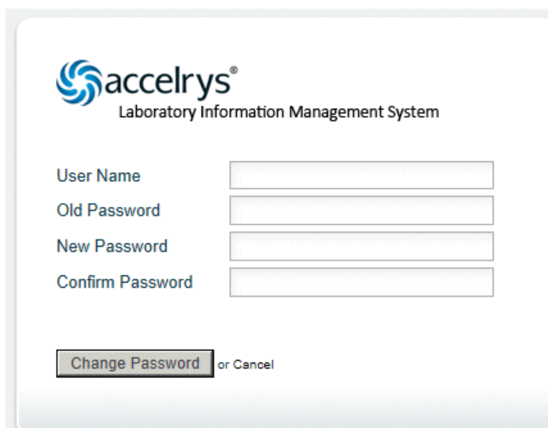
2. Once you have launched the application, your browser will load one of the following pages, depending on what type of authentication method your system is using:

   - **ePMC Authentication** (default)
     The browser loads the *Sign On* page. Enter your user name and password and click **Sign On**.



"Sign On" Screen

If you are signing in for the first time, you are required to change your password. Once you are successfully authenticated, you are directed to the BIOVIA LIMS *Home* page (page 1-7).



Changing the Default Password for Initial Sign On

- **Windows Authentication**:
  If your system is using Windows Authentication, the "Secondary Sign On Allowed" system setting determines if the *Sign On* screen is displayed.
  - **If the "Secondary Sign On Allowed" option is enabled:**
    The *Sign On s*creen is displayed. Enter your Windows domain and your user name (in the format *domain\user_name*), enter your password, and click **Sign On**.

- **If the "Secondary Sign On Allowed" options is disabled:**

  The *Sign On s*creen is not displayed and you are immediately directed to the BIOVIA LIMS *Home* page.

Once you have been successfully authenticated, the *Home* page is displayed (page 1-7).

Note: Your system administrator has assigned your user account to at least one Site and one User Role. If that Site or User Role is inactive, you will receive an error message and will not be able to access the system. In this case, contact your system administrator.

About failed authentication attempts

If your system is using ePMC Authentication, your user account will be inactivated after three consecutive failed authentication attempts. A failed authentication will occur if you enter an invalid user name or password when logging in. It also will occur if you enter an invalid password three times in the *Reason Code Entry* dialog box while applying your electronic signature to a change of data. If your user account has been inactivated, contact your system administrator. In addition, if you are already logged onto the system, you will be logged off immediately after your third failed attempt.

If you attempt to sign on from different client machines, the login attempts are considered cumulative—that is, two failed logins on one client and one failed login on a different client will inactivate your user account.

Note: If you are using the BIOVIA LES system, the failed authentication counters are *not* connected between the two applications, thus three failed authentication attempts on LIMS will not inactivate your user account on the LES application.

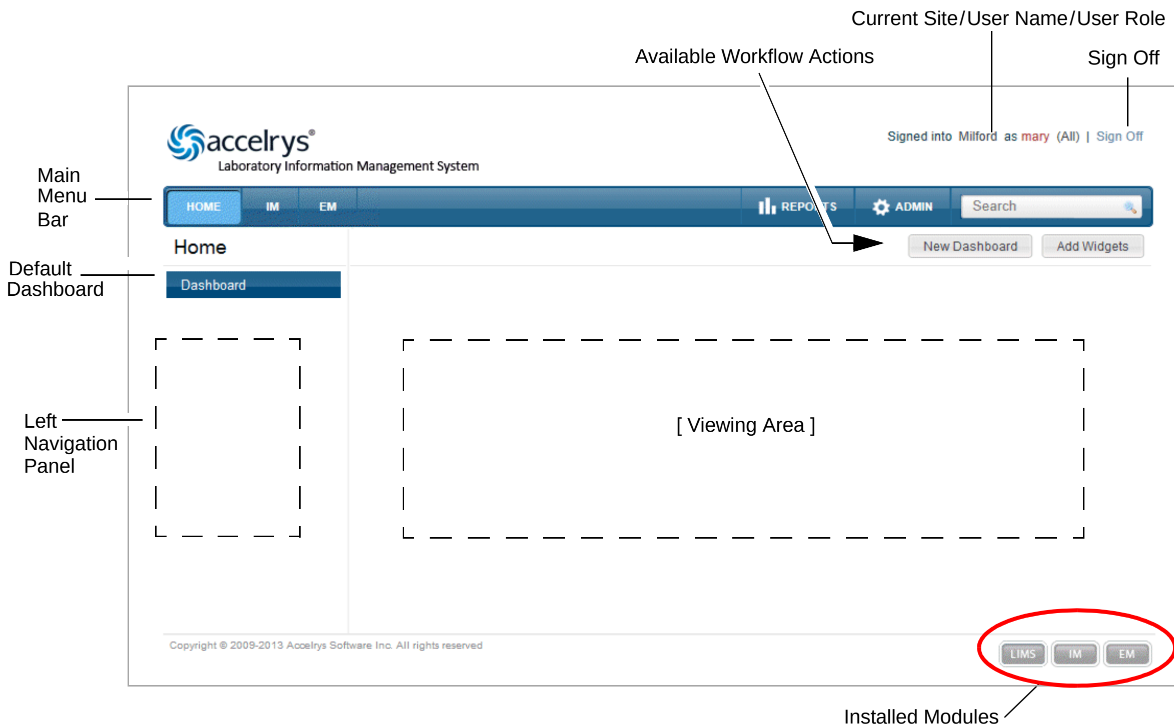
Signing on from multiple computers

You cannot sign on to BIOVIA LIMS from multiple computers. If you are logged in on one computer and attempt to log in from a different computer, the system closes your original session and allows your current logon.

Similarly, when you close the browser window without signing off and then try to sign on again, the system closes your original session and allows your current logon.

About the BIOVIA LIMS Home Page

The *Home* page of BIOVIA LIMS is shown below. This section describes the components of the user interface.



BIOVIA LIMS Home Page

The **Main Menu Bar d**isplays individual tabs for the categories of functionality installed in the system. Only the tabs that you have eligibility to view will be displayed in the main menu bar.

- The installed modules such as the BIOVIA Environmental Monitoring (EM) and BIOVIA Inventory (IM) have their own tabs that provide access to their primary functionality (for example, managing consumables and samples). In addition, for standalone systems, it is likely that your system administrator will have created custom tabs for specific entities at your company.
- The **REPORTS** tab allows eligible users to generate reports for various entities in the system. Refer to the *BIOVIA LIMS System Administration Guide*.
- The **ADMIN** tab allows eligible users to manage system-wide configuration settings as well as the entities of BIOVIA LIMS and its associated modules.

The **Search** field allows eligible users to search for various entities in the system. *How the Search Function Works* on page 2-19.

The **Default Dashboard** is an area in which you can view and manage widgets, small programs that monitor specific entities in selective modules. This area is initially blank.

The **Left Navigation Panel** lists various categories of functionality that corresponds to each tab in the main menu bar.

The **Viewing Area** displays the content of the selected tab as well as the functionality selected from the left navigation panel.

The **Available Actions** command buttons represent actions that you can perform on the entity displayed in the Viewing Area below.

The **Current Site/Username/User Role** area displays your user name and the site and role in which you are currently signed into. Refer to *Signing On to Different Sites and User Roles* on page 1-8.

The **Sign Off** area allows you to sign off from any page in the system.

The small icons in the lower right corner of the page indicate which modules are currently installed on the system.

Signing On to Different Sites and User Roles

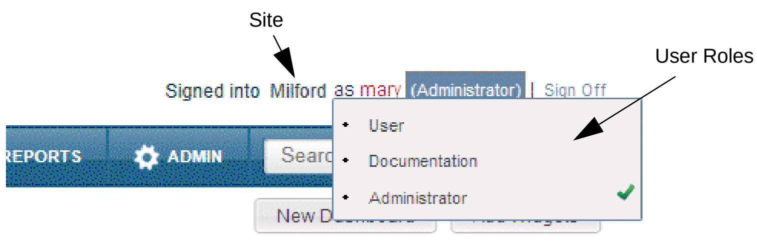
The sign on information area above the main menu bar displays your user name as well as the Site and User Role in which you are currently signed into. A *Site* is a specific view of the database configured by your system administrator (for example, a development or production Site). A *User Role* is defined for users who perform specific functions (for example, an administrator, supervisor, or general user) and dictates the areas of functionality that its members are eligible to access.

If you have access to only one Site or User Role, you are automatically signed into them.

If you belong to more than one Site or User Role:

- If this is the first time you are signing on, the first available active Site/Role will be used.
- If you have previously signed on, the last Site/Role that you used will be your current Site/Role.
- If your last used Site/Role is inactive, the next available active Site/Role will be used.
- You can select a different Site/Role from the drop-down lists. The Sites/Roles are displayed in alphanumeric order and the current Site/Role is indicated by a check mark.

IMPORTANT! It is recommended that you change Sites from the *Home* page of BIOVIA LIMS.



Signing On to a Different Site or Role

Preventing Concurrent Access to Consumables

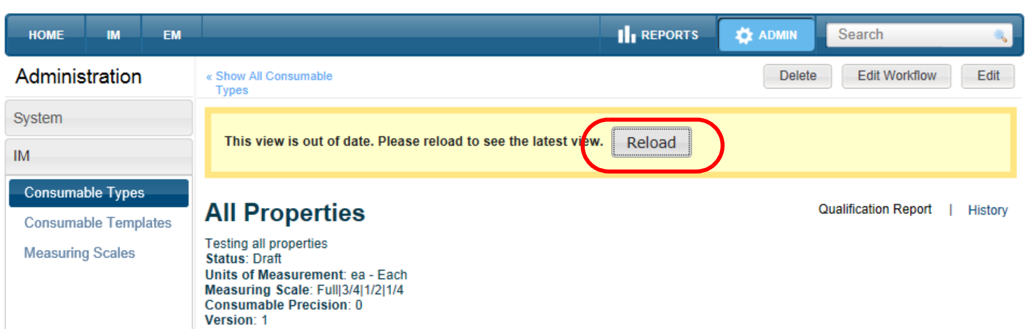
BIOVIA LIMS prevents more than one user from performing workflow actions on the same consumable at the same time. For example, when another user is in the process of subsampling a consumable, you cannot check that consumable out of inventory. A message is displayed in the consumable's *View* page that states it is locked by another user.

Once the locked consumable is released and available for use, the system marks the consumable's *View* page as outdated. When you refresh the page, you will again be able to perform actions on that consumable.

If your browser or system crashes while you are working on a consumable, the consumable is considered locked by you. In this case, an **Unlock** button will be displayed in the consumable's *View* page that allows you to unlock it.

Viewing Out-of-Date Data

If an entity is updated by another user while you are viewing it, a yellow warning message will alert you that your current view is out-of-date. Click **Reload** to display the updated view.



Refreshing an Out-of-Date View

Notes Regarding User Input in the Interface

This section describes some specific information about various types of user input in the system.

Security restrictions for typing in text boxes

Both IIS and ASP have implemented security measures to prevent attacks on the web site caused through the use of bad input. These restrictions apply to any text box displayed throughout the entire BIOVIA LIMS system.

If you enter the offending text patterns listed below, the system displays the following exception message:

"A potentially dangerous Request.Form value was detected."

These patterns include the following combinations:

- **&#**
  You cannot enter the ampersand symbol (&) immediately followed by the pound symbol (#) in a text field. You must add a blank space between them.

  Unacceptable: text&#text

  Acceptable: text& #text

- **<text**
  You cannot enter the "less than" symbol (<) immediately followed by some text. You must add a blank space between the symbol and the text string. Note that this restriction does not apply to numbers. For example, <12 (with no space) is acceptable.

  Unacceptable: text<text

  Acceptable: text< text

  Acceptable: <12

Reserved keywords and characters

The following keywords and characters are reserved for use by the system. Therefore, it is recommended that you do not use them in any part of BIOVIA LIMS. For example, do not assign these keywords or characters to names of Entity Types, properties, Location Types, Locations, Consumable Types, Consumable Templates, and Sample Types.

Reserved keywords:

- ACTIVATE
- ALL
- AND, and
- Barcode Group
- Barcode Label
- CAPTURE
- CONSUMABLE _TYPE
- DATE
- EIN
- END
- ENTITY_TYPE
- FORWARD
- FILE
- ID
- Image
- INT
- ITEMCOUNT
- LIMIT
- LISTONLY
- LOCATION
- MANUALENTRY
- NAME
- NODEFAULT
- NULL
- OR, or
- ORIGINAL_QUANTITY
- QUANTITY
- REPORT
- SAMPLE_TYPE
- SELECT
- SOONEST_EXPIRATION
- START
- SUBS
- SUBSAMPLE_PARENT_ID
- UDA
- UNIQUECOUNT
- UNITS
- XEIN

Reserved characters:

,	Comma	/	Division operator
&	Ampersand	+	Addition operator
^	Exponentiation operator	-	Subtraction operator
( )	Parentheses	>	Greater than
ABS	Absolute value operator	<	Less than
D	Used in the DATE statement	>=	Greater than, or equal to
(N)	The current array index character	<=	Less than, or equal to
’ "	Single and double quotes	=	Equal to
*	Multiplication operator		

Entering or selecting dates

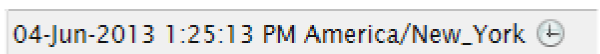
When you manually enter a date or select one from a calendar control, the date (in UTC) must be greater than January 1, 1900 and cannot exceed December 27, 9999.

How the System Records Date/Time Values

The system uses timestamps to record the date and time an event occurs. For example, timestamps are used to:

- Collect property values of various entities (for example, the date and time data was collected or a workflow action was performed on an entity instance, consumable, or sample)
- Generate audit trails
- Record password expiration dates

An example of a timestamp is shown below:



A timestamp is based on the following format:

dd-MMM-yyyy h:mm:ss tt time_zone <icon>

where:

dd-MMM-yyyy: This format displays the date on which the value was collected. The date value is always displayed in the format dd-MMM-yyyy and ignores the client's Short Date format. The collected date is not localized, however the month is displayed in the client's local language.

IMPORTANT! For languages that do not support the MMM format, the following date format is used instead:

yyyy-mm-dd

For *example:* June 1, 2013 is recorded as 2013-06-01

h:mm:ss tt: This format displays the time at which the value was collected. If the client's locale setting supports a 12-hour clock, "AM" and "PM" are displayed accordingly. The timestamp is not localized to the client's time.

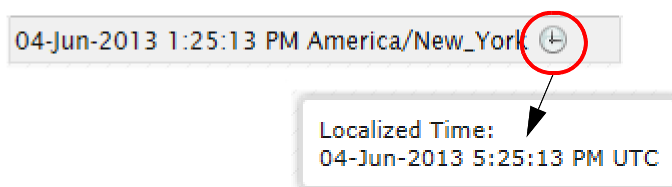
time_zone

This information is displayed for those records with recorded time zone information. The time zone is displayed in the format *area/location* and is based on the Olson Time Zone Standard. The Olson standard provides a uniform naming convention for the world's time zones and is commonly used in computer programming. The time zone is always displayed in English and ignores the client's language preferences.

Icon - Time zone information

This icon is displayed for a record that includes time zone information. When you mouse over the clock icon, the collected date and time is localized and is displayed in the time zone of the client.

For example:



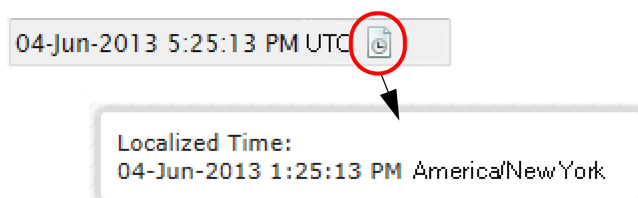
Note that the clock icon is not displayed if the client is in the same time zone as the collected value.

The following entities use the expanded timestamp:

Audit Trails (History table):

- Entity Types
- Entity instances
- Consumable Types (IM)
- Consumable Templates (IM)
- Consumables (IM)
- Sample Types (EM)
- Sampling Plans (EM)
- Samples (EM)

(*continued*)

Icon - Time zone information (*continued*)	Time zone information is also displayed in the following areas of the user interface for entity instances, consumables (IM), and samples (EM): • Grid view (entity instances, consumables (IM), samples (EM) • Properties • E-Signatures table on View page • Dialog box for workflow actions
Icon - No time zone information 	This icon is displayed for a record that does not include time zone information. This is used by various entities in the system as well as legacy records that were created prior to the BIOVIA LIMS v4.2 SP1 release. The timestamp is displayed in Coordinated Universal Time (UTC). When you mouse over the clock icon, the collected date and time is localized and is displayed in the time zone of the client. For example: 

How date/time values are handled in legacy records

The data records generated prior to the BIOVIA LIMS 4.2 SP1 release did not support time zones. Therefore, this legacy data is considered “time zone-less” and behaves in the following manner:

- Web views and reports display the data and time in UTC.
- Web views display the “time zone-less” icon .
- During the upgrade, report values are displayed in the language of the individual performing the upgrade.

How date/time values are recorded for Date properties

A date/time value is recorded for the following Date properties (applicable to Entity Types, Consumable Types, and Sample Types):

- Date and Time
- Date Interval

The date/time value is recorded using the following model:

1. The date/time value is obtained in one of these ways:
   - **“Date and Time” property**
     Based on the "Use Current Date and Time" option:

     Is restricted to current date/time (“now”)—The value is obtained from the server.

     Is not restricted to current date/time (“now”)—The value is entered by the user during workflow execution.
   - **“Date Interval” property**
     Based on the "Use Interval” option:

     Uses interval—The default value is calculated based on the current date and time (converted to UTC) plus the specified interval. This value is displayed to the user in the time zone of the server. The date and time value is obtained from the values entered by the user during workflow execution.

     Does not use interval—The value is entered by the user during workflow execution.
2. The value is converted to UTC and stored in the database.
3. The date and time value is displayed to the user in the time zone of the server.

How date/time values are recorded for Time Trigger activities

The current date and time in UTC is compared against the target property value (for example, End Incubation Time) as recorded in the database in UTC.

How date/time values are recorded for expired consumables

The **Expiration Date** property is a special case since consumables expire at midnight of the time zone in which the expiration date was applied. For a consumable’s Expiration Date property, the date/time is recorded using the following model:

1. Date/time is obtained from the server clock at the time the expiration date is applied.
2. The hours, minutes, and seconds are extended to 11:59:59 to represent the last unexpired date/time. This value is converted to Coordinated Universal Time (UTC) and saved in the database.

How date/time values are displayed in labels

If you add a date/time field to a label but do not specify its format, the system uses the standard format dd-MMM-yyyy and no time zone icons are displayed.

IMPORTANT! For languages that do not support the MMM format, the following date format is used instead:

yyyy-mm-dd

For example: June 1, 2013 is recorded as 2013-06-01

How date/time values are displayed in embedded reports

This section provides general notes on embedded reports:

- When you generate a Qualification Report or print the History table for anything other than entity instances, consumables, and samples, the generated report will display the date/time values in the local language and time zone in which the data was collected.
- When you print the History table for an entity instance, a consumable, or a sample, the generated report will display the date/time values in the corresponding column of the report:

  "Occurred On" column (consumables and samples)

  "Changed On" column (entity instances)

  Note that these columns will always display the date/time values in the English language in the following format:

  DD-MMM-YYYY HH:MM:SS
- For legacy data collected prior to the BIOVIA LIMS v4.2 SP1 release, the date/time values will be displayed in the language of the user performing the upgrade. There are no time zones associated with legacy data.

How date/time values are recorded for audit trails

The timestamp for an audit trail is recorded using the following model:

1. The date/time is obtained from the Server Clock at the time the record is created.
2. The value is converted to UTC and stored in the database.
3. The timestamp is displayed to the user in the time zone of the server.

Generating Audit Trails for Consumables

An *audit trail* records the complete history of actions performed on a consumable in the system. Audit trails cannot be changed—they contain unquestionable ties to the live data and no “rollback” facilities are available.

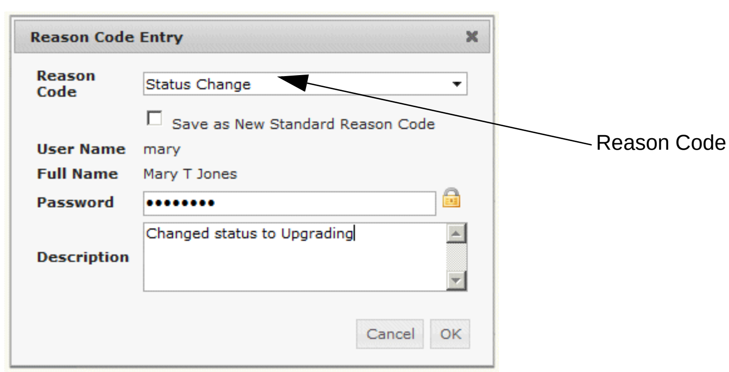
Electronic metadata is automatically generated for all user entries and activities. The metadata captures the following information:

- The user who performed the action (User ID and user’s full name)
- Date/time stamp when the change occurred

An electronic audit trail is automatically generated for selected user entries and activities (for example, collecting data or approving collected data). The audit trail captures the following information:

- Electronic signature consisting of all CFR Part 11 components—Reason Code, User Name, user's full name, date/time stamp
- A link to the actual record that was modified

When a new entity is created in the system, its audit trail begins and its Reason Code defaults to “Initial Value.” Each time that entity is edited, the *Reason Code Entry* dialog box is displayed and the user is required to select a Reason Code to describe the reason for the change.



“Reason Code Entry” Dialog Box

Based on their eligibilities, users may also be allowed to enter a new Reason Code. They may also be eligible to save the new Reason Code as a new Standard Reason Code which adds it to the list of Reason Codes making it is available to all users of the system. If the user does not check the check box, the Reason Code is considered “non-standard” and is not available to other users.

The *Reason Code Entry* dialog box also collects the user's electronic signature and an optional description. The audit trail for this entity will include all of this information for this change.

Note: You cannot use double quotes (" ") in the Description field.

Signing Off

You can sign off of BIOVIA LIMS from any page in the application. Click the **Sign Off** link in the upper right corner of the page. If your system is using ePMC Authentication, you are redirected to the *Sign On* screen and cannot access the system without signing on again.

Signing Off

What's Next?

Chapter 2 describes the various ways to view the consumables in the system.

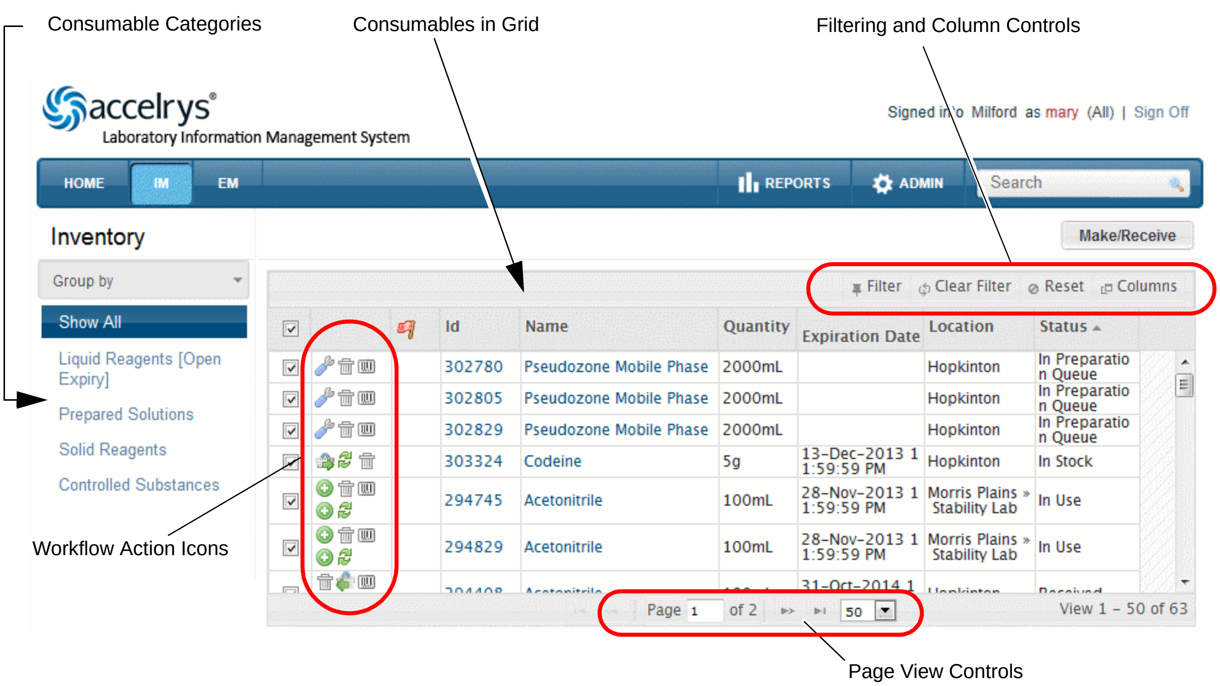
2

Viewing Consumables in Inventory

This chapter explains how to view the consumables in inventory. It describes the Inventory home page and various aspects of the user interface.

The Inventory Home Page

To view the consumables in inventory, click the **IM** tab in the main menu bar. The consumables are displayed in the *Inventory* home page.



“Inventory” Home Page

The left navigation bar lists the categories of consumables currently in inventory. When you click a category, the grid is filtered to show only those consumables within the selected category.

Rows—Each row in the grid represents one consumable. The columns in the grid are described below:

- **Check boxes**—All of the check boxes in the first column are enabled by default. You can use the check boxes to perform workflow actions of a selected group of consumables. Refer to *Performing Workflow Actions on One or More Consumables* on page 3-19 for more information.
- **Workflow Actions Icons**—The icons in the second column represent workflow actions that you can perform on that consumable. These correspond to the command buttons above the grid. The available actions are displayed according to the workflow state in which that consumable resides, as well as your user eligibilities.

  Prepare—Allows eligible users to prepare a consumable that has to be made (for example, a solution). Typically, this consumable is made by executing a work instruction in the BIOVIA LES Procedure Execution module.

  Qualify—Allows eligible users to qualify the consumable before it can move to the next state in its workflow.

  Open—Allows eligible users to open an unopened case of consumables in inventory.

  Check Out—Allows eligible users to check a consumable out of inventory.

  Check In—Allows eligible users to check a consumable back into inventory.

  Update Quantity—Allows eligible users to update the quantity of a consumable while it is in inventory.

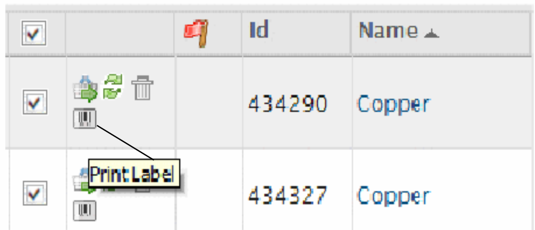
  Approve—Allows eligible users to apply their e-signature at the current state of the consumable. The e-signature can be applied for the purpose of reviewing, approving, attesting, or making an annotation.

  Print Label—Allows eligible users to print a label for the consumable.

  User Defined—Allows eligible users to perform a custom action on the consumable, as defined by your administrator.

  Waste—Allows eligible users to “waste” a consumable that has expired or is depleted in order to remove it from inventory. A wasted consumable is not displayed in the grid.

If you mouse over an icon, a tool tip displays the name of the action:



Note: If an Entity Instance does not have any available workflow actions, it is not displayed in the grid.

-  —A red flag icon in the third column indicates the entity instance contains an out-of-limit value.
- Each consumable is identified by its ID, name, quantity, expiration date, location, and current status (that is, the workflow state in which it resides).
- In the **Expiration Date** column, a consumable that has expired appears in red text followed by a  red flag icon.

Filtering and Column Controls—You can customize the default view of the Entity Instances through the filtering options and column controls. Refer to the following section.

How the Grid Control Works

The grid control is used to display various entities in the BIOVIA LIMS application and its associated modules including IM consumables in inventory. You can customize the default view of the entities in the grid control through the filtering options and column controls. The changes you make to the default view of the entities are stored as your personal user preferences—when you leave and return to that page, the changes to the view will remain persistent until you change the grid back to its default view.

Page View controls

The Page View controls below the grid allows you to page through the items in the current data set.

Page View Controls

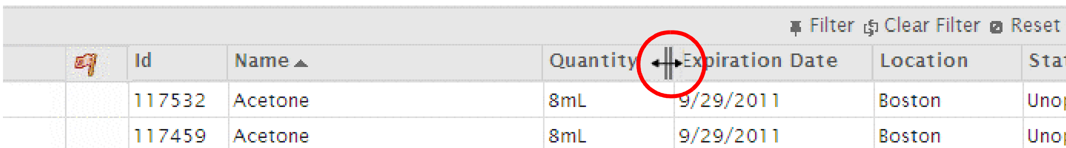
The following table describes each of the paging controls.

Table 2-1 Paging Controls for Viewing the Grid

Grid Control	Description
Double left arrows 	Reloads the first page of items in the data set.
Single left arrow 	Reloads the previous page of items in the data set.
Current Page control 	Displays the number of the page that is currently loaded in the grid, as well as the total number of pages in the data set. To reload the grid with the selected page, enter a number and press the **Enter** key.
Single right arrow 	Loads the next page of items in the data set.
Double right arrows 	Reloads the last page of items in the data set.
Row Counter 	Displays the number of rows currently displayed in the grid. You can change the number of items displayed in each page (10, 20, 50, 100, 200, 500).
View Counter 	Displays the number of items currently displayed in the grid, as well as the total number of items in the data set.

Resizing columns

All of the columns in the grid can be resized except for the first two columns (that is, the check boxes and workflow action icons). To resize a column, place the cursor next to a column heading and drag it to the left or right.



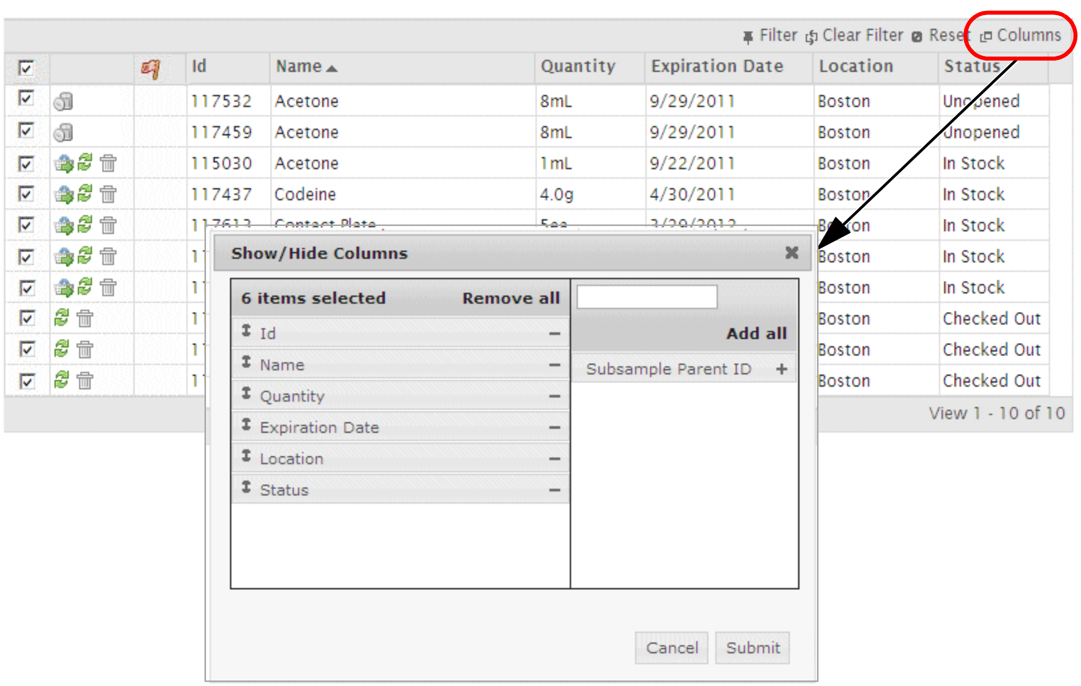
Resizing Columns

Sorting columns

To sort the contents of a column, click its column heading. The contents are sorted in ascending/descending alphanumeric order.

Hiding and reordering columns

To hide selected columns or to reorder the columns, click the **Columns** button in the upper right corner of the grid control. The *Show/Hide Columns* dialog box is displayed.

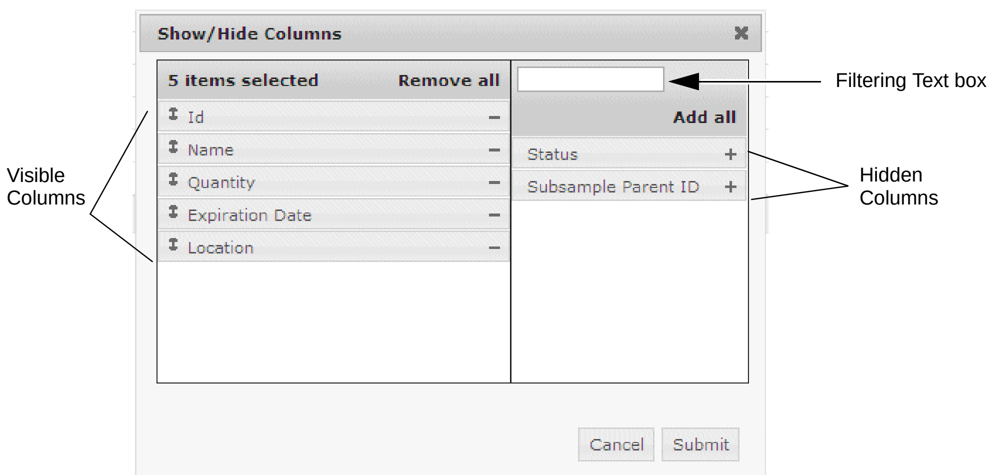


“Show/Hide Columns” Dialog

Hiding columns

The left side of the *Show/Hide Columns* dialog box lists the names of the columns that are currently being displayed in the grid. The right side of the dialog box displays the names of the columns that are hidden.

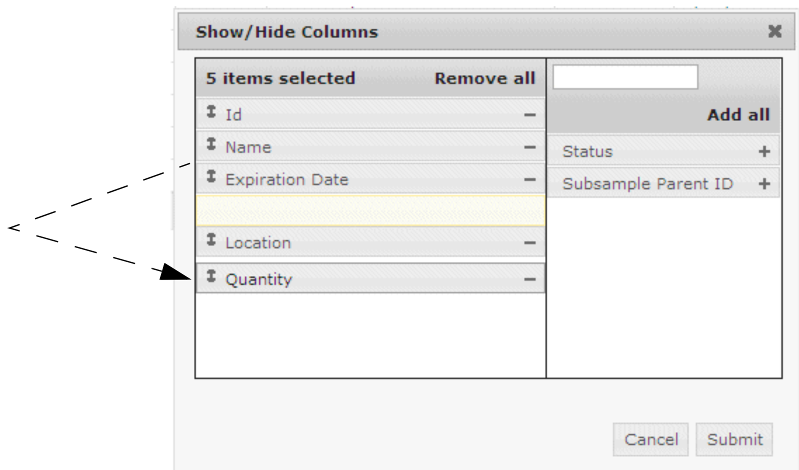
- To hide a visible column, click – (minus symbol) to move it to the right side of the dialog box.
- To display a hidden column, click + (plus symbol) move it left to the visible columns.
- To hide all of the visible columns, click **Remove all** to move them to the right.
- To display all hidden columns, click **Add all** to move them back to the left column.
- To filter the list of columns, enter the name in the blank text box in the upper right corner of the dialog box. When you start typing, the list will only display columns that contain the string that you have entered.



Showing/Hiding Columns

Reordering columns

You can change the order of any of the columns listed on the left side of the dialog box. To reorder the column positions, drag and drop the row to a new location in the list. The first position will be displayed as the fourth column in the grid, the last column will be displayed furthest to the right side of the grid.

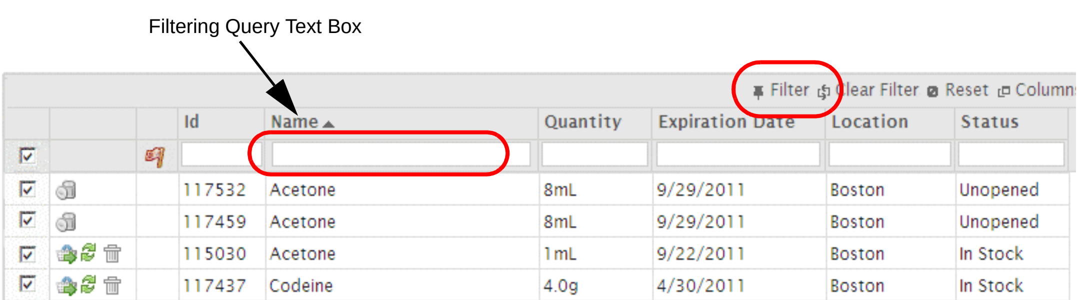


Reordering Column Positions

Applying filters

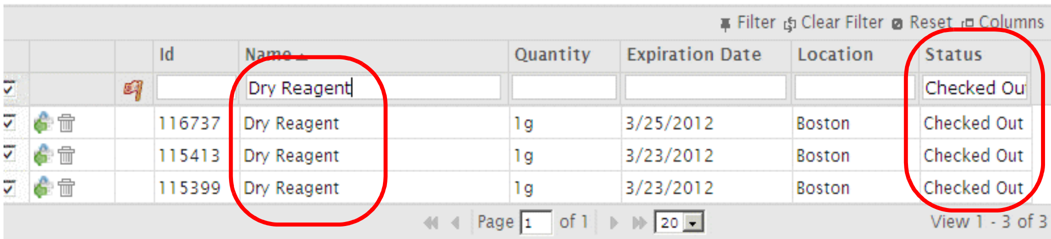
You can enter one or more filtering queries to filter the items in the grid. This is useful when you want to perform group workflow actions on a selected subset of items in the grid.

Click the **Filter** button in the upper right corner of the grid and click the appropriate filter query text box below. A drop-down list displays the types of instances in the corresponding column. Select an item from the list or start typing your query in the text box. Press **Enter** after each entry. The filtering query text boxes are displayed for any grid in which filtering has been applied



Applying Filters to the Grid

For example, the following figure shows the grid filtered by Dry Reagents whose status is “Checked Out.”



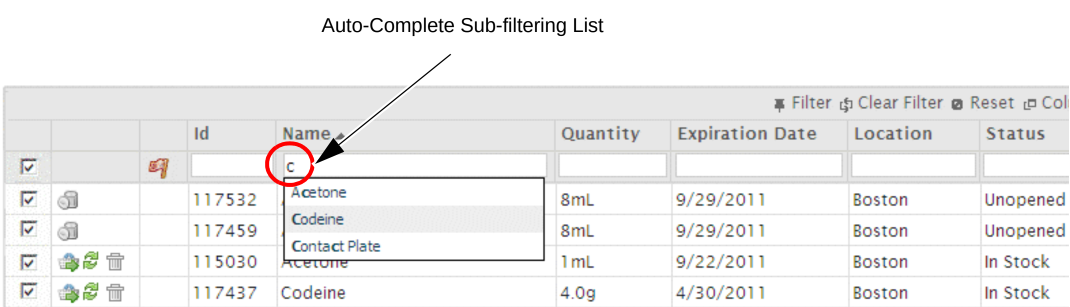
Filtering Result

The filtered results will encompass all of the relevant data in the data set. For example, if there are only three consumables relevant to a particular query on one page, but additional relevant consumables on a different page, the query will return as many consumables as available that will fit within the number of items displayed on the page. Adjust the number in the Row Counter control to view the additional relevant items.

“Auto-Complete” sub-filtering

The filtering text boxes support an auto-complete functionality. This allows you to select or enter a query on which to filter the grid. Click the **Filter** button above the column headings and put the cursor’s focus in a text box (you can also tab into the field) and start typing your query.

The auto-complete list displays the entire data set for that particular grid, not just the current page. As you start typing in the text box, the list is further filtered to show only those entries that match your search query.



“Auto-Complete” Sub-filtering List

The auto-complete sub-filtering function works a bit differently on the “Status” column in the Administration grids listed below. When you filter on “Active” entities, only the active items will be returned, as opposed to both active and inactive.

BIOVIA LIMS grids:

- Users
- User Roles
- User Groups
- Sites
- Location Types
- Entity Types

Inventory grids:

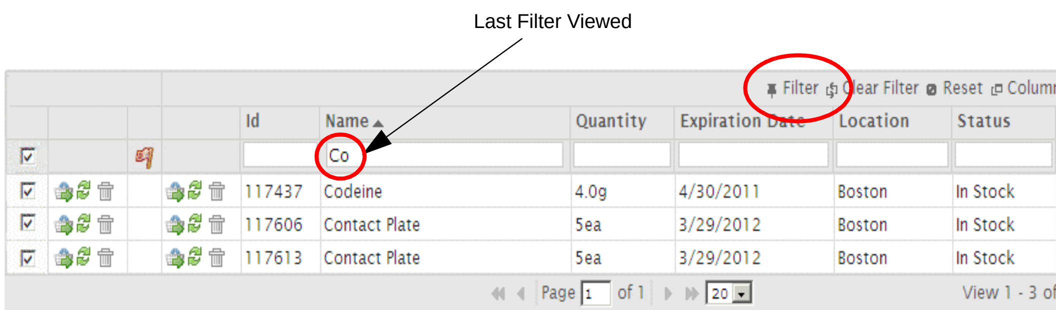
- Consumable Types
- Consumable Templates
- Measuring Scales

Environmental Monitoring grids:

- Sampling Plans
- Sample Types

Last filter viewed

The “Last Filter Viewed” function allows you to view the grid with the same filter parameters that were last used. Note that these filters are not immediately visible—you must select the **Filter** button above the column headings to view the text that was used to filter the grid.



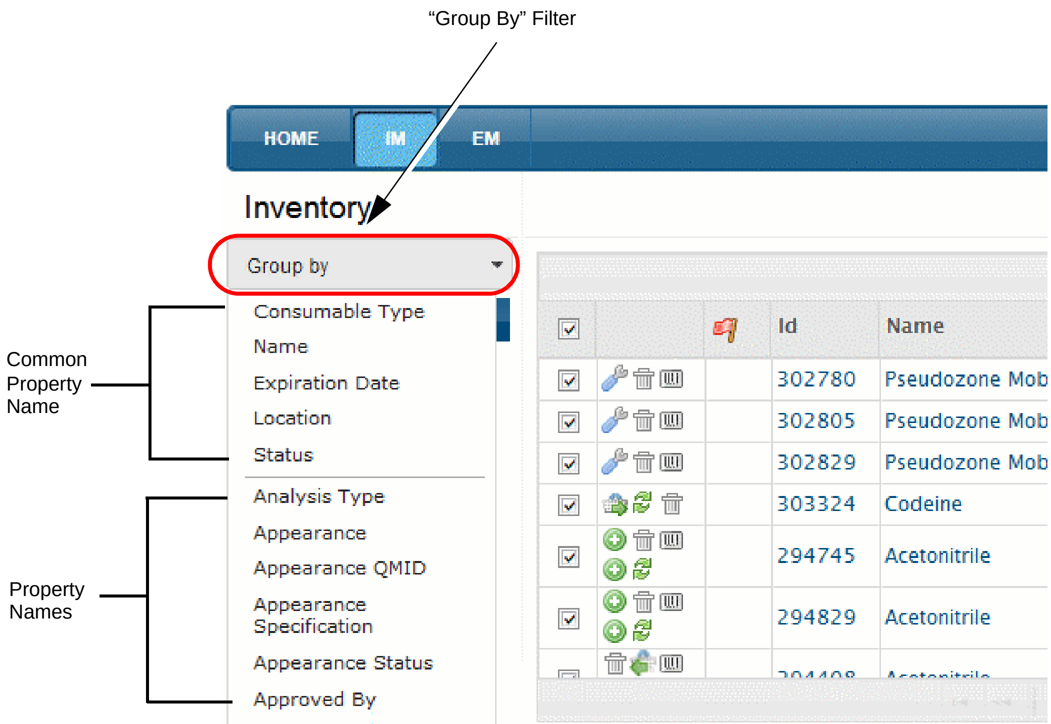
“Last Filter Viewed” Function

“Group By” filter

The **Group By** filter allows you to locate only those consumables that share a common property or status. When you click **Group By** in the left navigational panel:

- The properties common to all consumables are listed above the line. These include:
  - Consumable Type
  - Consumable Name
  - Expiration Date
  - Location
  - Status
- Any property that exists for a consumable is displayed below the line.

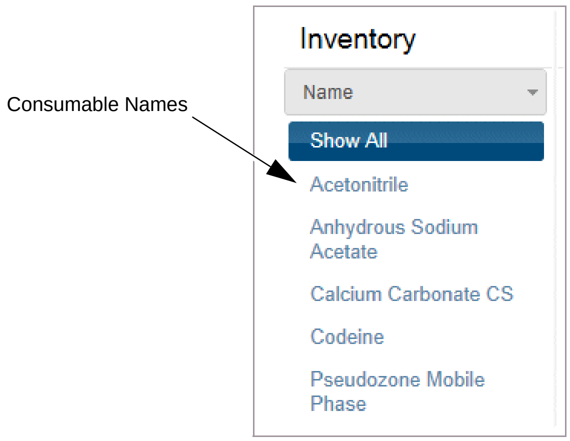
The Group By filter is especially useful when creating saved views. Refer to *Saved Views—Creating Customized Views of the Grid* on page 2-16.



Grouping Consumables by Selected Properties

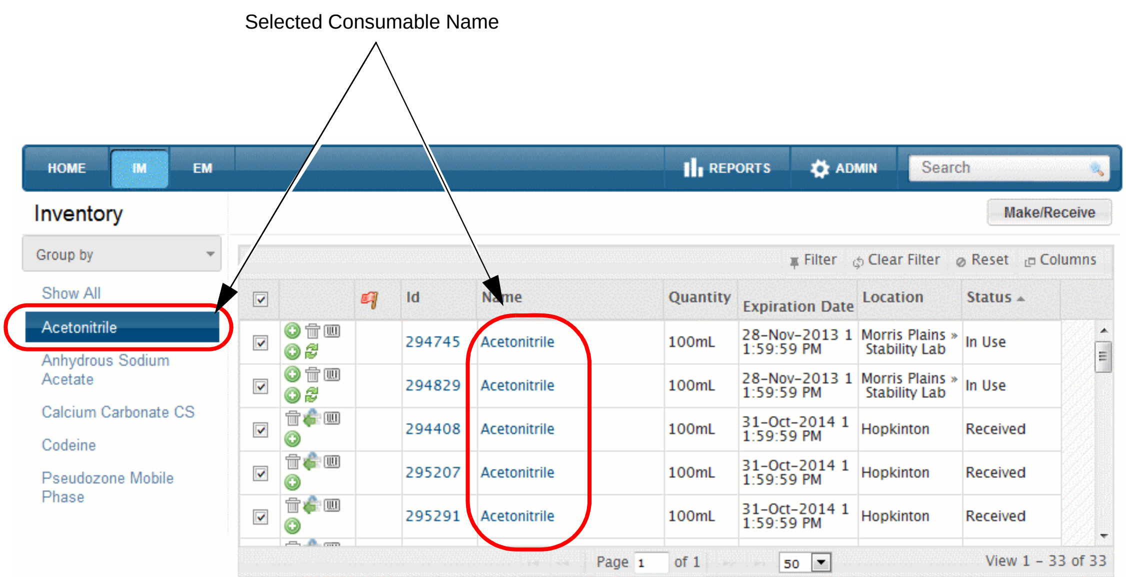
When you select a common property, the list below displays all of the unique values of that property contained in the current view of the grid. For example, if you grouped the consumables by "Name," the list below displays all of the consumable names that exist in the current view of the grid.

If a particular name is defined in the system, but none of the consumables in the current view contain that name, that name is not displayed in the list.



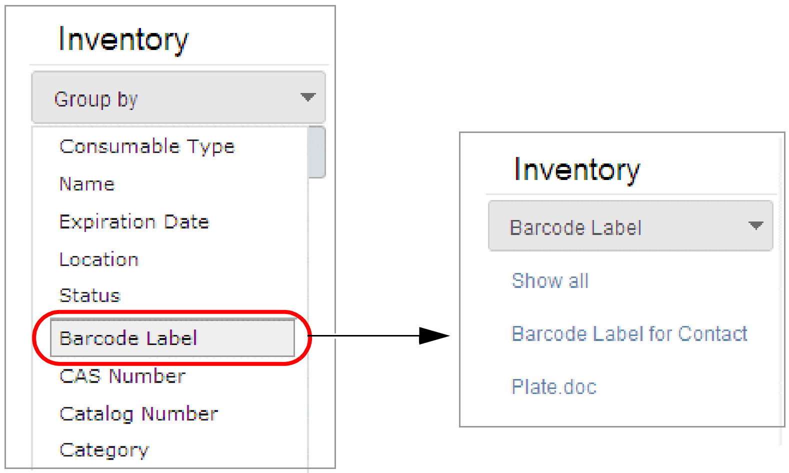
Filtering on Consumable Names

Select a value on which to filter the grid. For example, if you grouped by "Name" and selected "Acetonitrile," only the those consumables are displayed in the grid.



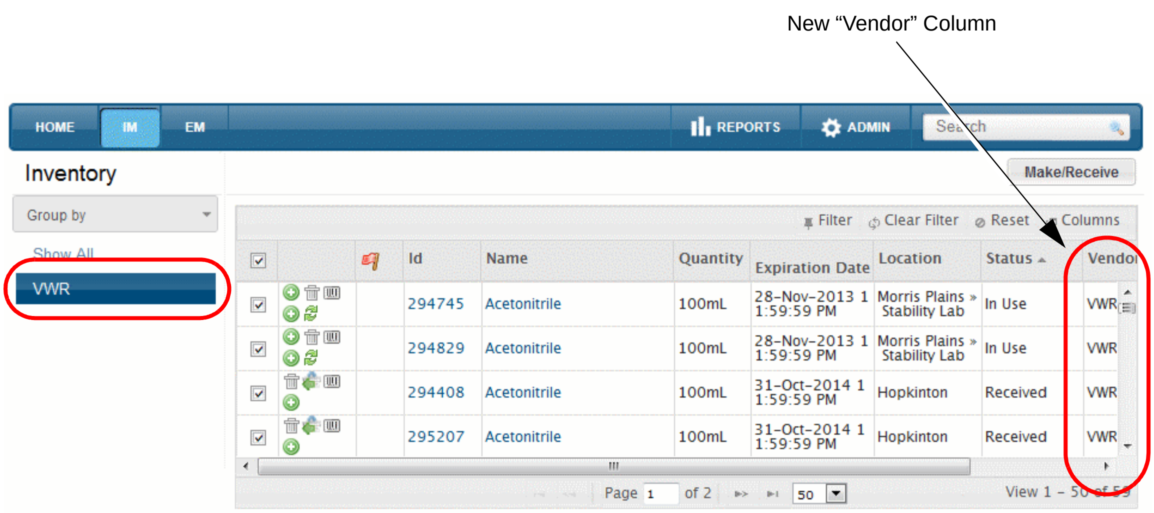
Grouping Consumables by Name

When you group by a unique property, the list below displays all of the values of that property contained in the current view of the consumables. For example, if you grouped the consumables by "Barcode Label," the list below will display all of the barcode labels that exist in the current view of the grid.



Grouping Consumables by Unique Property

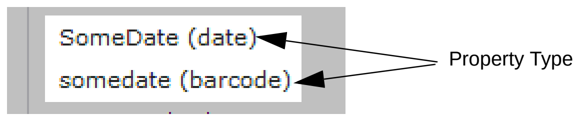
When you select a property value, an additional column named for that property is added to the grid, and the consumables are further filtered on the selected value. For example, if you filtered on the vendor "VWR," the grid adds a corresponding column and the view is filtered to show only those consumables that are associated with the selected vendor.



Filtering Consumables by the "Vendor" Property

Notes on the “Group By” filter:

- If the consumables in the grid contain unique properties that have the same name but are based on a different property type, the property type is appended to the name.



Different Property Types with the Same Name

- If two unique properties share the same name and have the same value but are based on a different property type, the consumables are filtered first by the property name and then by the property value, even though their property types are different.

  For example, for two properties that have the same name “Vendor” and the same value “ABC Corporation,” but are based on a different property type (for example, Text and Text Multi-line), the consumables are grouped by “Vendor” and then by "ABC Corporation" even though their property types are different.

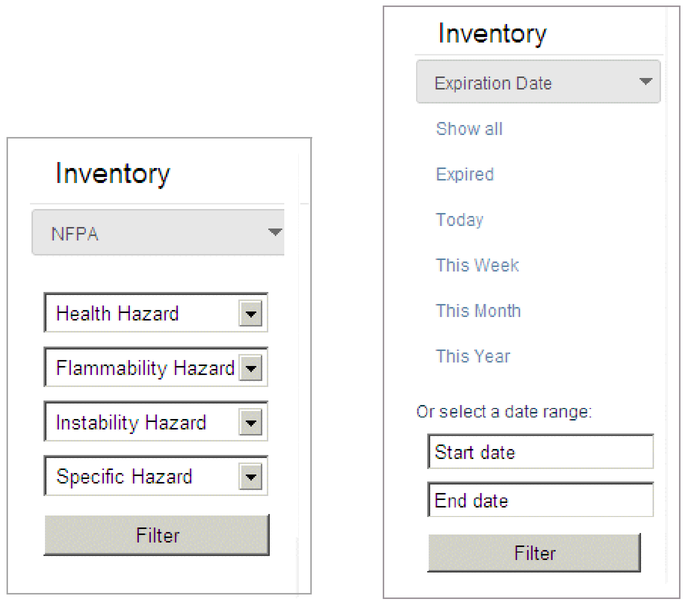
  Note: Property names are case-insensitive, therefore "Vendor" and "vendor" are considered to be the same value.

Special groupings

The system provides two special types of groupings that apply to NFPA Labels and Date properties:

- **NFPA Label**—For a property of type NFPA Label, a drop-down selection list allows you to choose the categories to match your query. Each selection refines the query rather than eliminates it, so if you select a Health Hazard of 4, all items with a NFPA label for health hazard of 4 are returned, regardless of the other selected criteria.
- **Date**—For a property of type Date (for example, expiration dates, open expiration, dates in general), you can filter the grid by predefined queries—expired consumables, today’s date, the current week/month/year, or a selected range of dates.
  - **Today**—Displays any item whose date property value is the current date.
  - **This Week**—Displays any item whose date property value is within the range of current date to current date +7.
  - **This Month**—Displays any item whose date property value is within the range of current date to current date +30.
  - **This Year**—Displays any item whose date property value is within the current year.

Note: The "Expired" link is not displayed unless you select a property of type Expiration Date.



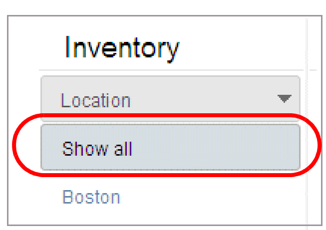
Grouping by NFPA Label and Date Properties

Last group viewed

When the grid is filtered by groups, the last page viewed is the view that persists. This applies specifically to grids with “Group By” items, which can easily be navigated but can be difficult to retrace once you leave the page. For this reason, when you click **Show All Consumables** in a consumable’s *View* page, you will return to the last viewed grid page.

Resetting a grouped view

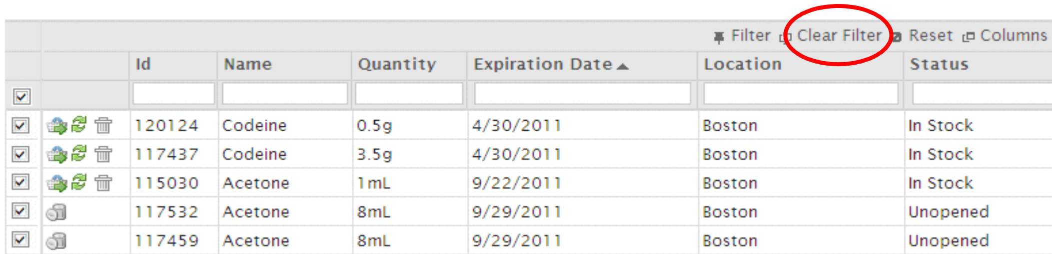
To reset the grid and removed the Group By filter, click **Show all** in the left navigation panel.



Resetting the Group By Filter

Clearing all filters

To clear the applied filtering, click **Clear Filter** above the column headings in the grid. The grid reloads and displays the original unfiltered list of consumables.



Clearing the Applied Filtering

Saving your user preferences in the grid

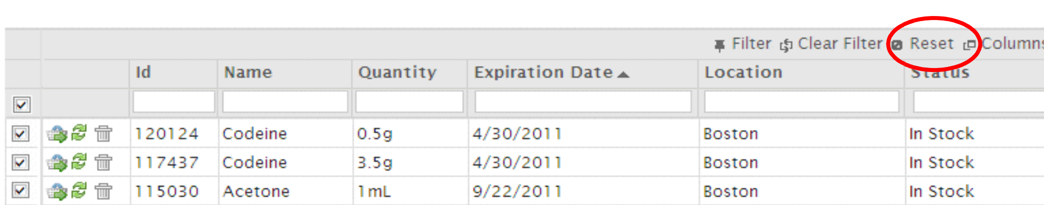
The changes you make to the default grid view are saved as part of your user preferences and remain in effect until the next time you return to that page. Your user preferences are persistent until you reset the grid back to its default view. These include:

- Number of items shown on the page
- Reordered columns
- Hidden columns
- Sorted columns
- Resized column widths
- The page in which the changes were made

For grids that have been filtered by groups, the grid is saved per value. For example, if a particular grouping is based on a Consumable Type and there are two unique Consumable Types A and B, when you click on A or B, the grid will render two different layouts based on your user preferences.

Resetting the grid to its default view

To reset the grid back to its original default view, click the **Reset** button in the upper right corner of the grid. This will remove all filtering and column reordering.



Resetting Grid to Original View

Saved Views—Creating Customized Views of the Grid

You can customize the grid view of consumables. You can then customize the grid and save the view so that it is persistent each time you access that page.

You can configure a saved view to prompt you for specific values on which to filter the view. For example, you may want to filter the grid on a particular status. You can access any number of saved views to allow you to view only that data that is relevant to the task you are currently performing.

The system supports two types of saved views:

- **Role-based views**—These are views created by administrators and cannot be deleted by the general users. A role-based view is displayed to all members of that User Role. You must have “Can Administer Saved Views” eligibility in order to save a view for a User Role.
- **User-based views—**These are views created by general users and only they have access to them. Users can add and delete their own user-based views as necessary.

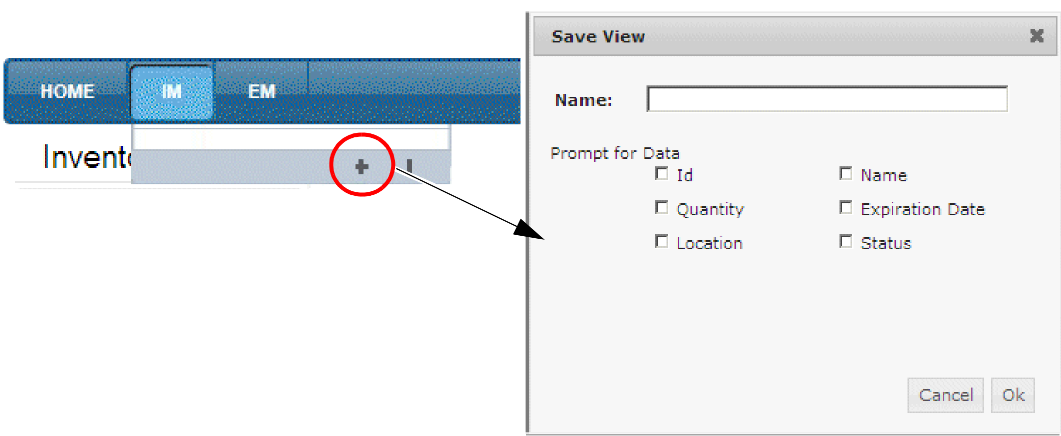
Creating a saved view

To create a saved view:

1 Click the **IM** tab on the main menu bar to open the *Inventory* home page.

2 Customize the view of the grid using the filtering, grouping, and column options.

3 Place your cursor on the **IM** tab in the main menu bar and click the **+** icon.

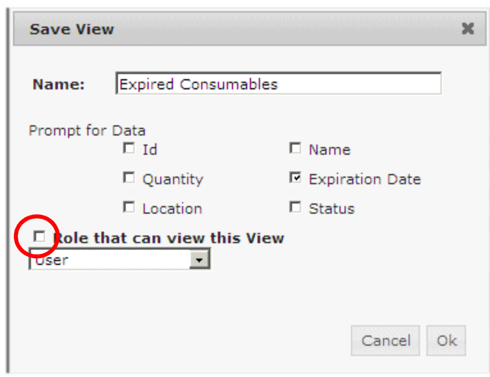


Creating a Saved View

4 In the *Save View* dialog box, enter a name for this view. The name does not have to be unique.

5 In the "Prompt for Data" area, the name of each column in the current view of the grid is preceded by a check box. To allow users to further filter the grid on specific values in the columns when they access this view, click the appropriate check boxes.

6 If you have eligibility to limit this view to members of a specific User Role, click the **Role that can view this View** check box and select the name of that Role. In the following example, only the users who belong to the "User" role will be able to access this view of expired consumables in the system.



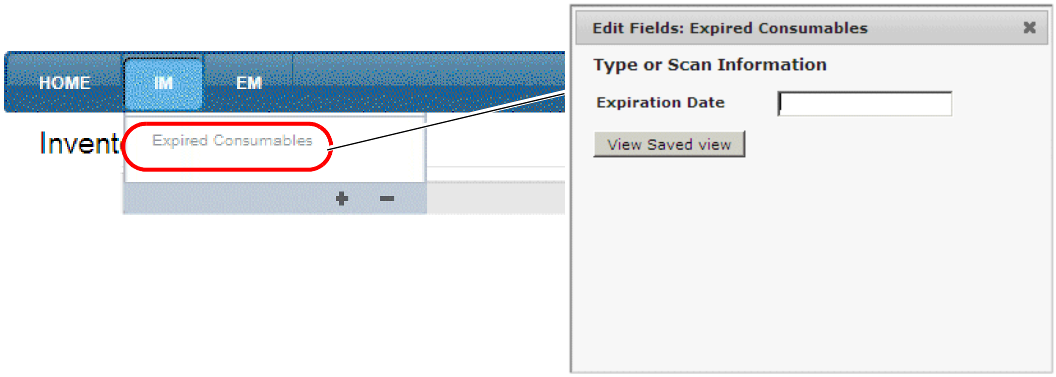
Creating a Saved View for a User Role

7 Click **OK** when you are done, then click **OK** in the confirmation dialog box. The new saved view is displayed in the Saved Views menu.

Accessing a saved view

To access a saved view, place your cursor over the **IM** tab in the main menu bar and select the name of a view.

- If you configured the view to prompt for a value, a dialog box opens. Enter the value(s) on which you want to filter the view (for example, expiration date) and click **View Saved View**. The grid will filter the view based on your current input.
- If you did not configure the view with a prompt, the dialog box is not displayed and the grid immediately loads the saved view.



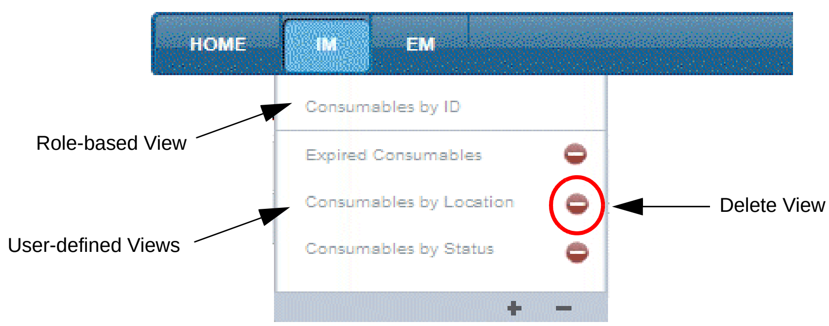
Accessing a Saved View that Prompts for Input

Editing a saved view

You cannot directly edit a saved view. Instead, make your changes in that view and then save it as a new view. You can then delete the previous version of the view.

Deleting a saved view

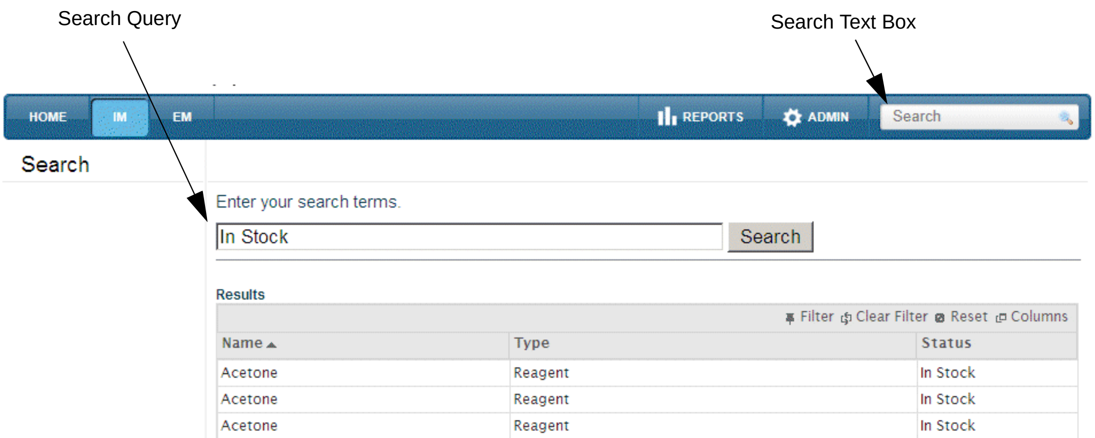
Click the minus (**-**) icon under the Saved Views menu. Click the delete icon for the view that you want to delete. Note that only administrators can delete a Role-based View.



Deleting Saved Views

How the Search Function Works

The search function allows you to search for consumables in the IM module. Your search criteria can be based on a specific ID or one or more properties. The search results display only that data that you have eligibility to view. To perform a search, enter your search query in the Search text box and click **Enter**.



Example—Searching for Checked Out Consumables

This is how the search function works:

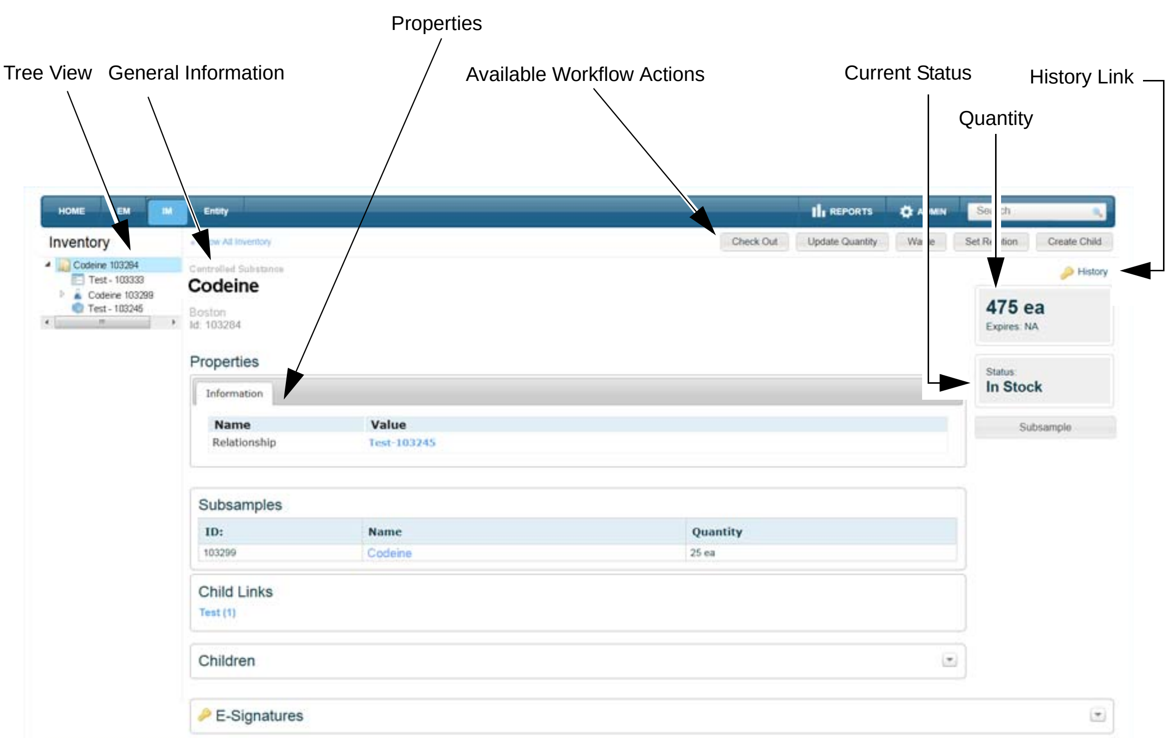
- Searches are not case-sensitive.
- Searches are Site-specific. You can only search within the Site that you are currently logged into.
- Searches are not module-specific. If you perform a search for a consumable in the IM module, the results will include entity instances in the BIOVIA LIMS module as well as samples in the EM module.
- The search query can consist of a whole word (for example, Approved) or a partial word if you add the wildcard characters (* or %) as the last character in the query (for example, App*).
- You cannot enter a wildcard character as the first character in the query.
- You cannot use a single wildcard character without at least one other character.
- A single character with a wildcard character does not work on the status column. The search criteria will only be applied to the other columns.

- If you use two words in one query, they must be enclosed in quotes. Without the quotes, a separate search is performed on each word and the results are merged. For example, “Inspection Lot” will return only those records that contain the words “Inspection Lot.” Without the quotes, the search returns all records that contain the word “Inspection” and all of the records that contain the word “Lot.”
- Boolean expressions are supported for advance searching capability—for example, AND, OR, NOT. Note that the Boolean expressions must be entered in uppercase characters.
- You can search on a date based on any format that can be parsed in your native language (for example, 3/20/2013 or 3/20/13)

Viewing Details of a Consumable

To view the details of a consumable:

1. Click the **IM** tab in the main menu bar.
2. In the *Inventory* home page, click the name of the consumable that you want to view. The consumable’s *View* page is displayed.



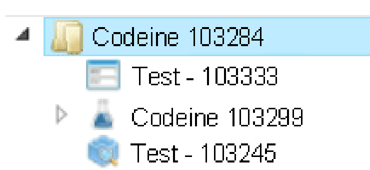
Consumable’s “View” Page

The details of the consumable's *View* page are described below:

- **Tree View** - An expandable tree view of the selected consumable and its related entities is displayed in the left navigation panel. This allows you to quickly view all of the child instances, related entities, and subsamples of the selected consumable. Refer to *About the Tree View* on page 2-21.
- **General Information**—The details of the consumable are shown in the upper left corner of the page (name, location, system-generated ID, and description). Note that if the consumable has been created through subsampling, a link is displayed that identifies its parent consumable.
- **Properties**—The consumable's properties and their collected values (if any) are shown in the *Information* tab as well as any other tabs that might be displayed. Any property that is related to the property of another Entity Instance is a hyperlink to its own *View* page. A property that is based on a LInk property type will display a link to the specified URL, for example, an MSDS page.
- **Workflow Actions**—The command buttons under the main menu bar represent workflow actions that you can perform on the consumable. These are based on the current state (status) in which the consumable resides.
- **Quantity/Status**—The current quantity and status are displayed below the History link (for example, "In Stock"). In addition, a **Subsample** link allows you to create aliquot samples from this consumable.
- **History** link—Displays the audit trails and the history of revisions for this consumable. Refer to *Viewing audit trails for a consumable* on page 2-25.

About the Tree View

When you select a consumable in the Inventory home page, the consumable's *View* page is displayed. An expandable tree view of the selected consumable and its related entities is displayed in the left navigation panel, as shown in the example below.

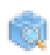


Expanded Tree View for Consumables

The icons in the Tree View represent the following types of entities:

Top-Level Folder—Displays the name and ID of the current (parent) consumable. Click the arrow preceding the folder icon to expand and close the tree.

Child Instance—Displays the name and ID of the Entity Instance created by the workflow of the parent consumable. Click the name to load the *View* page of the child instance.

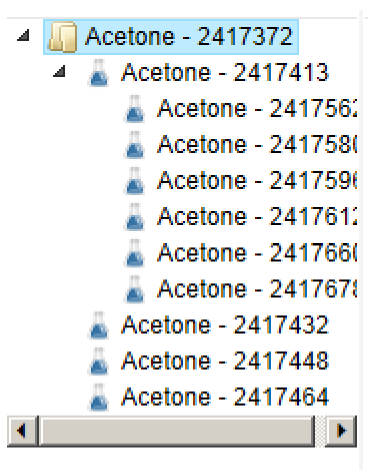


Related Entities—Displays the value of the Entity Instance that is related to the parent consumable through a “Relationship” property type. Click the name to load the *View* page of the related instance.

Subsample—Displays the name and ID of the aliquot sample that was created from subsampling the parent consumable.

Notes on the Tree View:

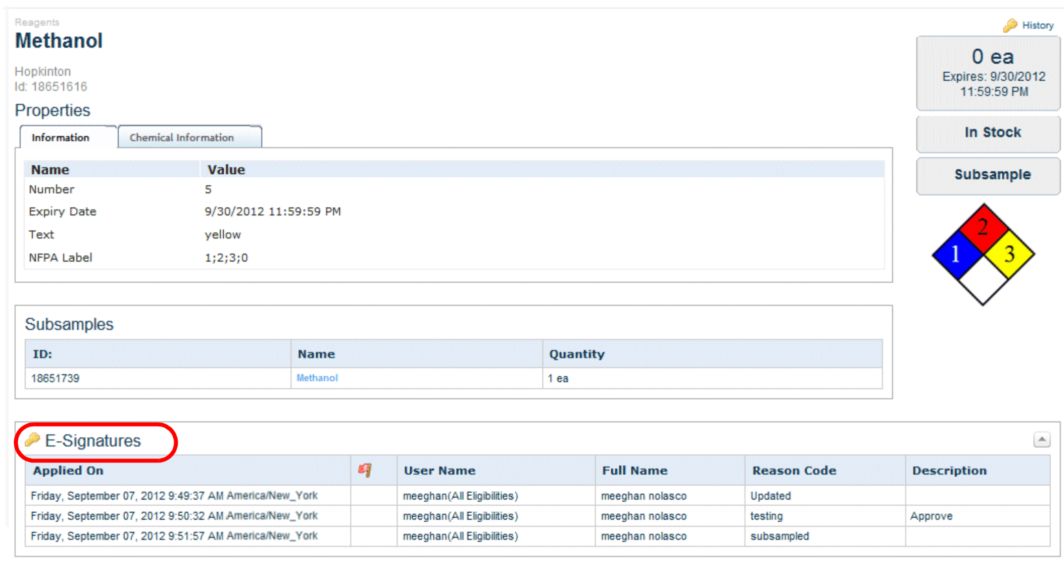
- A scroll bar is displayed when there are node names that are wider than the left navigation panel.



- When you navigate within the Tree View (that is, you click any of the child nodes in the left navigation panel), the original parent entity stays at the top of the tree.
- When you click the link for a child instance, a related entity, or a subsample from within an entity’s *View* page, the system loads the appropriate page. Since the new entity is now considered the parent, its name is displayed at the top of the tree.

Viewing consumables containing e-Signatures

A consumable that has one or more electronic signatures associated with it includes an "E-Signature" section in its View page. When you expand this section, the table displays the pertinent information about the signature—the revision number of the consumable when it was signed, the date, user name, Reason Code, and description of the signature.



Consumable with Electronic Signatures

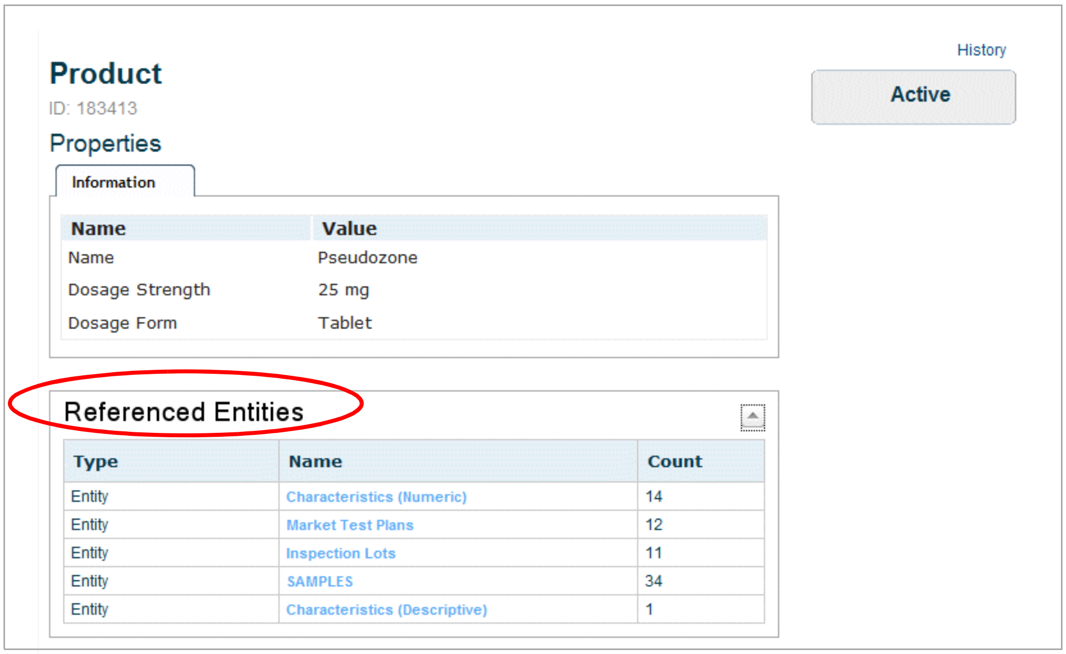
Viewing Entity Instances with referenced entities

Some consumables are referenced by other Entity Instances in the system. In this case, the related instances are displayed under the parent consumable in the left navigation panel's Tree View. In addition, the *View* page of the parent consumable includes a section called "Referenced Entities." When you expand this section, the table lists all of the other instances in the system that are related to the parent consumable. This is accomplished through a "Relationship" property in the parent consumable that points to another Entity Instance in the system.

The columns in the Referenced Entities table are described below:

- **Type—**Lists the Entity Type on which the related instances are based.
- **Name** —Lists the category to which the parent Entity Type belongs. The name is a hyperlink to the grid view of the related instances.

- **Count—**Displays the number of Entity Instances of the corresponding type currently in the system.

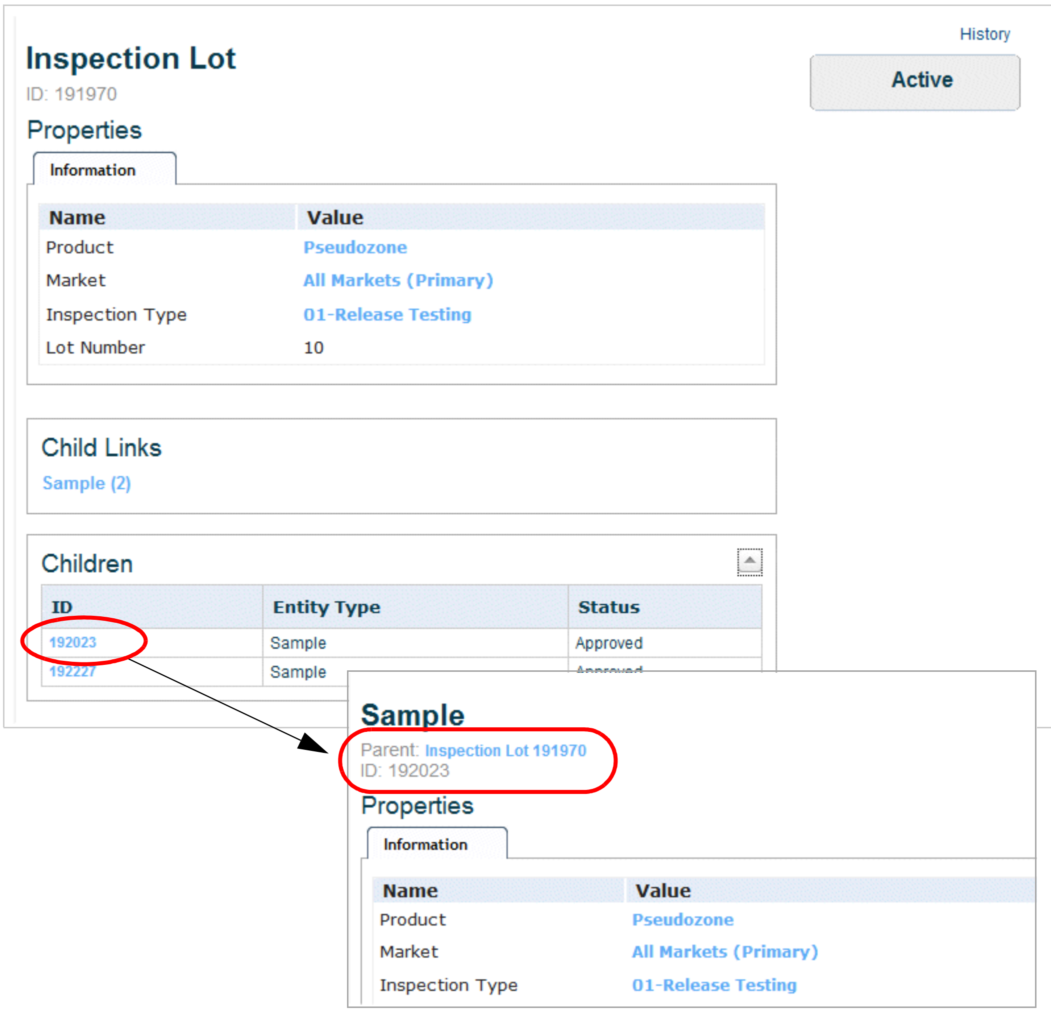


Entity Instance with Referenced Entities

Viewing consumables with child instances

Some consumables as well as other entities within the LIMS modules (for example, Entity Instances or samples) may be configured to create other types of instances during workflow execution. This is accomplished through the "Create Entity" workflow activity. The child instances are displayed in the Tree View of the parent consumable. In addition, the *View* page for the parent entity will include sections called "Child Links" and "Children."

- **Child Links**—Lists the related Entity Type and the number of its instances currently in the system. The Child Links are a hyperlink to the grid view of the related Entity Instances.
- **Children**—Lists the individual Entity Instances that were created from this entity's workflow. The ID is a hyperlink to the child's *View* page.



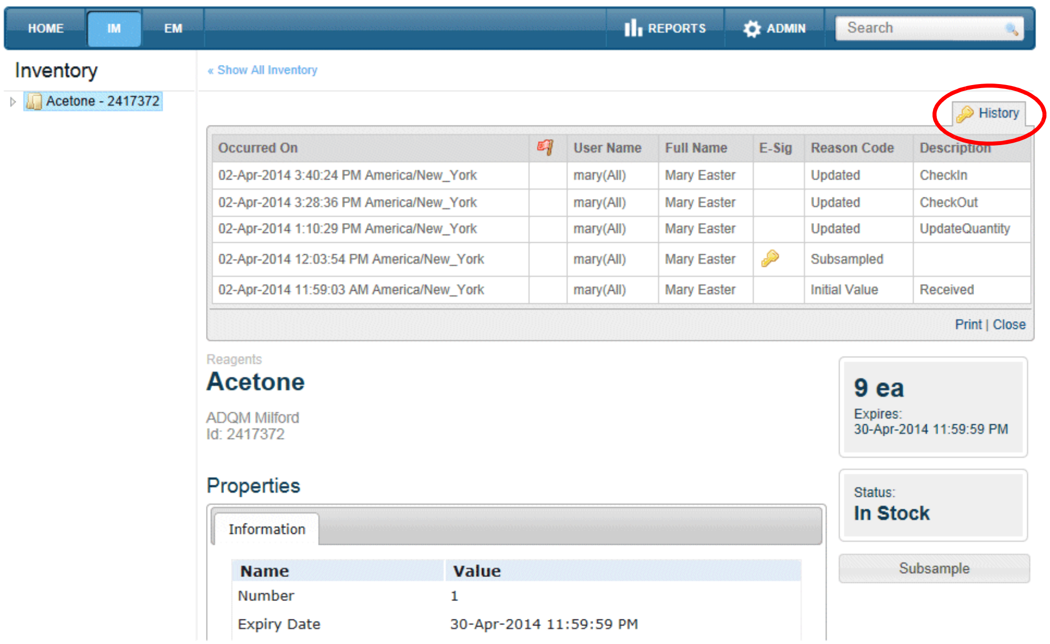
Parent Entity with Child Links

Viewing audit trails for a consumable

To view the audit trails for a consumable:

1. Click the **IM** tab in the main menu bar.
2. In the *Inventory* home page, click the name of the consumable whose history you want to view.

3 In the consumable's *View* page, click History to expand the history table. The icon preceding the History link indicates there is one or more electronic signatures associated with the revisions. In this case, you can view details of the signatures in the "E-Signature" section below the details. Refer to *Viewing consumables containing e-Signatures* on page 2-23.



Viewing Audit Trails for Workflow Actions Performed on a Consumable

The History table for a consumable is shown below.

History

Occurred On		User Name	Full Name	E-Sig	Reason Code	Description
02-Apr-2014 3:40:24 PM America/New_York		mary(All)	Mary Easter		Updated	CheckIn
02-Apr-2014 3:28:36 PM America/New_York		mary(All)	Mary Easter		Updated	CheckOut
02-Apr-2014 1:10:29 PM America/New_York		mary(All)	Mary Easter		Updated	UpdateQuantity
02-Apr-2014 12:03:54 PM America/New_York		mary(All)	Mary Easter		Subsampled	
02-Apr-2014 11:59:03 AM America/New_York		mary(All)	Mary Easter		Initial Value	Received

Print | Close

History Table for Consumables

The columns in the History table are described below:

- **Occurred On—**Displays the recorded timestamp of when the action occurred. Refer to *How the System Records Date/Time Values* on page 1-12.
-  A flag icon in this column indicates that a property value is out of limit (that is, it does not meet the assigned Limit Specifications). The number beside the flag indicates how many out-of-limit properties exist.
- **User Name—**Displays the user name of the user who made the change. The User Role to which that user belongs is shown in parenthesis—for example: Mary (Admin).
- **Full Name—**Displays the full name of the user who made the change.
- **E-Sig**—May contain one or two icons:

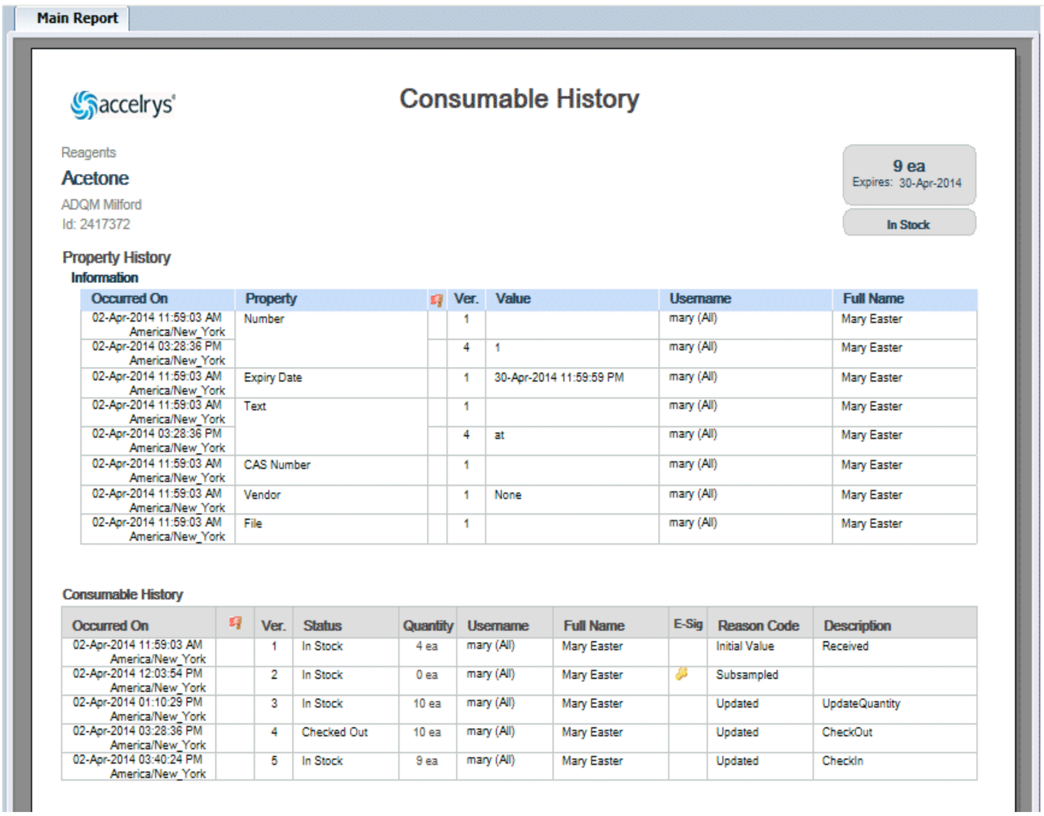
   Indicates an electronic signature has been applied directly by the user. This occurs anytime the user is prompted to enter his password anywhere in the system.

   Indicates that the Reason Code was applied automatically by the system. This applies only to specific signature types (that is, Attest, Review, Approve, Annotation).
- **Reason Code**—Displays the reason for the activity.
- **Description—**Displays the description that was entered by the user who made the change or that was automatically entered by the system during workflow execution.

  Note: The Description “Created or modified via automation” refers to a workflow action that was automatically executed as a result of a BIOVIA Pipeline Pilot workflow activity or through interaction with the BIOVIA Electronic Lab Notebook.

To generate a report of the History table, click **Print** in the lower right corner of the table. The report lists the complete history of changes made to the consumable’s properties as well as to the consumable itself.

Note: The time values in the report may differ from the values stored in the database by one second. This is the result of the translation that is performed on the serial value stored in the database by the Crystal Report Template.



Main Report

accelrys

Consumable History

Reagents

Acetone

ADQM Milford

Id: 2417372

9 ea

Expires: 30-Apr-2014

In Stock

Property History

Information

Occurred On	Property		Ver.	Value	Username	Full Name
02-Apr-2014 11:59:03 AM America/New_York	Number		1		mary (All)	Mary Easter
02-Apr-2014 03:28:36 PM America/New_York			4	1	mary (All)	Mary Easter
02-Apr-2014 11:59:03 AM America/New_York	Expiry Date		1	30-Apr-2014 11:59:59 PM	mary (All)	Mary Easter
02-Apr-2014 11:59:03 AM America/New_York	Text		1		mary (All)	Mary Easter
02-Apr-2014 03:28:36 PM America/New_York			4	at	mary (All)	Mary Easter
02-Apr-2014 11:59:03 AM America/New_York	CAS Number		1		mary (All)	Mary Easter
02-Apr-2014 11:59:03 AM America/New_York	Vendor		1	None	mary (All)	Mary Easter
02-Apr-2014 11:59:03 AM America/New_York	File		1		mary (All)	Mary Easter

Consumable History

Occurred On		Ver.	Status	Quantity	Username	Full Name	E-Sig	Reason Code	Description
02-Apr-2014 11:59:03 AM America/New_York		1	In Stock	4 ea	mary (All)	Mary Easter		Initial Value	Received
02-Apr-2014 12:03:54 PM America/New_York		2	In Stock	0 ea	mary (All)	Mary Easter		Subsampled	
02-Apr-2014 01:10:29 PM America/New_York		3	In Stock	10 ea	mary (All)	Mary Easter		Updated	UpdateQuantity
02-Apr-2014 03:28:36 PM America/New_York		4	Checked Out	10 ea	mary (All)	Mary Easter		Updated	CheckOut
02-Apr-2014 03:40:24 PM America/New_York		5	In Stock	9 ea	mary (All)	Mary Easter		Updated	CheckIn

Integrated Report of Consumable’s History

To close the History table, click **Close** in the lower right corner of the table.

What’s Next?

Chapter 3 explains how to execute a consumable’s workflow.

3

Executing the Workflow of a Consumable

What is a Workflow?

The life cycle of a consumable in BIOVIA Inventory is based on a series of “states” that describe the different stages in which that consumable can exist. The life cycle of a consumable starts when it is received into inventory and typically ends when the consumable has expired or is depleted. The sequential steps in the life cycle of a consumable are referred to as its *workflow*.

A workflow is comprised of the following three items:

- **Workflow States**

  A workflow *state* corresponds to the current state of the consumable. For example, the “In Stock” state applies to a consumable that is currently in inventory. Note that the consumable can only be in one state at a time, and some states could be repeated (for example, Checked Out, In Stock).

- **Workflow Actions**

  A workflow *action* represents something you can do to a consumable in its current state. A workflow action is identified by a verb, such as “check in,” “check out,” or “approve.” For example, a consumable in the “In Stock” state typically contains three workflow actions—Check Out, Update Quantity, and Waste.

- **Workflow Activities**

  A workflow action is comprised of one or more activities. A workflow *activity* describes the things you can do when that action is performed on a consumable. For example, a workflow action “Approve” will typically have an “E-Signature” activity that will collect the electronic signature of the approved.

Some workflow activities will collect the value of a consumable's property. For example a "Set Property" activity can be configured to collect the value of the "Expiration Date" property for that consumable. Other activities can be used to trigger an event, such as initiating an BIOVIA LES procedure session to prepare a solution.

User Eligibilities for Executing Workflows

The global eligibilities "Can View Consumables" and "Can Process Consumables" determine whether you can view and process the workflows of consumables in the system. However, your system administrator can also place further access restrictions on specific workflow actions by limiting the actions to specified User Groups. This ensures that only the appropriate groups of users can perform those actions on a consumable. For example, only members of the "Lab Supervisors" group can approve the check out /check in of controlled substances.

Receiving Consumables into Inventory

This section explains how to:

- Receive one or more consumables of the same type (with or without labels) into inventory
- Receive one or more cases of consumables (with or without labels) into inventory

Receiving individual consumables

Eligible users can receive consumables into inventory—these can include individual consumables and multiple consumables of the same type. Most consumables will have properties that you will define at the time of receipt. These properties are based on the corresponding consumable template configured by your system administrator.

For consumables with a barcode, you can scan the barcode to automatically select the consumable template at the time of receipt. For consumables without a barcode, you can manually select the type of consumable that you are receiving and define its properties.

Some consumables have to be made before they can be used in the system—for example, a reagent or solution.

- **For sites running the BIOVIA LES**—A consumable can be made by running a work instruction in an BIOVIA LES procedure session. For a consumable that has to be prepared, you must first receive that consumable. Its workflow will contain an "Accelrys LES Procedure" action that triggers the creation of a procedure session in the BIOVIA LES Procedure Execution module. An analyst can then execute the procedure session for the purpose of making the consumable.

Once the consumable has been prepared, the information from the session is automatically sent back to IM when the analyst changes the status of the procedure session to “Complete” or another applicable status as specified in the “Accelrys LES Procedure” workflow action.

- **For sites without BIOVIA LES**—You can make the consumable manually and then add it to inventory. This type of consumable typically has an “Approve” workflow action that will not allow the use of the consumable until it has been approved.

To receive one or more consumables of the same type:

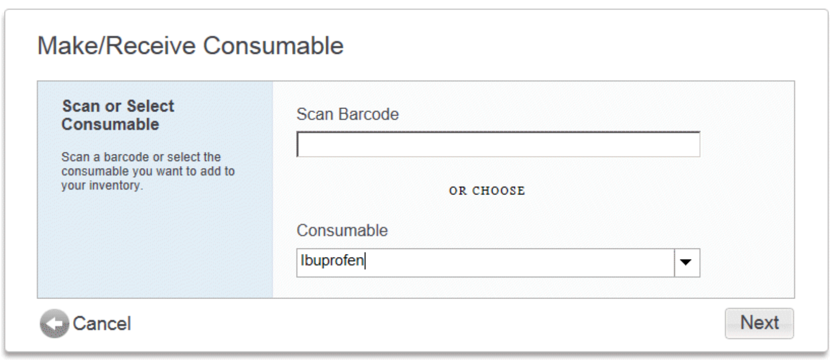
1 Click the **IM** tab in the main menu bar.

2 In the *Inventory* home page, click the **Make/Receive** button.

3 In the *Make/Receive Consumable - Step 1* page, do one of the following:

- Scan the barcode on the consumable. If the consumable has more than one barcode or if you are receiving multiple consumables of the same type, you only need to scan one barcode. You can also manually enter the numbers or text under the barcode in case the barcode itself is damaged or your barcode reader is not functioning properly.

- For consumables without a barcode, select the type of consumable you are receiving from the selection list, then click **Next**. The list contains all of the consumable templates that are currently active in the system.



Receiving Consumables - Step 1

4 In the *Make/Receive Consumable - Step 2* page:

a. Enter the number of units you are receiving.

b. Enter the quantity or volume per unit.

c. In the Location field, select your current location.

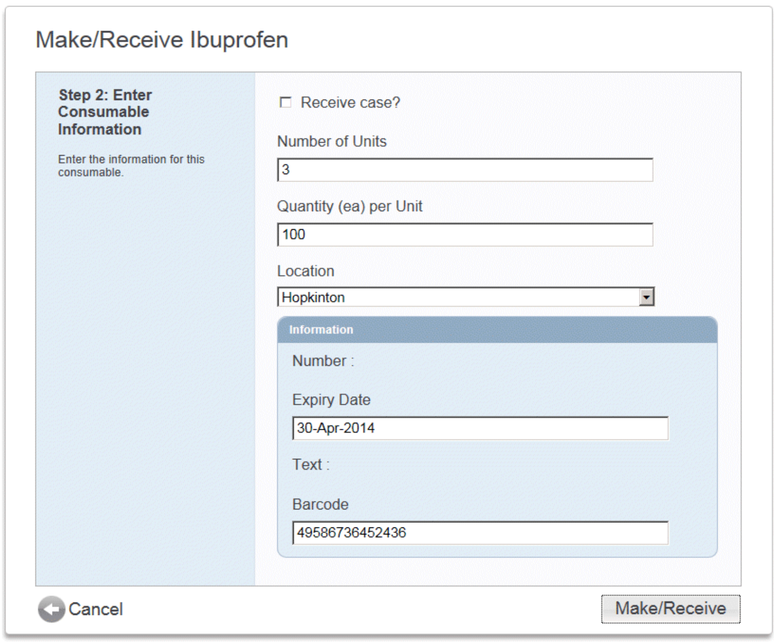
d. Configure the rest of the consumable's properties:

- Static properties may have been pre-defined by your system administrator in the corresponding Consumable Template. These properties will be displayed but you cannot edit them.

- Dynamic properties will either be blank or contain a default value that you can edit.

- Properties can be optional or required, as defined in the consumable's template. If the property is required, you must enter a value in order to receive it.

e. Click **Make/Receive**.

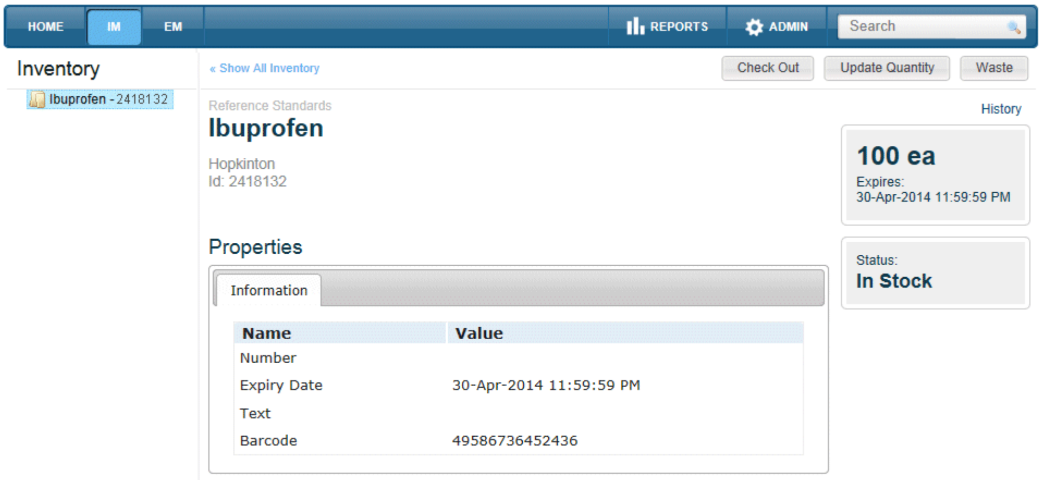


Receiving Consumables - Step 2

5 The next page that loads is based on whether you are receiving a single or multiple consumables and whether there are labels associated with them.

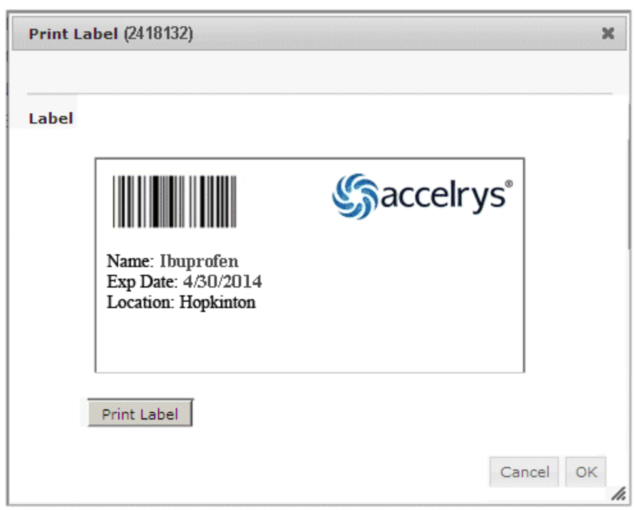
- **If receiving a single consumable:**

  The consumable's *View* page displays the information of the consumable that you just received. Its status is listed as "In Stock" and its available workflow actions are represented by the command buttons above the History link.



Receiving a Single Consumable

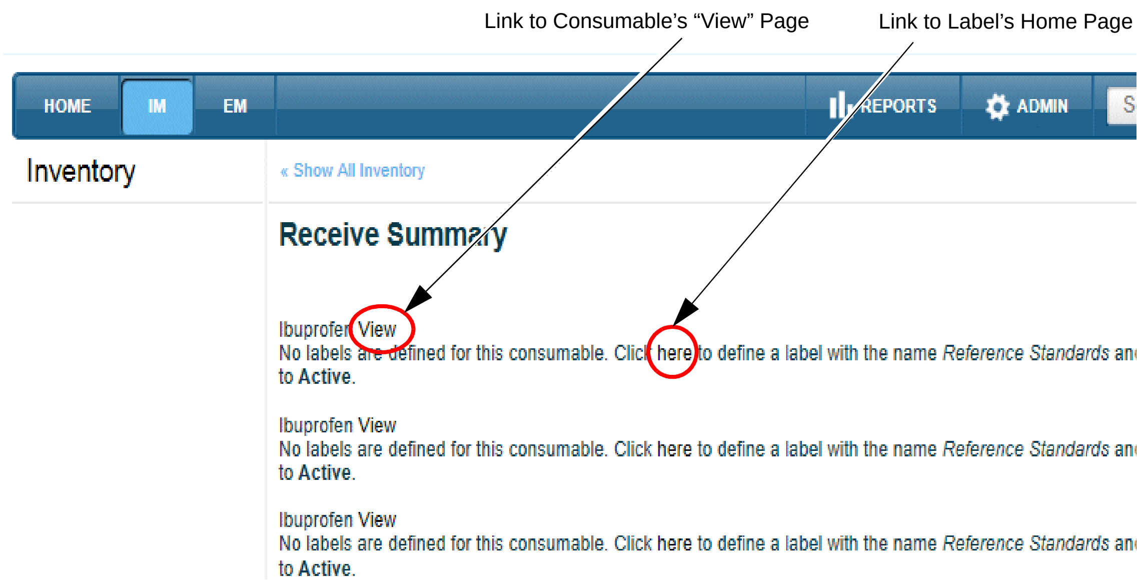
If the consumable has an associated label, click **Print Label**.



Printing Label for a Single Consumable

- **If receiving multiple consumables without associated labels:**

  The *Receive Summary* page displays the information of the consumables that you just received. For consumables that do not have an associated label or if the associated label is not active, a separate message appears for each of the individual consumables. The message contains a **View** link that displays that consumable's *View* page. It also contains a "Click here" link which allows eligible users to create a label for that consumable.



Receiving Multiple Consumables (without Labels)

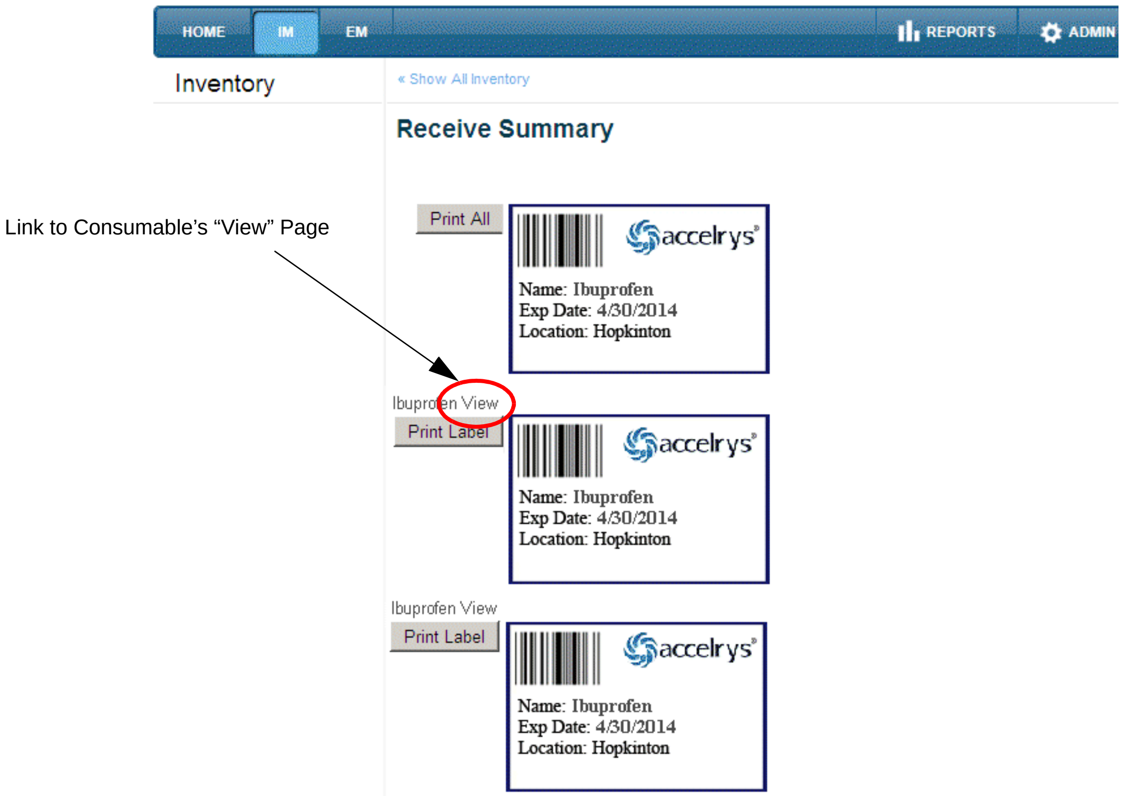
- **If receiving multiple consumables with associated labels:**

  The *Receive Summary* page displays a thumbnail graphic of the label for each consumable you have just received. The **View** link displays the consumable's *View* page.

  Click **Print All** to print one label for each of the consumables.

  Click **Print Label** below each label to print a label for the individual consumable.

  If a Reason Code is required, the *Reason Code Entry* dialog box is presented and an audit trail entry is added to the History table of each consumable.



Receiving Multiple Consumables (with Labels)

Receiving cases of consumables

In addition to individual consumables, you can receive cases of consumables into inventory. Most consumables will have properties that you will define at the time of receipt. These properties are based on the corresponding consumable template configured by your system administrator.

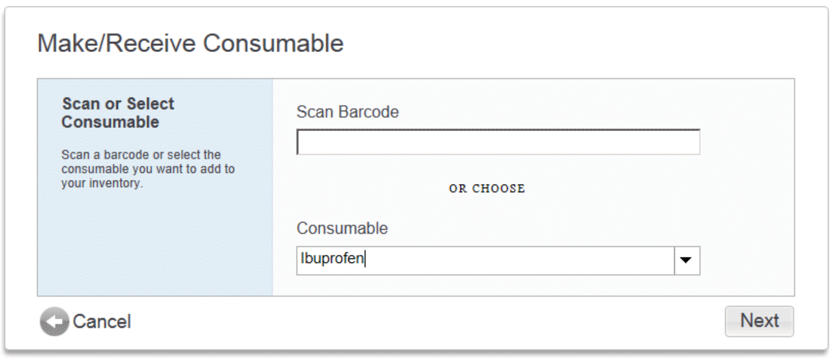
For cases with a barcode, you can scan the barcode to automatically select the consumable template at the time of receipt. For cases without a barcode, you can manually select the type of consumable that you are receiving and define its properties.

To receive one or more cases of consumables:

1. Click the **IM** tab in the main menu bar.
2. In the *Inventory* home page, click **Make/Receive**.

3 In the *Make/Receive Consumable - Step 1* page, do one of the following:

- Scan the barcode of each case you are receiving. If the case has more than one barcode or if you are receiving multiple cases of the same type, you only need to scan one barcode. You can also manually enter the numbers or text under the barcode in case the barcode itself is damaged or your barcode reader is not functioning properly.
- For cases without a barcode, select the type of consumable you are receiving from the selection list, then click **Next**. The list contains all of the consumable templates that are currently active in the system.



Receiving Consumables - Step 1

4 In the *Make/Receive Consumable - Step 2* page:

a. Click the **Receive Case** check box to enable it.

b. Enter the number of cases you are receiving.

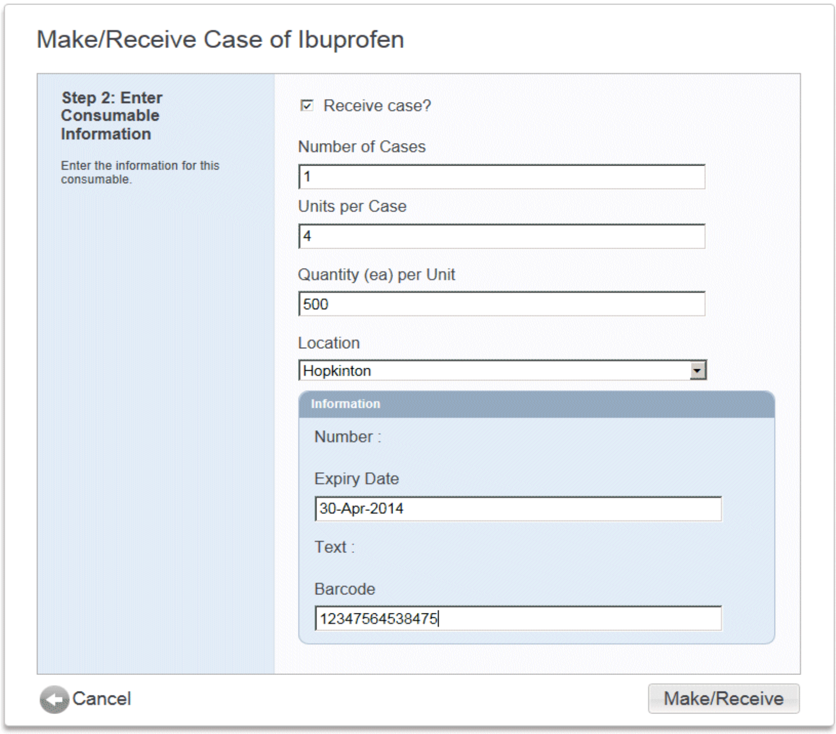
c. Enter the number of units per case.

d. Enter the quantity or volume per unit.

e. In the Location field, select your current location.

f. Configure the rest of the consumable's properties:

- Static properties may have been pre-defined by your system administrator in the corresponding consumable template. These properties will be displayed but you cannot edit them.
- Dynamic properties will either be blank or contain a default value that you can edit.
- Properties can be optional or required, as defined in the consumable's template. If the property is required, you must enter a value in order to receive it.

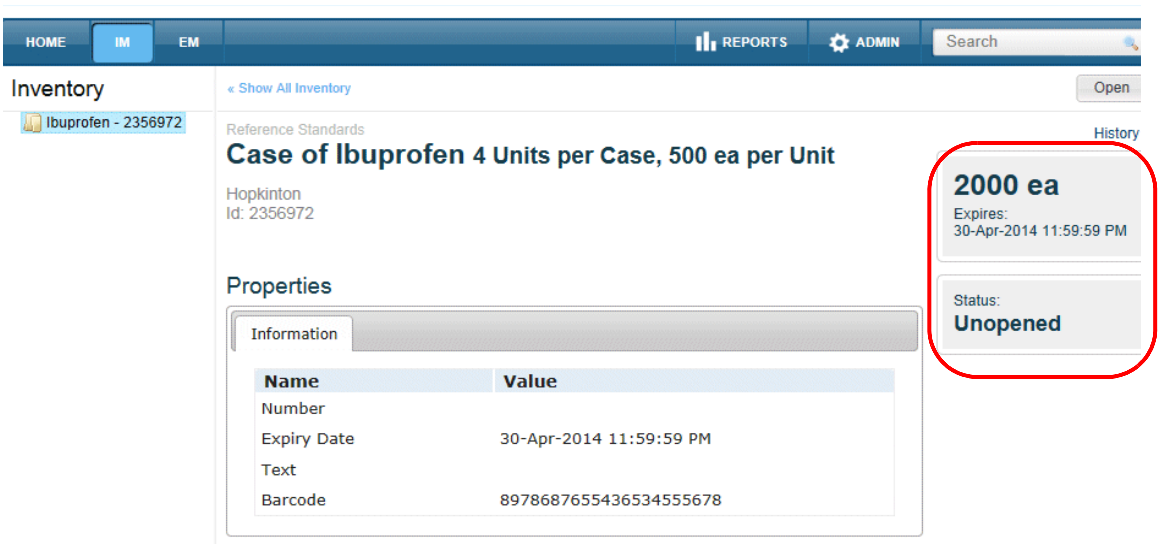


Receiving Consumables - Step 2

g. Click **Make/Receive**.

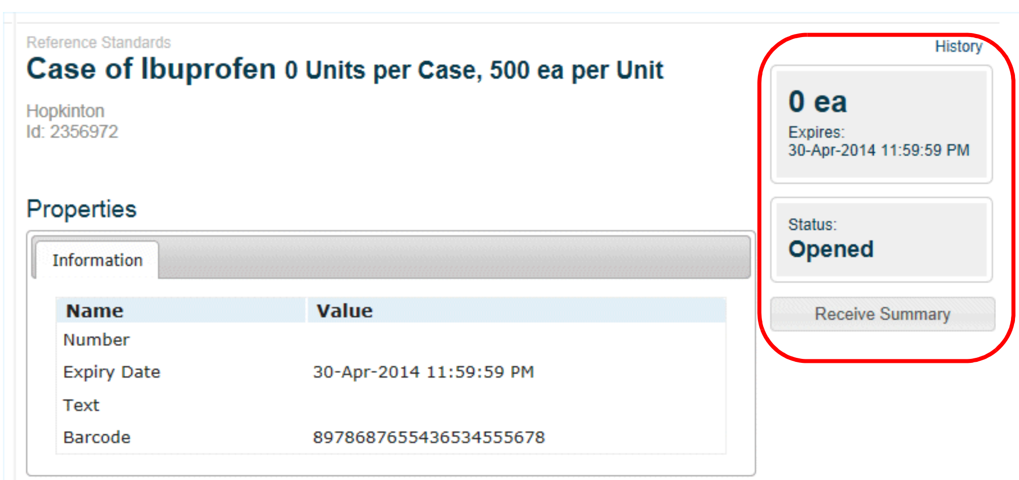
The next page that is displayed is based on whether you are receiving a single or multiple cases and whether there are labels associated with them.

- **If receiving a single case:**
  The consumable's *View* page displays the information of the consumable that you just received. The combined quantity for all of the units is displayed and its status is listed as "Unopened."



Receiving a Single Unopened Case

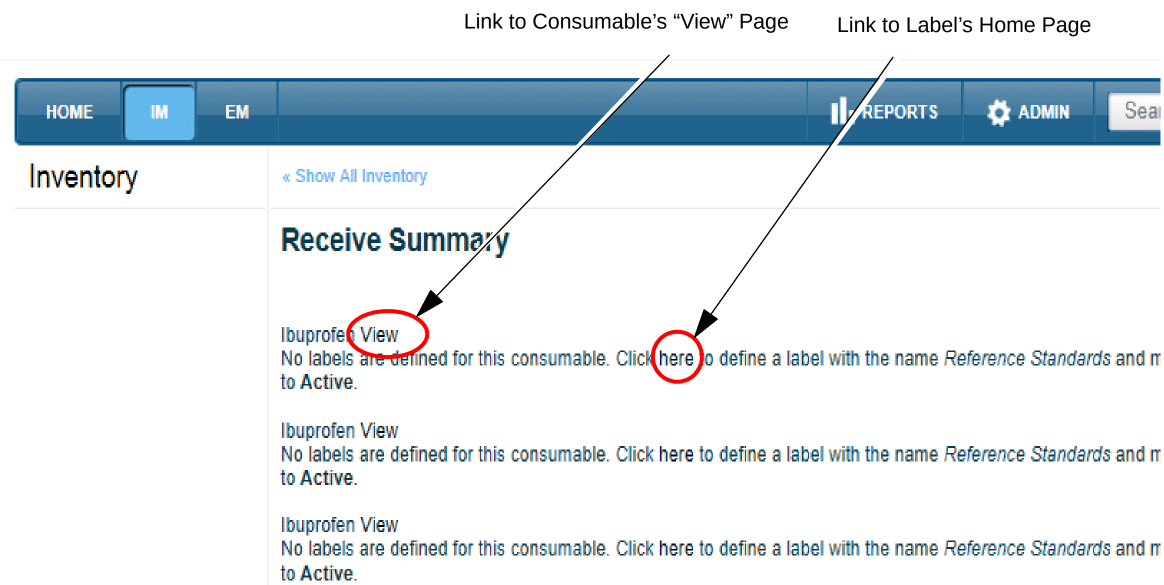
If you chose not to open the case at this time, you can open it at a later time. Refer to *Opening Unopened Cases in Inventory* on page 3-32. To open the case, click the **Open** button. The individual consumables in the case are entered into inventory. The quantity of the case is adjusted to “0” and its status is listed as “Opened.” Once the case is opened, click the **Summary** link below the quantity to display the *Receive Summary* page.



Opened Case

The *Receive Summary* page displays the information of the consumables that you just received.

For consumables that do not have an associated label or if the associated label is not active, a separate message appears for each of the individual consumables. The message contains a **View** link that displays that consumable's *View* page. It also contains a link which allows eligible users to create a label for that consumable.

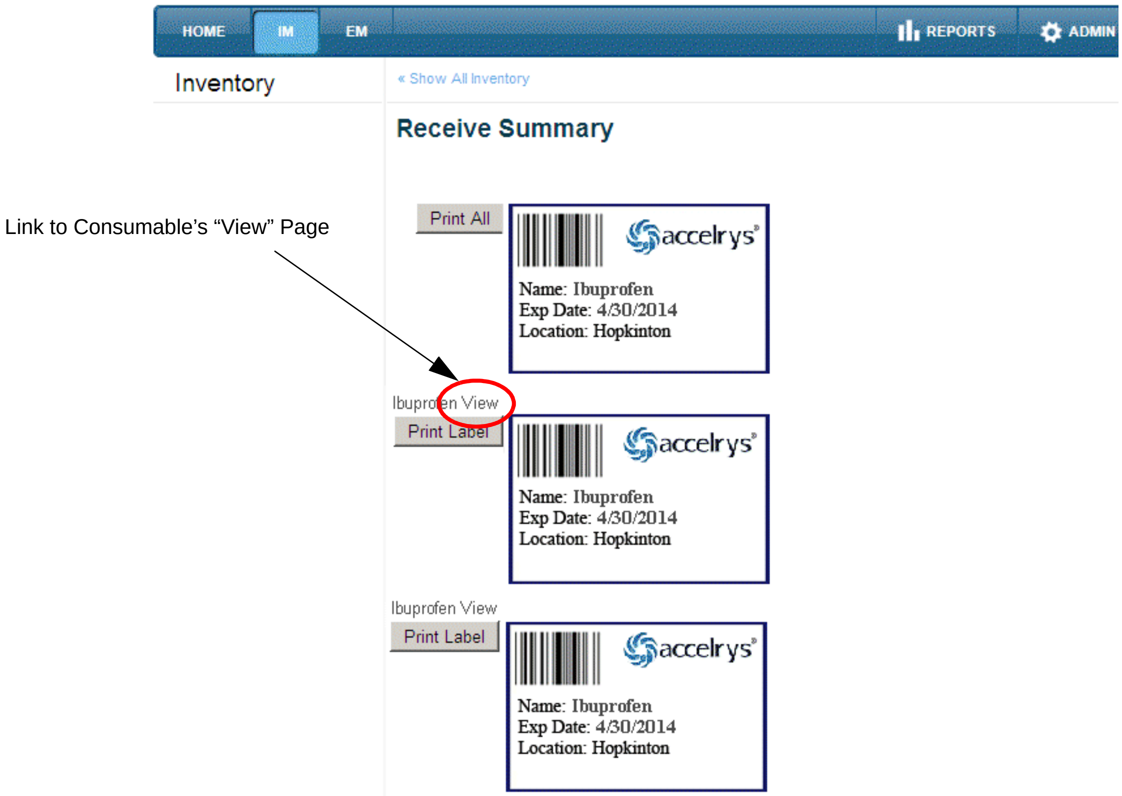


Receiving a Case (without Labels)

For consumables that have an associated label, a thumbnail graphic of the label is displayed for each consumable. The **View** link displays the consumable's *View* page.

- Click **Print All** to print one label for each of the consumables.
- Click **Print Label** below each label to print a label for the individual consumable.

If a Reason Code is required, the *Reason Code Entry* dialog box is presented and an audit trail entry is added to the History table of each consumable.

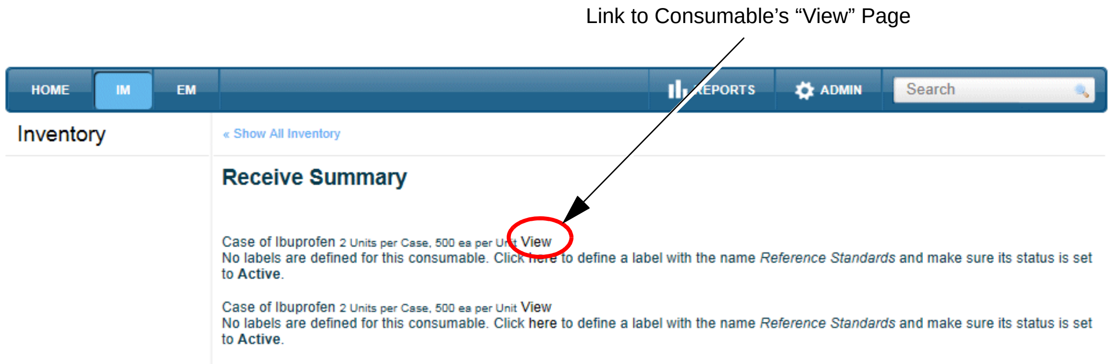


Receiving a Case (with Labels)

- **If receiving multiple cases:**

  For consumables without labels or if the associated label is not active, the *Receive Summary* page displays a separate message for each case. Each message contains a **View** link and a link which allows eligible users to create a label for that consumable.

  When you click the **View** link for the case, the consumable's *View* page is displayed for each case and its status is listed as "Unopened." You can open the case and print labels as described on page 3-10.

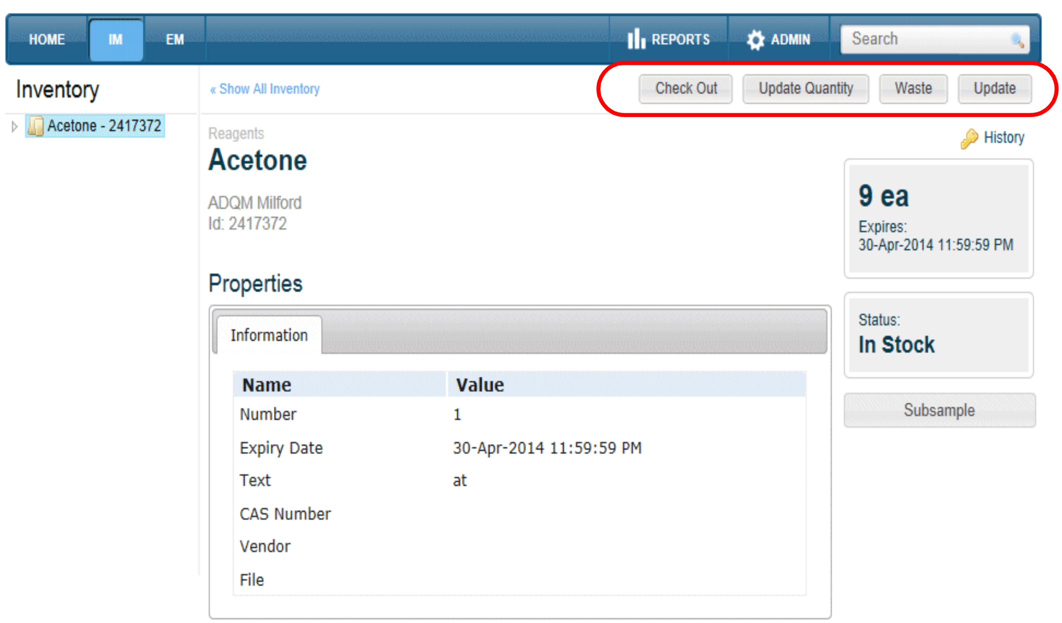


Receiving Multiple Cases (without Labels)

For consumables that have an associated label, a thumbnail graphic of the label is displayed for each consumable. You can print the labels as described on page 3-12.

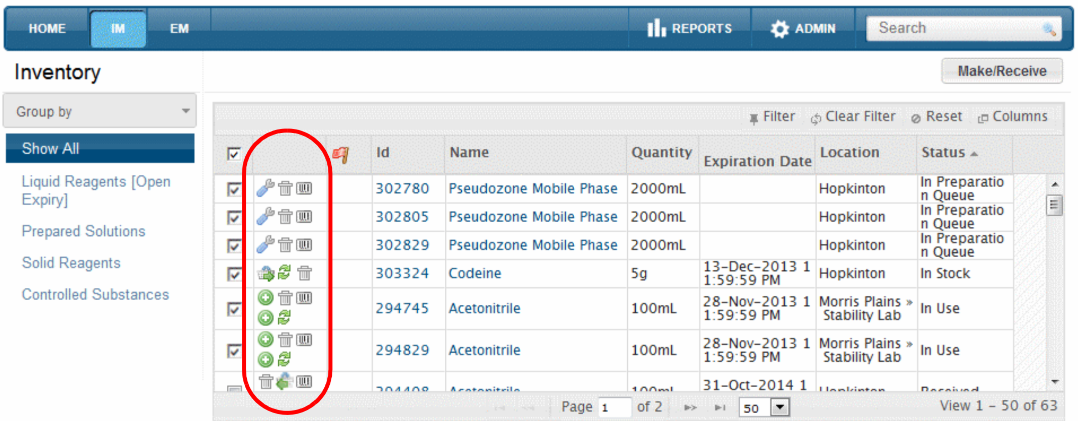
Starting a Workflow

Once you receive a consumable into inventory, its configured workflow will dictate what actions you can perform on it. The workflow actions are represented by the command buttons that appear above the **History** link in the consumable's *View* page, as shown below.



Workflow Actions in the Consumable's "View" Page

Workflow actions are also represented by the icons in the second column of the grid in the Inventory home page.



Workflow Actions in the “Inventory” Home Page

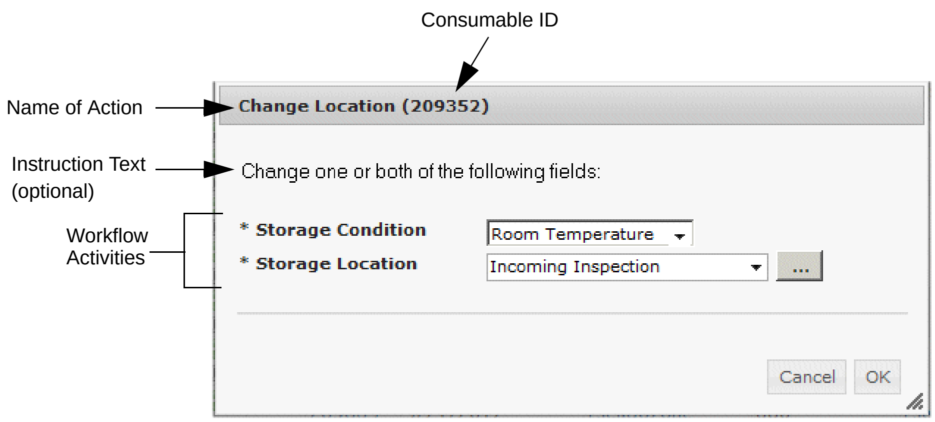
The action icons in the second column include:

Prepare	Update Quantity
Qualify	Approve
Open	Print Label
Check Out	User Defined
Check In	Waste

When you click a workflow command button or action icon in the grid, what happens next depends on how the workflow is configured. Some actions will display a dialog box requiring user input while others will perform another type of function (for example, launch a Pipeline Pilot protocol or initialize a time trigger).

For actions that require user input, an example of the workflow action’s dialog box is shown below. The contents of each dialog box will be unique and its title bar will reflect the name of the workflow action that is being executed (for example, “Change Location”). The ID of the Entity Instance on which the action is being performed is displayed in parenthesis.

Your system administrator may have included some instructional text on the first line for clarification purposes. One or more input fields will be displayed below which represent the workflow activities configured for this action. An asterisk (*) indicates the fields that require a value.



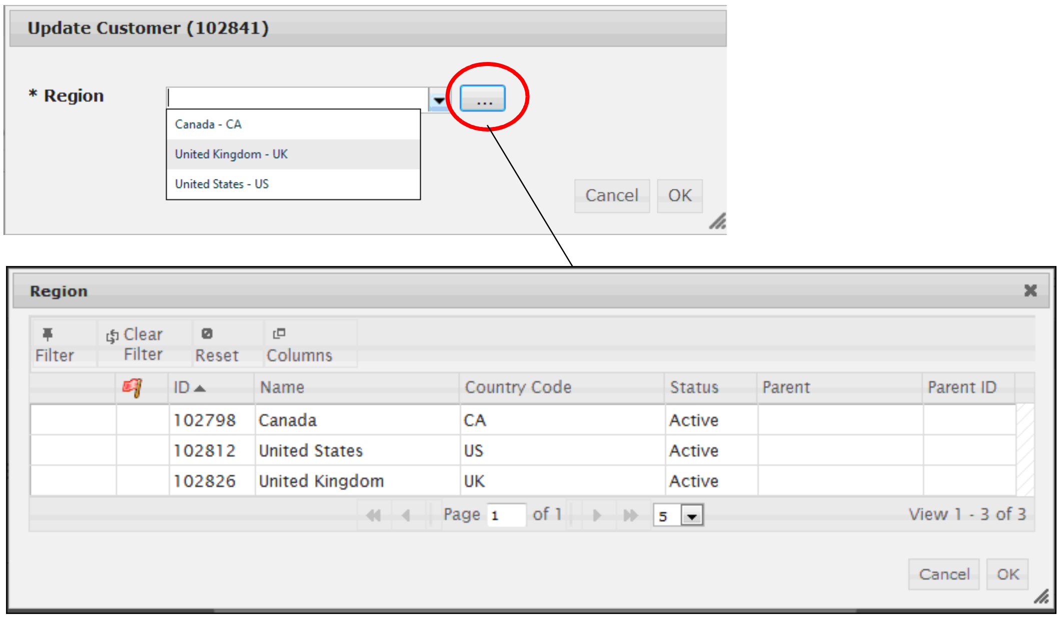
“Action” Dialog for Executing a Workflow Action

The properties of the consumable determine what type of input fields appear in the action dialog box. For example, a Numeric property provides a data input field that only accepts a numeric value, whereas a Date property presents a date picker control that allows you to select a date from a calendar.

For properties configured as a “Relationship” property that have a one-to-one relationship to another Entity Instance, a drop-down list displays all of the related instances. The instances are identified according to their configured display pattern with multiple fields separated by hyphens. For example, the figure below displays the related instances of a “Region” Entity Type, each identified by its name and corresponding Country Code.

Selection List of Related Entities

You can select an instance from the drop-down list or click the browse button to open the “advanced mode” grid. The related Entity Instances are listed in alphanumeric order and you can view their other properties as well. You can use the standard grid controls to filter the grid and reorder the columns. Click the row of the instance you want and click **OK** to commit the selection.



Selecting a Related Instance in the "Advanced Mode" Grid

If the property is based on a "By Value" relationship type, it inherits the same value as the property of its related instance. If the original value of the related instance is recollected, the drop-down list will display the current value as well as the new value and all of the values matching the condition(s). You can then select the new value from the list to update your current instance. Note that in this case, the updated value is only displayed in the drop-down selection list—the "advanced mode" grid will always display the most current value.

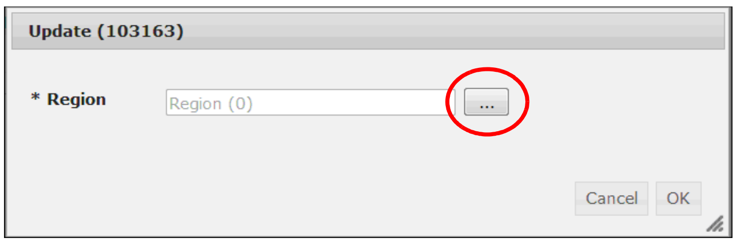
Selection List of Related Instances

If the property is based on a "By Reference" or "By Reference, Clone" relationship type, its value is updated dynamically every time the property of its related instance is recollected.

In addition, a Relationship property can be configured to reference a “collection” of Entity Instances—that is, a one-to-many relationship. In this case, the drop-down list is not displayed. Instead, the field displays the name of the property and the number of instances it is currently related to (initially zero).

To select one or more instances in a collection:

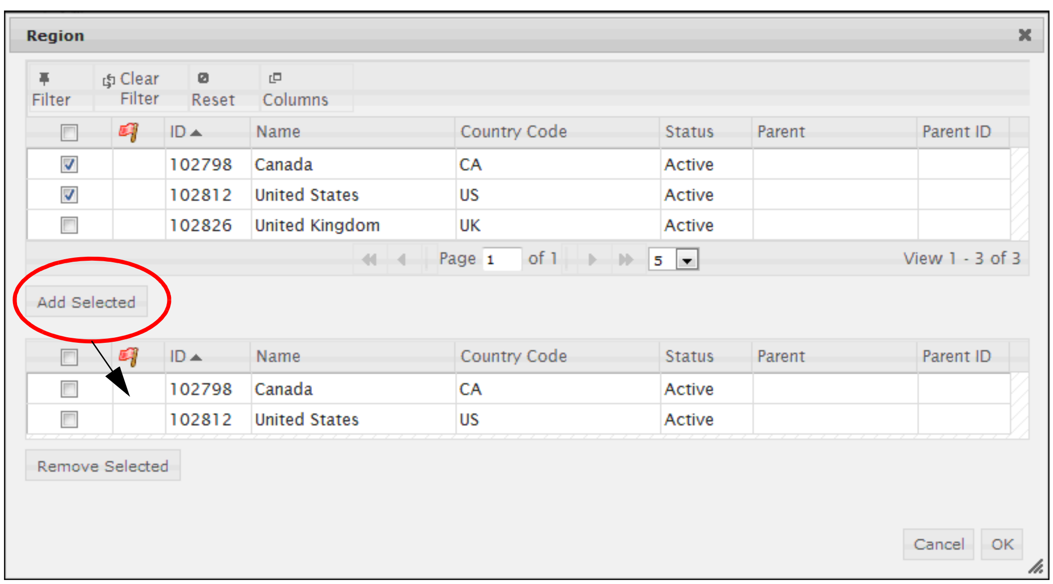
1 Click the browse button to the right of the field to open the advanced mode grid.



Selecting One or More Values from a Collection of Instances

2 Click the check boxes of individual instances in the collection or click the check box at the top of the column to select all of the instances at once. You can use the standard grid controls to filter the grid view and reorder the columns.

3 Click **Add Selected** to move the selected instances to the grid below. To delete a selected instance, select its check box and click **Remove Selected** to move it back to the list above.



Selecting a Collection of Related Entities

4 Once the correct instances are listed in the lower grid, click OK to submit the selections and close the list.

5 Click OK in the action's dialog box to commit the value(s).

IMPORTANT! Once the data is committed, you may decide to change the selections in the referenced collection. If the property is based on a "By Reference, Clone" relationship type, when you recollect the property (that is, remove the original value and choose a different value), the link to the original instance is removed. In this case, if the original instance is not referenced by any other entities in the system, it is considered "orphaned." Although an orphaned instance is no longer displayed in the grid, its data remains intact in the database.

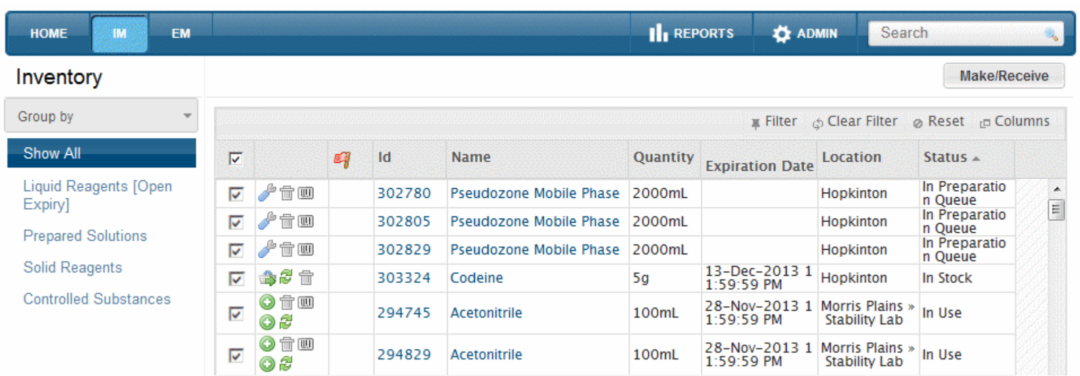
Performing Workflow Actions on One or More Consumables

Eligible users can execute a workflow action on a single consumable or on a group of "like" consumables. These methods are explained in the following sections.

Performing workflow actions on a single consumable

To perform a workflow action on a single consumable:

1 Click the **IM** tab in the main menu bar to load the *Inventory* home page.

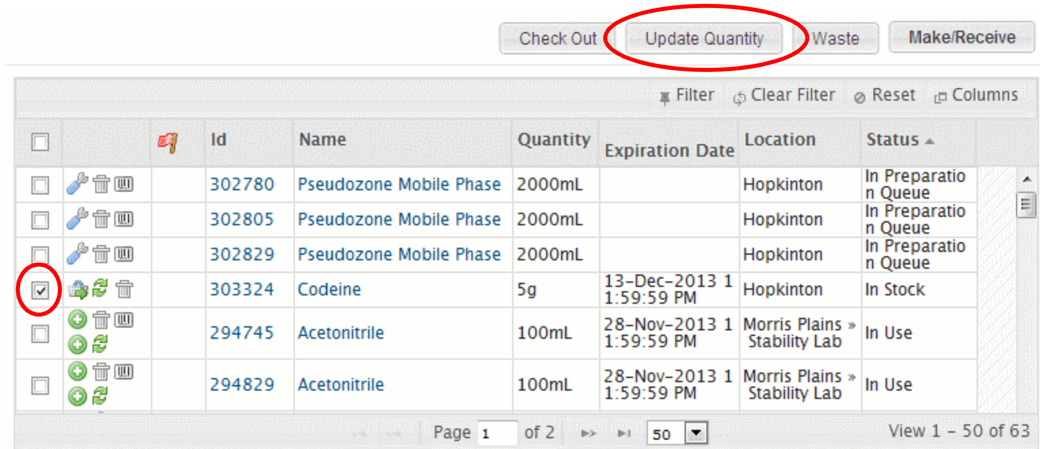


Inventory Home Page

2 You can perform a workflow action on a single consumable in several ways:

- **Click the consumable's check box**—In the first column of the grid, all of the check boxes are checked by default:
  - a. Click the top check box above the column to clear the check boxes below.
  - b. Click the check box of the consumable you want to process.

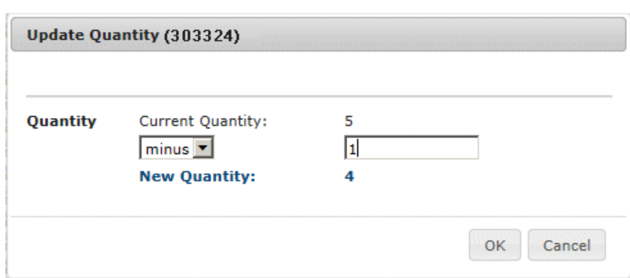
c. Click the command button above the grid for the appropriate workflow action, as shown below.



Performing a Workflow Action on a Single Sample

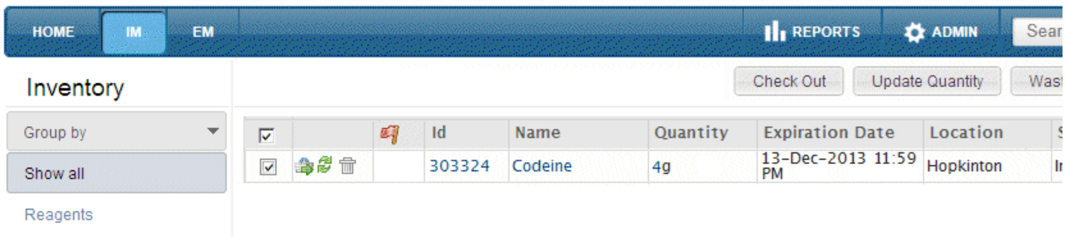
- **Click the consumable's action icon**—In the second column of the grid, click the appropriate action icon for the consumable that you want to process. You can leave all of the check boxes checked.
- **Click the consumable's identifier—**In the **Id** column of the grid, click the unique identifier for the consumable that you want to process. The consumable's *View* page opens and displays the current state of the workflow. Click the appropriate command button above the *History* link to perform the action.

3 When you click the command button for the workflow action, a dialog box may be displayed if the action requires user input. Set the required values for the each consumable and then submit the form.



Dialog Box for Executing an Action that Requires User Input

Once you submit the dialog box, the grid reloads and displays the individual consumable. You can then perform additional workflow actions on the consumable, if available.



Completed Workflow Action on Single Consumable

4 To return to the *Inventory* home page, do one of the following:

- Click the **IM** tab in the main menu bar.
- Press **F5** to refresh the page.
- Click any of the links in the left navigation panel.

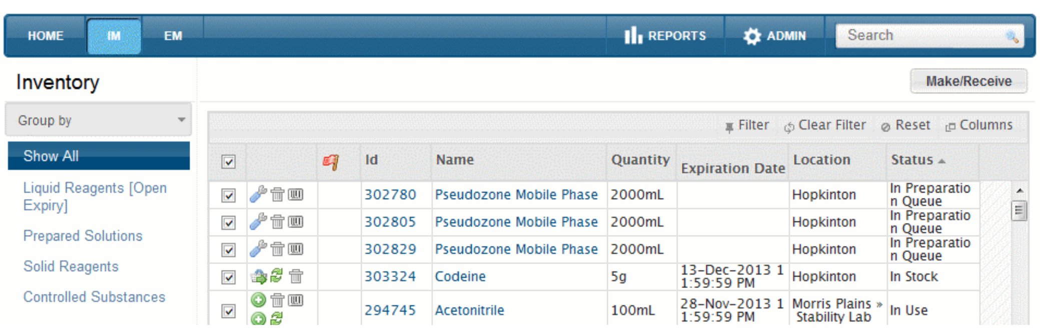
Performing workflow actions on a group of consumables

In order to perform a workflow action on a group of consumables at the same time, all of the following conditions must be true:

- All of the consumables must be based on the same parent Consumable Type.
- The workflows of all of the consumables must be based on the same workflow version.
- All of the consumables must reside in the same workflow state.

To perform a workflow action on a group of consumables:

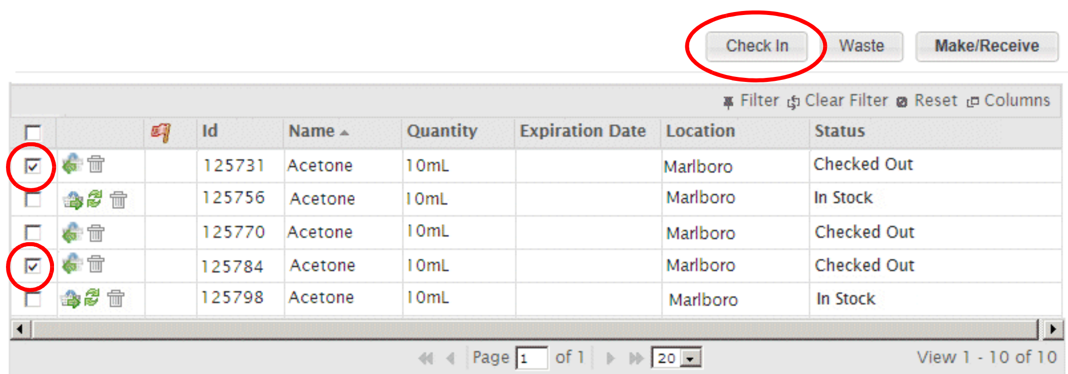
1 Click the **IM** tab in the main menu bar to load the *Inventory* home page.



Inventory Home Page

2 Select the consumables you want to process using one of these two methods:

- **If the consumables you want to process are visible in the current page:**
  a. Click the top check box above the column to clear all of the check boxes below.
  b. Click the check boxes of the consumables you want to process.
  c. Click the appropriate command button above the grid.



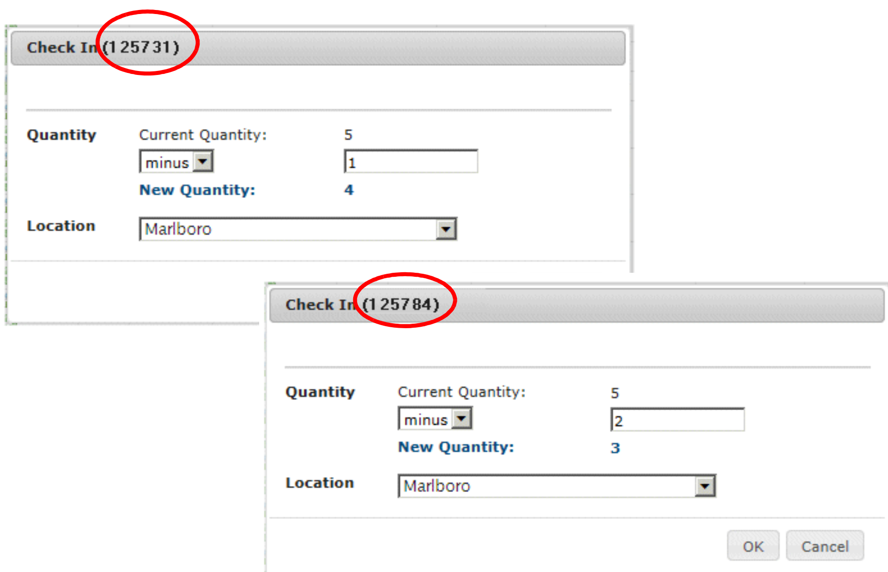
Performing a Workflow Action on a Selected Group of Consumables

- **If the consumables you want to process span multiple pages in the data set:**
  a. Filter the consumables in the grid using the following methods:
     - Standard grid filtering options (refer to page 2-7)
     - Group By filter (refer to page 2-9)
     - Saved Views (refer to page 2-16)
  b. Once the grid is filtered, you can perform a workflow action on all of the consumables or just a selected subset from the list:
     - **Performing a workflow action on all of the consumables**
       Keep all of the check boxes checked and click the appropriate command button above the grid to perform the workflow action on the entire group. Note that although the filtered data set may span multiple pages of consumables, the action is performed on only those instances displayed in your current page.

- **Performing a workflow action on a subset of consumables**
  In the first column of the grid, click the check box above the consumables to clear all of the check boxes below. Then click the appropriate check boxes to limit the workflow action to only that subset of selected consumables.

  Note: The check box selection does not persist and will be cleared when you navigate away from the page or refresh it.

3 When you click the command button for the workflow action, a dialog box may be displayed if the action requires user input. Set the required values for the each consumable and then submit the form(s). For example, the following figure shows the dialog boxes that are displayed when you updated the quantity of two consumables.

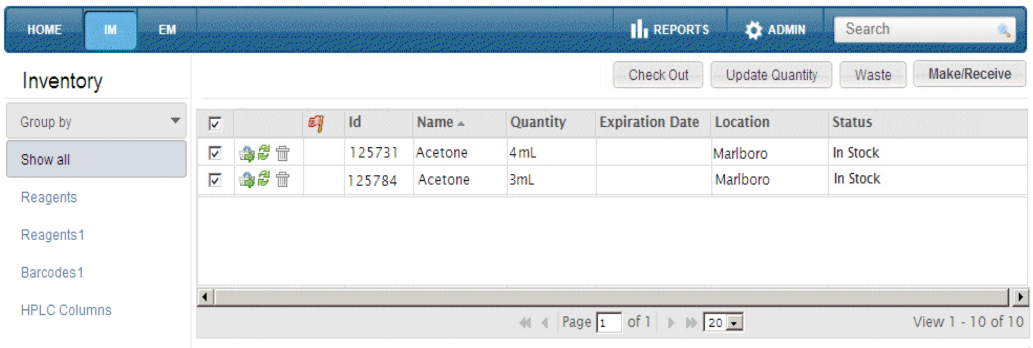


Workflow Action Dialog Boxes

Note: To understand the behavior of the dialog box for group workflow actions, refer to *How the action's dialog box is displayed for group workflow actions* on page 3-24.

4 Once you complete the action, the grid refreshes to display only those consumables in the group or the subset. You can now continue the workflow on all of the consumables or you can use the check boxes to select a new subset from the list.

Note: The Filtering and Column Reordering functions above the grid are hidden in this view. When you refresh the view, these functions will be re-displayed.



Completed Workflow Action on a Group of Consumables

5 To return to the *Inventory* home page, do one of the following:

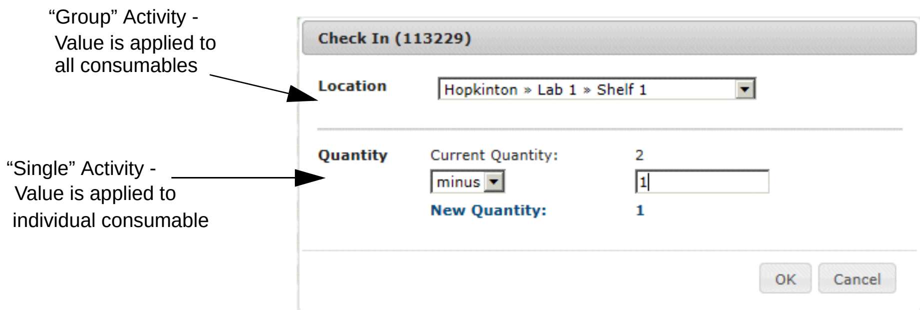
- Click the **IM** tab in the main menu bar.
- Press **F5** to refresh the page.
- Click any of the links in the left navigation panel.

How the action's dialog box is displayed for group workflow actions

The activities in each workflow action will support either single activities, group activities, or both. For actions that require user input, the action dialog box behaves differently for each scenario:

- **"Single" activities**
  For workflow actions consisting of a "single" activity (for example, Print Consumable Label, Set Quantity, Set Location), the workflow action is applied to each individual consumable. The system presents a separate dialog box for each consumable in the group and the values you enter are assigned to the specific consumable referenced in the dialog box's title bar.
- **"Group" activities**
  For workflow actions consisting of a "group" activity (for example, an E-Signature for approval), the workflow action is applied to all of the consumables in the group. The system presents a single dialog box and the values you enter are assigned to all of the consumables in the group in a single step.

- **“Single” and “Group” activities**
  For workflow actions consisting of both “single” and “group” activities, the system presents a single dialog box. The group activities are listed above the line and the value you enter is applied to all of the consumables in the group. For example, in the following figure, all of the consumables are being checked into the same location, but the quantity of each consumable is assigned individually.



Workflow Action Dialog Box with “Single” and “Group” Activities

Creating Aliquot Samples through Subsampling

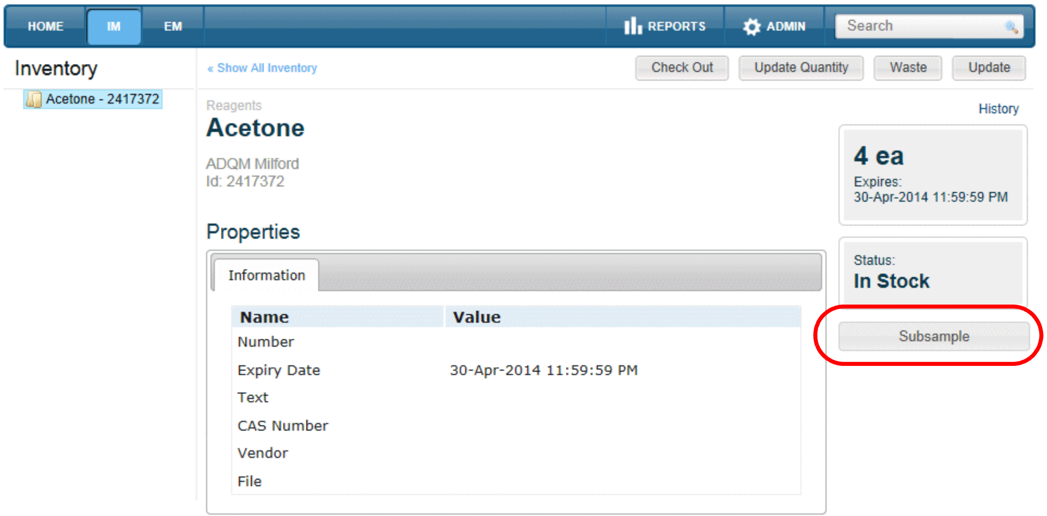
You can create aliquot samples by subsampling a consumable. *Subsampling* is defined as creating a defined number of aliquot samples of the same quantity from a parent consumable. Aliquot samples are typically created for controlled substances in inventory. Once a controlled substance is received, it may be immediately subsampled into defined quantities for subsequent tests or it may be subsampled only when requested by various departments.

When a consumable is subsampled, the aliquot samples will assume all of the properties of their parent consumable as well as its workflow. If your system administrator has associated a different template to the subsamples, they will follow the workflow of that template.

As each new aliquot sample is obtained, the system reconciles the quantity of the parent consumable. The new aliquot samples are entered into inventory as individual consumables and follow their assigned workflow. The link between the original parent consumable and its aliquot samples is always maintained in the system and readily viewable in both the parent and the aliquot sample’s *View* page.

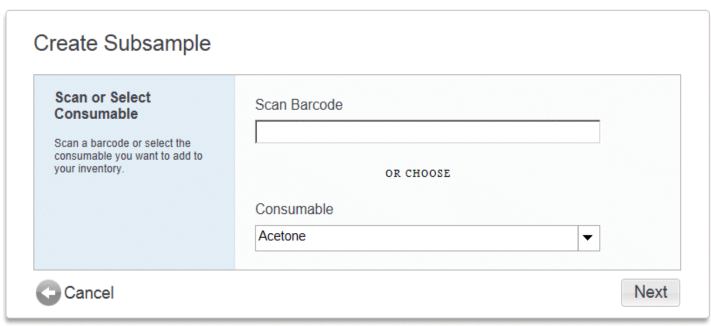
To subsample a consumable:

1. In the *Inventory* home page, click the name of the consumable you want to subsample.
2. In the consumable’s *View* page, click **Subsample** under the status box.



Subsampling a Consumable

3 In the *Create Subsample* page, scan the barcode of the parent consumable or select the consumable from the list and click Next.



Creating a Subsample—Step 1

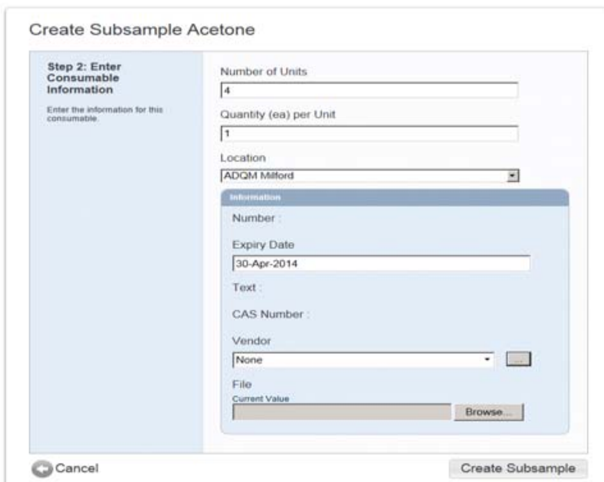
4 In the Number of Units field, enter the number of subsamples that are required.

5 Enter the quantity of the subsamples.

6 Select your location.

7 Configure the rest of the subsample's properties.

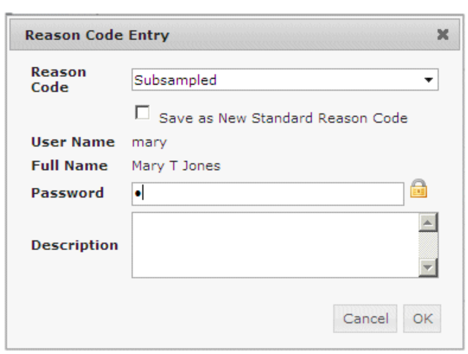
- Static properties may have been pre-defined by your system administrator in the corresponding consumable template. These properties will be displayed but you cannot edit them.
- Dynamic properties will either be blank or contain a default value that you can edit.
- Properties can be optional or required, as defined in the consumable's template. If the property is required, you must enter a value in order to create the subsample.



Creating a Subsample—Step 2

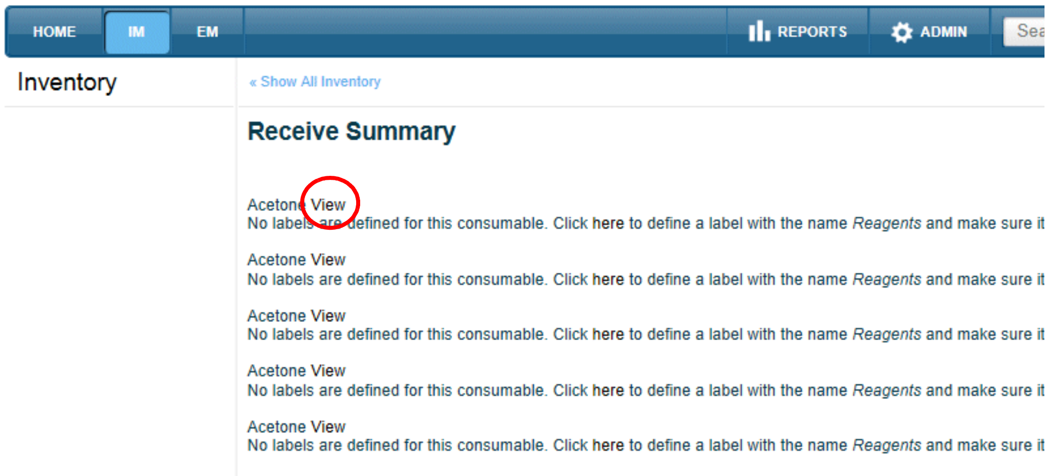
8 Click **Create Subsample**.

9 In the *Reason Code Entry* dialog box, select a Reason Code and enter your password.



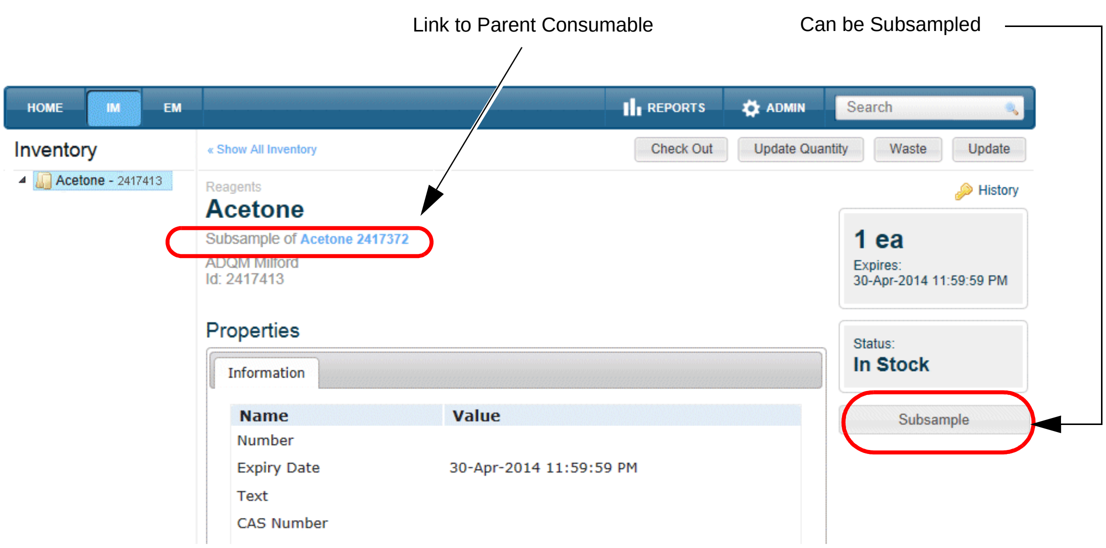
"Reason Code Entry" Dialog Box

The *Receive Summary* page lists the new subsamples. Click the **View** link to open the subsample's *View* page.



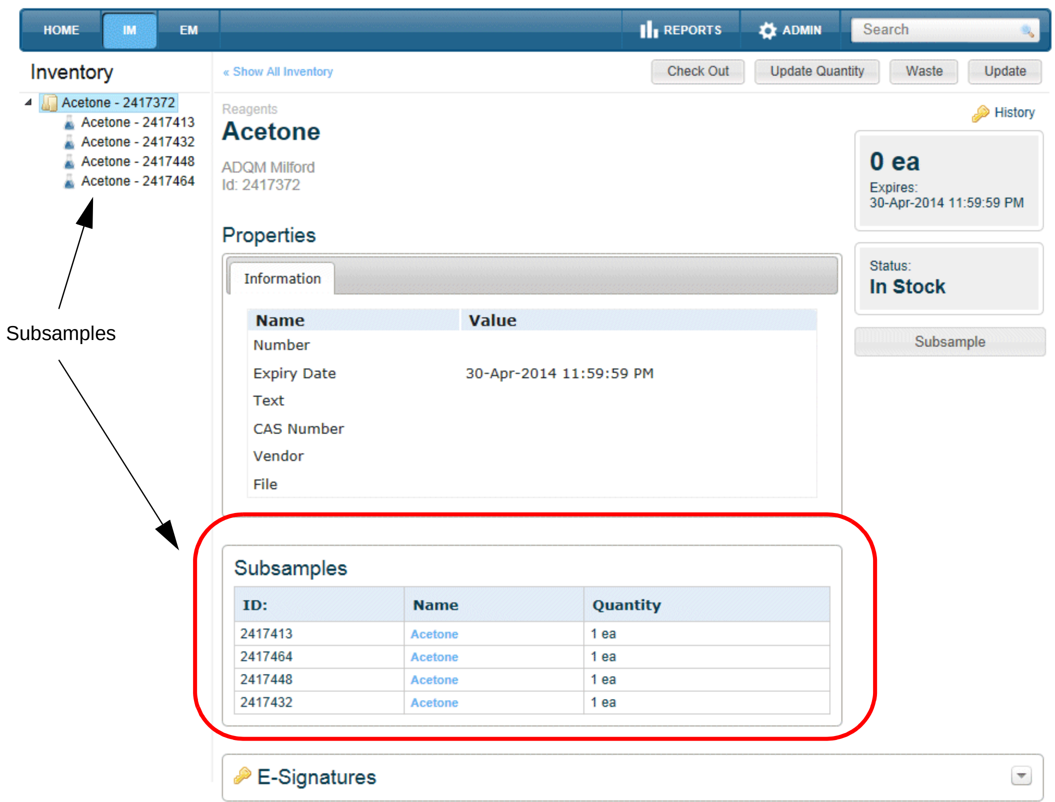
Summary Page for Subsampling a Consumable

The new subsample's *View* page displays the link to the parent consumable directly below the subsample's name. The subsample contains all of the properties of its parent consumable.The aliquot sample may be further subsampled if the consumable template on which this consumable is based allows subsampling. In this case, a **Subsample** link is displayed under the status, as shown below.



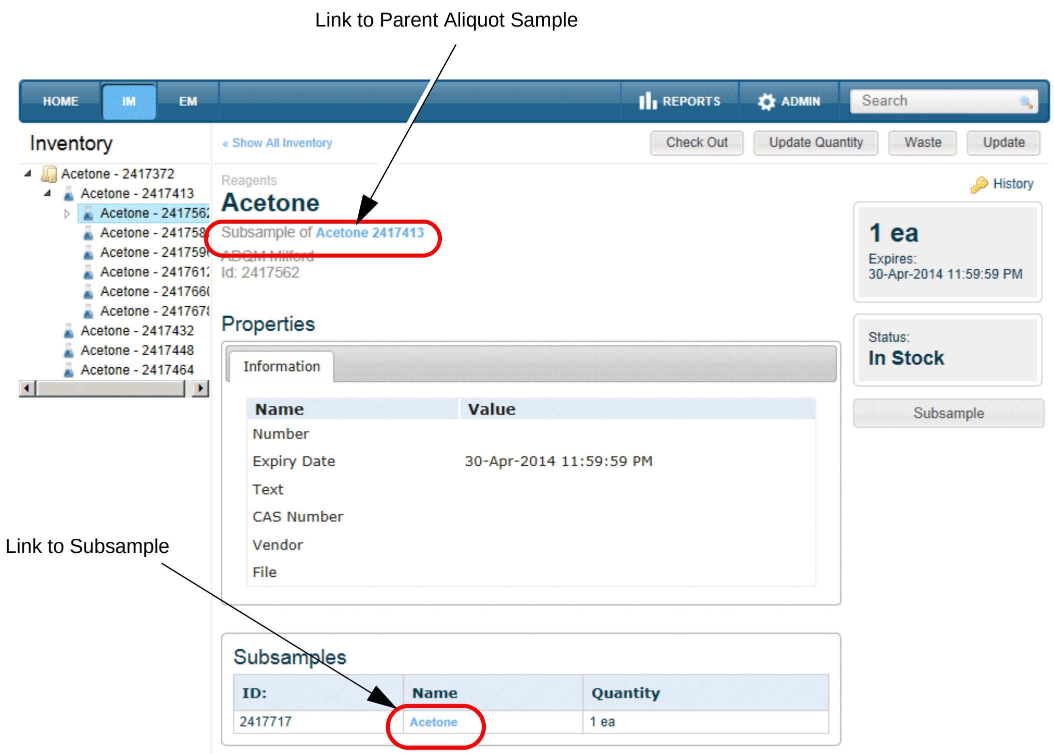
New Subsample's "View" Page

Once the subsamples are created, the quantity of the parent consumable is automatically reconciled. The parent consumable’s *View* page displays the updated quantity. All of the subsamples created from the parent are now displayed under the parent consumable in the Tree View in the left navigation panel. The subsamples are also listed in the Subsamples table below the properties. The name of the subsample in the table is a link to its *View* page.



Reconciled Parent Consumable

When an aliquot sample is furthered subsampled, the aliquot sample is both a parent consumable and a subsample. The aliquot sample’s *View* page displays both the name of the linked parent consumable and its child subsample.



Aliquot Sample that has been Subsampled

Audit trails are enforced for subsampling. When a subsample is created, the version number of both the parent consumable and its subsamples will be updated.

- The subsample's description in the History table indicates it was created through subsampling.
- The parent consumable's description in the History table indicates the change in quantity after being subsampled.

Refer to *Signing Off* on page 1-18 for more information.

Preparing Consumables

The **Prepare** action allows you to make a solution or other type of consumable that has to be prepared before it can be used. These consumables will typically have a status of “Pending” or “Needs to be Prepared.”

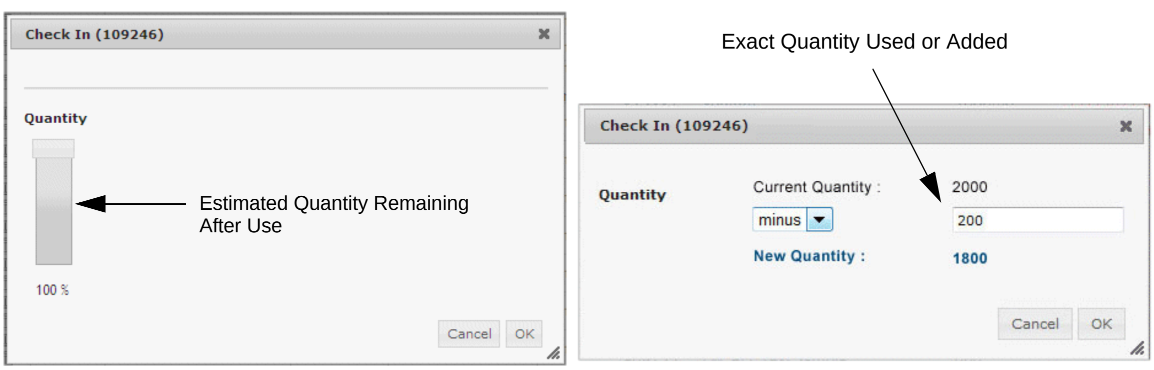
If the consumable is being prepared by running an BIOVIA LES procedure session, the consumable automatically moves to the next state in its workflow at the time the status of the procedure session is changed to “Complete.” If the consumable is being prepared outside of a BIOVIA LES procedure session, you will need to manually move it to the next state of its workflow.

Checking Consumables In and Out of Inventory

The **Check Out** action allows you to check a consumable out of inventory. Any consumable with a status of “In Stock” can be checked out.

The **Check In** action allows you to check a consumable back into inventory. The content of the *Check In* dialog box is based on the consumable’s measuring scale:

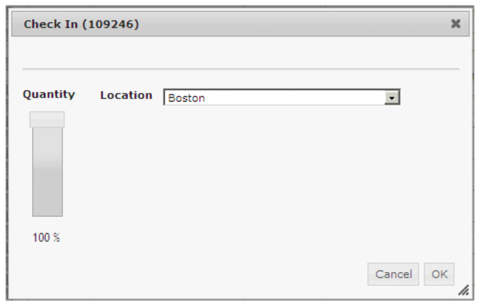
- For consumables based on an estimated measuring scale, indicate how much of the consumable remains after use by setting the slider to 0-100%.
- For consumables based on the “Exact” measuring scale, the Current Quantity field displays the amount that was in inventory prior to check out. Select “plus” or “minus” to add or subtract an amount from the current quantity and then enter the amount. As you enter a value, the New Quantity field below automatically displays the result of the selected calculation. Note that the new quantity cannot be less than zero.



Checking In Consumables

When you are updating a batch of consumables, an individual *Check In* dialog box is displayed for each consumable and you must set the amount used or added individually. The ID of each consumable is displayed in the title bar to differentiate between the consumables in the group.

The *Check In* dialog box may also display other fields if your system administrator has configured other activities in the consumable's workflow. For example, a "Location" field may be included to allow you to check the consumable back in to a different location.



Checking In to a Different Location

Opening Unopened Cases in Inventory

The **Open** action allows you to open a case of consumables. When you receive a case of consumables, you can open it immediately which adds its consumables to inventory individually. You can also leave the case unopened. Each unopened case is displayed in a separate row in the *Inventory* home page and is preceded by the **Open** icon. For example, if you received four cases of consumables, four separate unopened cases would be listed in inventory grid.

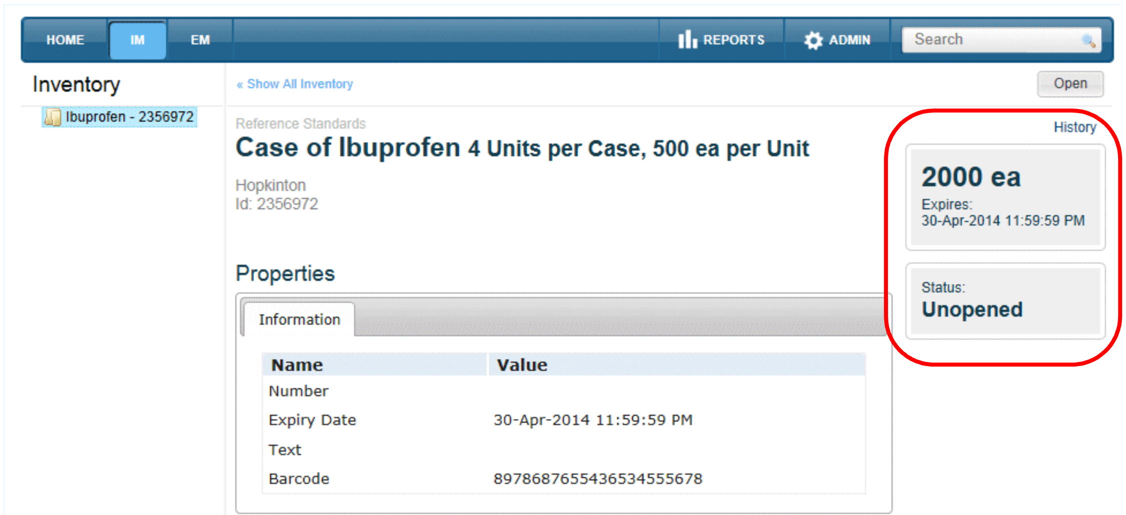
Opening a case from the Inventory home page

To open an unopened case from the *Inventory* home page, click **Open** that precedes the case you want to open. The system will automatically open the case and enter its consumables into inventory. When the grid refreshes, the row for the unopened case will have been removed.

Opening a case from the consumable's "View" page

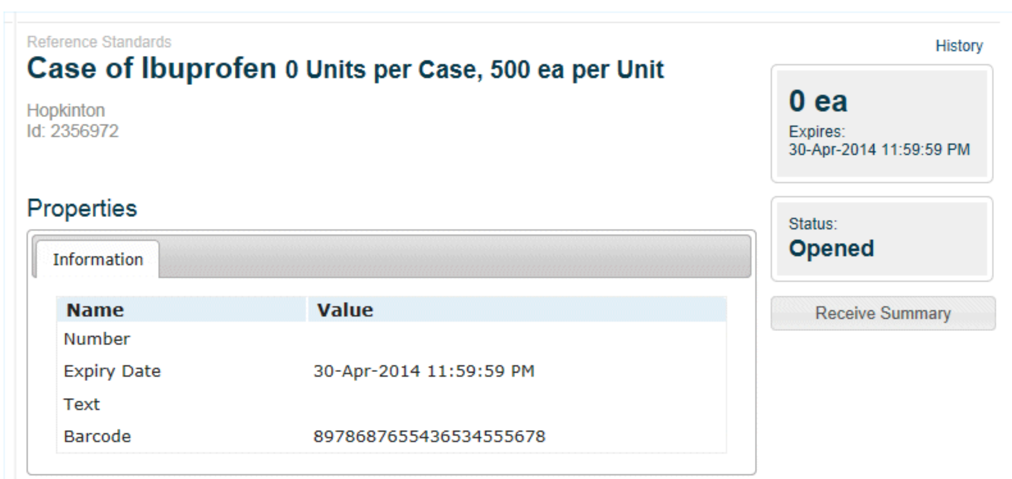
To open an unopened case from its *View* page:

1. In the *Inventory* home page, click the name of the case that you want to open. The consumable's *View* page displays the contents of the case(s). The quantity represents the *total* quantity of all of the consumables in the case(s). The status indicates that the case is currently unopened.



Viewing Unopened Case of Consumables

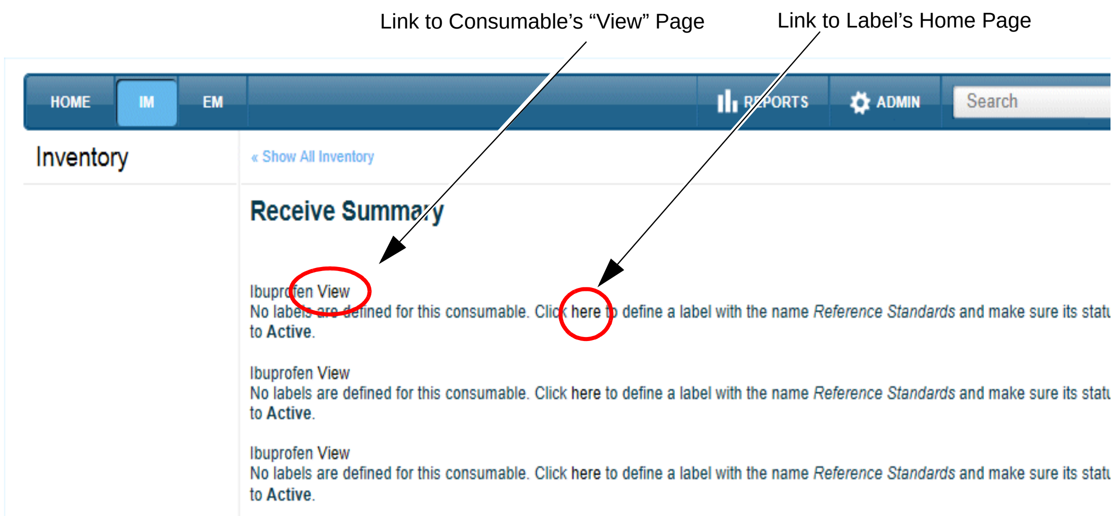
2 Click **Open** to open the case. When the page reloads, the quantity of the case is adjusted to “0” and its status is listed as “Opened.”



Opened Case

3 Click **Receive Summary** below the status “Opened” to view the *Receive Summary* page.

- For consumables that do not have an associated label or if the associated label is not active, a separate message appears for each of the individual consumables. The message contains a **View** link that displays that consumable's *View* page. It also contains a link which allows eligible users to create a label for that consumable.



Opening a Case (without Labels)

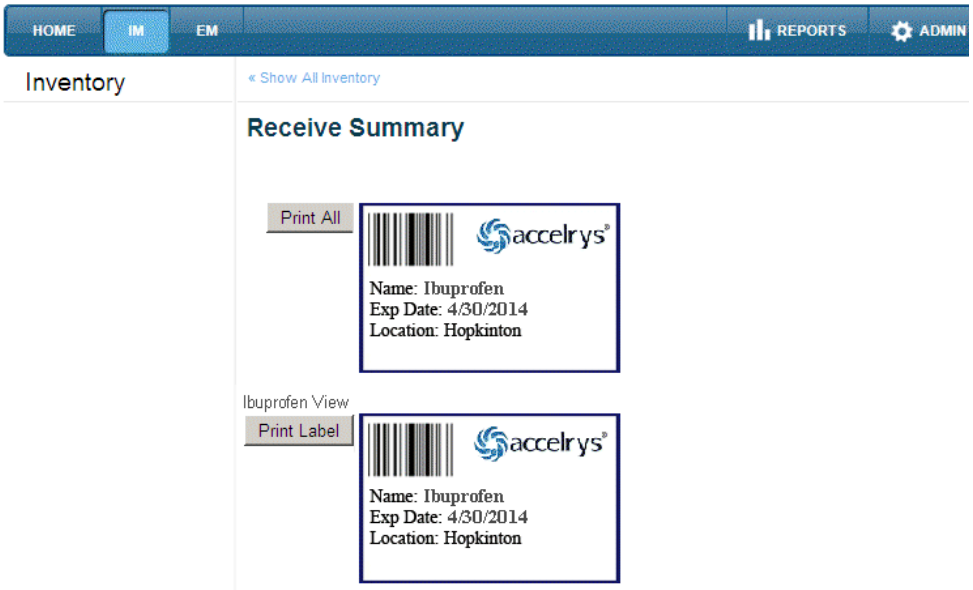
- For consumables that do have an associated label, a thumbnail graphic of the label is displayed for each consumable. The **View** link to the right of the consumable's name displays the consumable's *View* page.

  Click **Print All** to print one label for each of the consumables.

  Click **Print Label** below each label to print a label for the individual consumable.

  If a Reason Code is required, the *Reason Code Entry* dialog box is presented and an audit trail entry is added to the History table of each consumable.

Once the case has been opened, each of those consumables is displayed in a separate row in the *Inventory* home page.



Opening a Case (with Labels)

Opening a group of cases

To open a group of unopened cases:

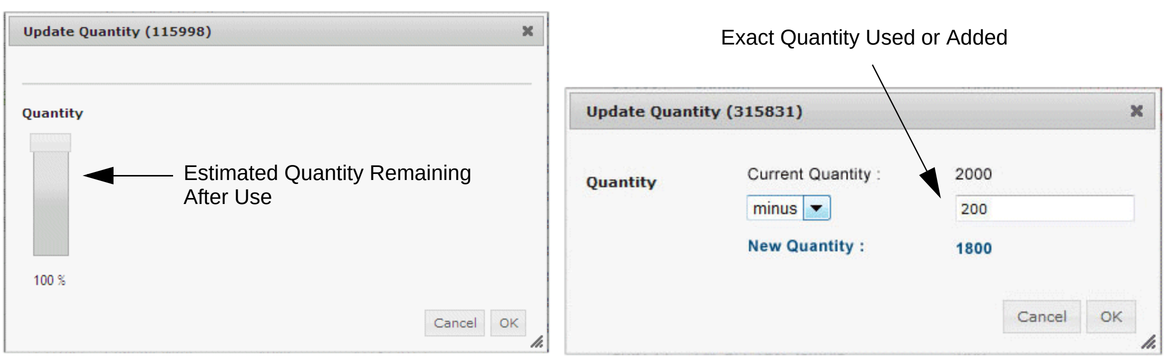
1. In the *Inventory* home page, filter the grid to display the group of cases you want to open. Refer to *Performing Workflow Actions on One or More Consumables* on page 3-19.
2. Click **Open** above the grid. The system automatically opens the cases and add the consumables into inventory. When the grid refreshes, all of the cases have been removed.

Updating the Quantity of Consumables in Inventory

The **Update Quantity** action allows you to update the quantity of a consumable in inventory without checking it out. This may be required if you spill a consumable or need to add an additional amount for the purpose of creating subsamples.

The content of the *Update Quantity* dialog box is based on the consumable's measuring scale:

- For consumables based on an estimated measuring scale, adjust the new quantity by setting the slider to 0-100%.
- For consumables based on the "Exact" measuring scale, the Current Quantity field displays the current amount in inventory. Select "plus" or "minus" to add or subtract an amount from the current quantity and then enter the amount. As you enter a value, the New Quantity field below automatically displays the result of the selected calculation. Note that the new quantity cannot be less than zero.



Updating Quantity of Consumables in Inventory

When you are updating a batch of consumables, an individual *Update Quantity* dialog box is displayed for each consumable and you must set the amount used or added individually. The ID of each consumable is displayed in the title bar to differentiate between the consumables in the group.

Performing Actions that Initiate BIOVIA LES Procedure Sessions

Some consumables may be configured to initiate a BIOVIA LES procedure session in which the collected property value of an consumable can be sent to a specified data collection field in an LES procedure session. You can also collect data in a BIOVIA LES procedure session and apply its value to a specified property of an consumable in the BIOVIA LIMS application.

This is accomplished by an "Accelrys LES Procedure" activity used in an "Accelrys LES Session Complete" action in the instance's workflow. When the Accelrys LES Procedure activity is activated, a BIOVIA LES procedure session is created based on the test method specified in its workflow. You can then log into BIOVIA LES and execute the test method to collect the data. Depending on how your system administrator has configured the workflow, the values can be sent as a single value or an array of values, and the data will be transferred to or from the BIOVIA LES application when the status of the procedure session is set to the “complete” status defined in the workflow (typically the “Completed” status).

Note the following:

- When executing group workflow activities, the Accelrys LES Procedure applies to all consumables in the group.
- When combining the Accelrys LES Procedure activity with any other activity in the same action, the Accelrys LES Procedure activity will always be executed last.

For a property related to a collection of instances (that is, a Relationship property set to “Collection”), the value sent to BIOVIA LES will be the total number of consumables selected for that property.

Performing Actions that Contain a Time Trigger

Some workflow actions may contain a “Time Trigger” activity which is used to automatically trigger another type of activity when a certain point in time has been reached. For example, if a batch of samples requires an incubation period during a testing procedure, the time trigger activity is in effect during its “Incubation in Process” state. Once the targeted incubation date and time is reached, a “Set State” activity changes the workflow state to “Ready to Read” in which you can report the test results.

A workflow action can have any number of Time Trigger activities or none at all. For an action without a Time Trigger activity, the command buttons are displayed normally for the action in the given state during workflow execution. For an action with one or more triggers, the command buttons are omitted as that action will be triggered by any of the triggers contained in the action.

When the trigger is executed on a large number of records, a slight delay may occur since a periodic review of each record is required. Most workflows using a Time Trigger do not require precision greater than a few minutes.

Performing Actions that Invoke BIOVIA Pipeline Pilot Protocols

Important! In order to successfully process a protocol during workflow execution, make sure your browser's Pop-up Blocker Settings are configured to "Allow pop-ups" from the BIOVIA LIMS site address.

Some consumables may be configured to execute a protocol on a platform protocol server during workflow execution. This applies to the BIOVIA Pipeline Pilot protocols stored on the Accelrys Enterprise Platform Server. When you execute an action configured with the "Execute Platform Protocol" activity, you will specify parameters relevant to that specific protocol. These parameters are then passed to the protocol server where the requests are processed.

The Execute Platform Protocol workflow activity supports both synchronous and asynchronous communication between the protocol server and the BIOVIA LIMS application. Synchronous transmissions return the requested data immediately—for example when the specified protocol is to run a report, the workflow waits for the report to be returned. For an asynchronous transmission, the workflow will not wait for a response—for example, when the protocol initiates an email to another system.

- When you execute a protocol that returns an HTML file, the page is loaded in a new browser window.
- When you execute a protocol that produces a file, it is displayed in a secondary web browser window/tab.
- When the protocol contains the Entity ID, Entity Type, and Terminal GUID parameters, the values are displayed for the current consumable when the protocol is completed.
- If a workflow action creates new consumables and also executes a Pipeline Pilot protocol, the protocol will be executed once the instances are created. However, if the protocol generates any files (for example, reports), the files are not displayed in a new window because the browser is redirected to the filtered view of the children entities once they are created.
- The following parameter values are populated dynamically each time the activity is executed:

  Entity ID—Contains the ID of the current instance executing the workflow action.

  Entity Type—Includes the name of the Template or the Type of the entity executing the workflow.

  Terminal Guid—Contains the terminal session GUID of the user executing the protocol.

- When executing the Pipeline Protocol activity in a batch, the system executes the activity once rather than executing it for each consumable. If there is an "Entity ID" parameter, the system passes in a list of all of the Entity IDs separated by commas.

Collecting e-Signatures During Workflow Execution

A workflow of an consumable may include actions that collect a user's electronic signature at various states of the workflow in order to review, attest, or approve some data or an action. A workflow may also include actions that allow eligible users to apply their e-signature to an annotation at a particular state in the workflow. Users may also be required to apply their e-signatures for reasons other than to review, attest, approve, or annotate. The different ways of collecting e-signatures are described in the following sections.

Applying your e-Signature to review, attest, or approve

A workflow action can include an activity that allows users *other* than the one who is currently logged in to apply their e-signatures in order to review, attest, or approve collected data or other actions performed on one or more consumables. The system enforces that the signing user is both *eligible* and *valid* to review, attest, or approve:

- An eligible user must have the appropriate "Can Review/Attest/Approve" eligibility.
- A valid user is defined as a user who has *not* created or received the instance into the system and has not performed any workflow actions on the instance that collected or changed existing data in any way during its life cycle in the system.

In addition, if your system administrator has configured further restrictions on the review/ attest approve action, the signing user must also belong to the User Group(s) that are allowed to execute the action.

You can review, attest, or approve in several ways:

- In the consumable's *View* page, click the appropriate command button (Review, Attest, Approve) above the instance's details.
- In the *Inventory* page, click the appropriate button above the grid (Review/Attest/Approve) or the appropriate icon in the second column of the grid:

  Review, Attest   Approve

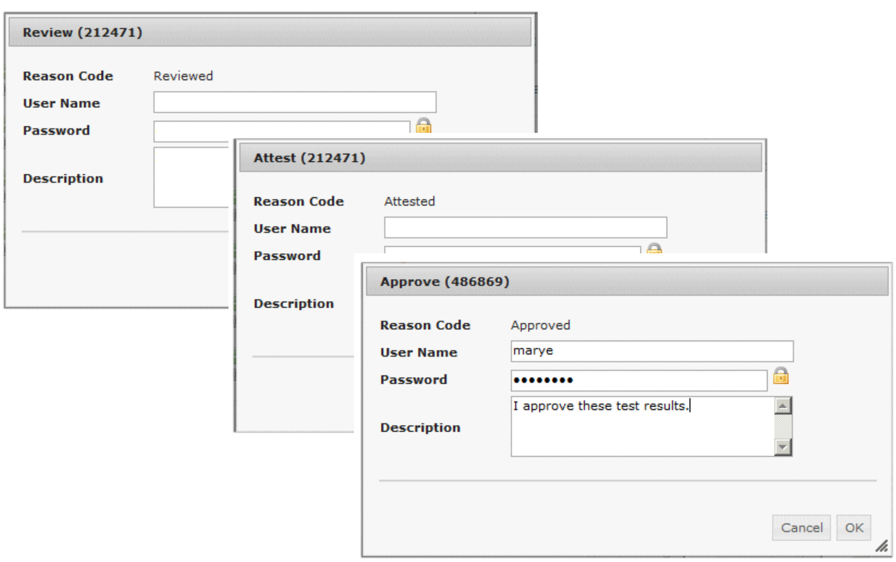
  Note that your system administrator may have used a different name for the review and attest actions.

Notes on Signing (Review/Attest/Approve):

- The action icons and command buttons for the review/attest/approve actions are always visible and active on the consumable's *Inventory* and *View* pages. Invalid or ineligible users will receive an error message when they submit this page.
- There are no restrictions for users who have previously applied their e-signature to review, attest, or approve. For example, if you have previously reviewed, you can also attest and approve.
- If you belong to a different domain than the domain of the logged in user, you must enter your domain and user name in this format:

  domain \ *user_name*
- If an e-signature is applied to a group of consumables, you are only required to enter your signature once—the signing will apply to all of the consumables in the group.
- The e-Signatures will be displayed in the E-Signatures area of the consumable's *View* page, as well as in its History table.

The signing screens for the review, attest, and approve actions are shown in the following figure. The title bar reflects the corresponding name of the action and the ID of the instance to which the signing is being applied is shown in parenthesis. The appropriate Reason Code is hard-coded and cannot be changed. You are required to enter your user name and password and can optionally add a description.



Signing Dialogs for Review/Attest/Approve Actions

Applying your e-Signature to an annotation

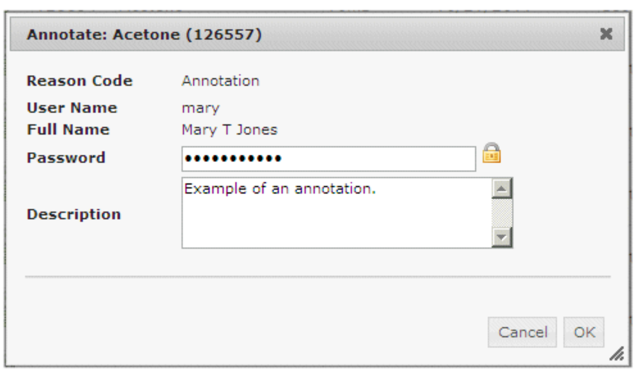
A workflow action may allow eligible users who are currently logged in to enter an annotation and apply their e-signatures in order to officially document or clarify a specific action or observation. The annotation applies to the entire workflow state in which the consumable currently resides. The actual text of the annotation can be viewed in the History table's "Description" column for that consumable. Refer to *Viewing audit trails for a consumable* on page 2-25.

You can add an annotation in several ways:

- In the consumable's *View* page, click the **Annotate** command button above the instance's details.
- In the *Inventory* page, click either **Annotate** button above the grid or the corresponding user-defined action icon in the second column of the grid.

Note that your system administrator may have used a different name for the annotate action.

The signing screen for an annotation is shown below. The title bar reflects the corresponding name of the action and the ID of the instance to which the annotation is being applied is shown in parenthesis. The Reason Code is hard-coded and the user name and full name of the user who is currently logged in are displayed. You are required to enter your password and the text of the annotation.



Signing Screen for an Annotation

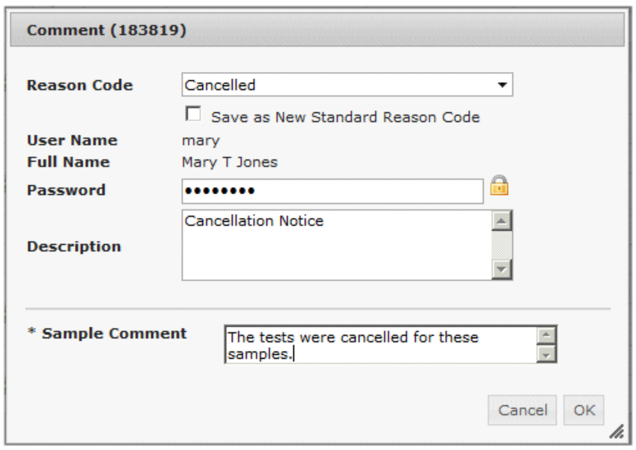
Applying your e-Signature for other reasons

You can apply your electronic signature to a consumable for reasons other than to review, attest, approve, or annotate. For example, you may be required to apply your e-signature when cancelling the tests scheduled for some samples.

You can apply your e-signature in several ways:

- In the consumable's *View* page, click the "signing" command button above the instance's details (for example, Comment).
- In the *Inventory* page, click either the "signing" button above the grid or the corresponding user-defined action icon in the second column of the grid.

The signing screen for applying your e-signature for reasons other than to review, attest, approve, or annotate is shown in the following figure.



Signing Dialog for an Electronic Signature

The title bar reflects the corresponding name of the action and the ID of the instance to which the annotation is being applied is shown in parenthesis.

You must select a Reason Code or enter a new one if you have eligibility. Your user name and full name are displayed and you are required to enter your password. You can optionally enter a description, and your system administrator may have configured additional properties below the line—for example, a required Comment text field.

Note that if an e-signature is applied to a group of consumables, you are only required to enter your signature once—the signing will apply to all of the consumables in the group.

Printing Labels for Consumables

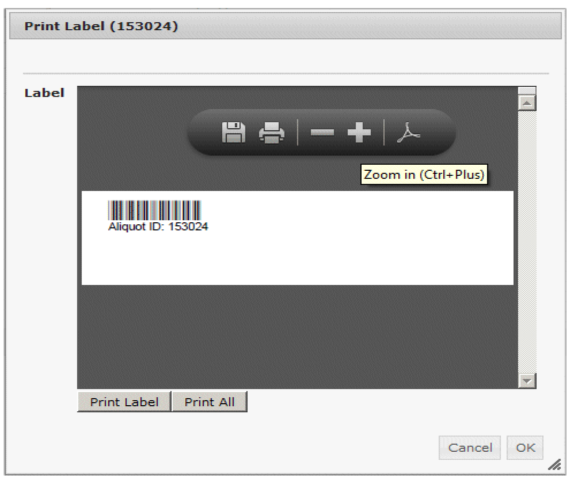
IMPORTANT! You must have the Code 39 font installed in order to print barcode labels correctly. The Code 128 font is not supported for printing barcodes or labels in this release.

A workflow can contain an action that allows eligible users to print a label for one or more consumables. In order to print an associated label, the registered label must have a status of “Active” in the system.

You can print a label in several ways:

- In the consumable’s *View* page, click the **Print Label** command button above the instance’s details.
- In the *Inventory* page, click either **Print Label** above the grid or **Print Label** in the second column of grid.

The *Print Label* dialog box is shown below.



Printing a Label for a Consumable

The *Print Label* dialog displays a thumbnail image of the configured label. When you mouse over the top portion of the dialog box, a toolbar provides additional functions identified by a tool tip.

- Click **Print Label** for a single instance or **Print All** for a group of instances.
- Click OK to close the dialog box.

Discarding Depleted or Expired Consumables

The **Waste** action allows you to delete consumables from the grid in the *Inventory* page. This marks the end of the consumable's life cycle in the system.

You can delete an instance in several ways:

- Click **Delete** in the second column of the grid for the consumable you want to delete.
- Click the **Delete** command button above the grid. Note that your system administrator may have used a different name for the delete action.

Once the consumable is deleted, it is no longer displayed in the *Inventory* page, however, the BIOVIA LIMS database continues to store information for all discarded consumables. You can search for deleted consumables by adding the boolean "AND" and the text to a search query.

For example:

acetone AND wasted

4

Registering and Running Reports on Consumables

Introduction

Eligible users can create, edit, and run reports to generate data on various entities in the system. Once a report is run, you can also print it. You must associate a Crystal Report template with a registered report in order to perform these functions.

Required Eligibility for Managing Reports

In order to manage reports, users must belong to a User Role that has the following eligibilities:

- **Can View Reports**—Allows users to view registered reports and run only those reports in the system whose status is "Active."
- **Can Administer Reports**—Allows users to view and manage all of the reports in the system (all status codes).

Status Codes for Reports

Status codes represent the current state of a report in the system. A report can reside in one of four states:

- **Draft**—When you create a new report, its status is set to "Draft" by default. It is not available for use in the system until you set its status to "Active."
- **Active**—The report is available for use in the system.
- **Upgrading**—The report is unavailable for use in the system. However, existing dependencies will use the last "Active" version of this report.

- **Inactive**—The report is unavailable to users and other dependencies. Existing dependencies cannot use any version of the report.

The following table summarizes the actions that are allowed at each state.

Table 4-1 Allowed Actions for the States of a Report

Action	Status			
	"Draft"	"Active"	"Upgrading"	"Inactive"
Can view reports in system (**Reports** tab)	Administrator only [2]	All users[1]	Administrator only [2]	Administrator only [2]
Can run reports	Administrator only [2]	Yes[1, 2]	Administrator only [2]	No
Can edit reports	Yes[2]	Yes[2]	Administrator only [2]	Yes[2]
Can delete reports	Yes[2]	No	No	No
Can change status to:	Active	Upgrading Inactive	Active	Active
Versioning enforced for changes	Yes	Yes	Yes	Yes
Reason Code required for changes	By system	By user	By user	By user
Can export reports to other systems	No	No	No	No

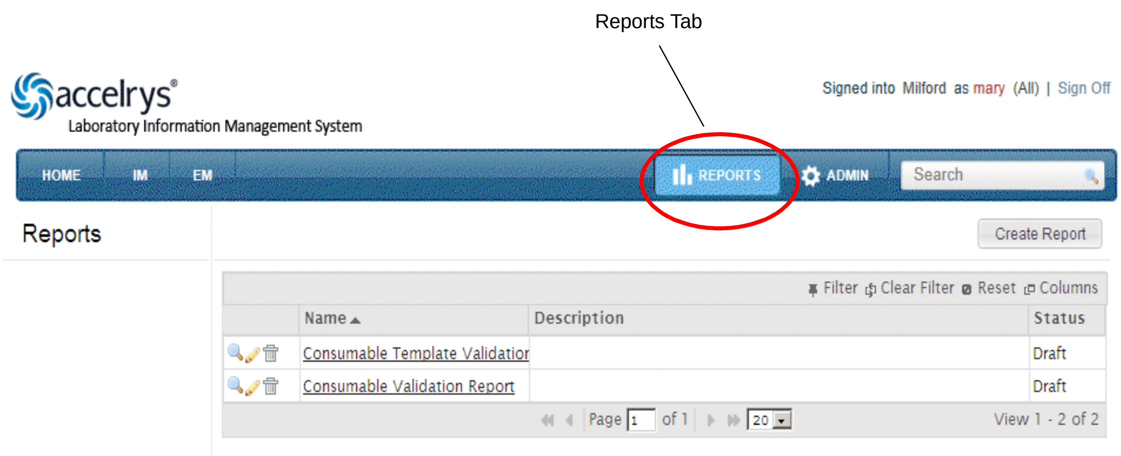
[1] Requires "Can View" eligibility.

[2] Requires "Can View" and "Can Administer" eligibility.

Viewing Configured Reports

To view the configured reports in the system:

1 Click the **REPORTS** tab in the main menu bar. The *Reports* home page is displayed.



"Reports" Home Page

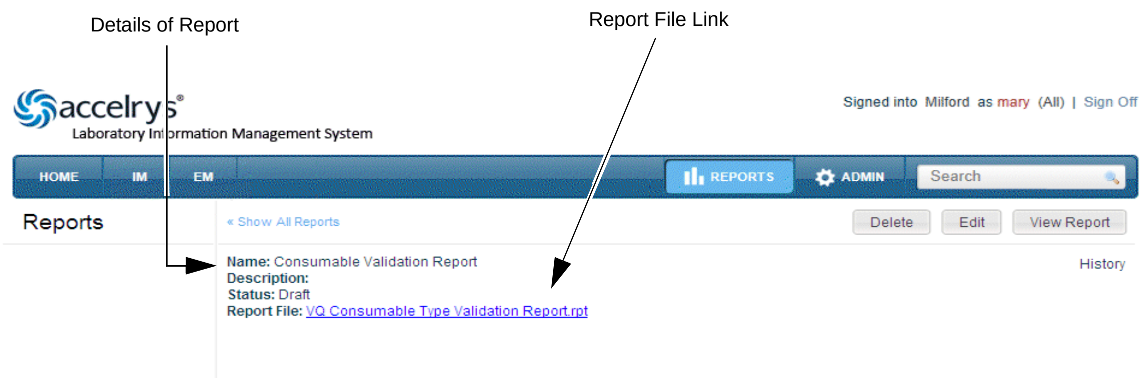
The grid lists all of the reports that are registered in the system. Each report is identified by its name, description, and current status.

The icons in the first column represent actions that you can perform on the Report. These are determined by your user eligibilities as well as the current status of the Report.

- **Run**—Allows eligible users to run the corresponding report.
- **Edit**—Allows eligible users to edit the corresponding report.
- **Delete**—Allows eligible users to delete a report. This icon is only displayed for reports whose status is "Draft."

You can filter the view of the grid as necessary. Refer to *How the Grid Control Works* on page 2-3.

2 To view the details of a report, click the name of a report to open its *View* page.



Viewing Details of a Report

The report's *View* page displays the name, description, and the current status of the report.

- Click the report file link to open and download the Crystal Report file on which this report is based.
- Click the **Delete** button to delete the report. This option is only available for reports whose status is "Draft."
- Click **Edit** to edit the definition of the report. Refer to *Editing a Report* on page 4-5.
- Click **View Report** to run the report. Refer to *Running a Report* on page 4-6.
- Click the **History** link to view the audit trails for this report. Refer to *Viewing Audit Trails for a Report* on page 4-8.

3 To return to *Reports* home page, click **Show All Reports** above the name.

Creating a New Report

To create a new report:

1 Click the **REPORTS** tab in the main menu bar.

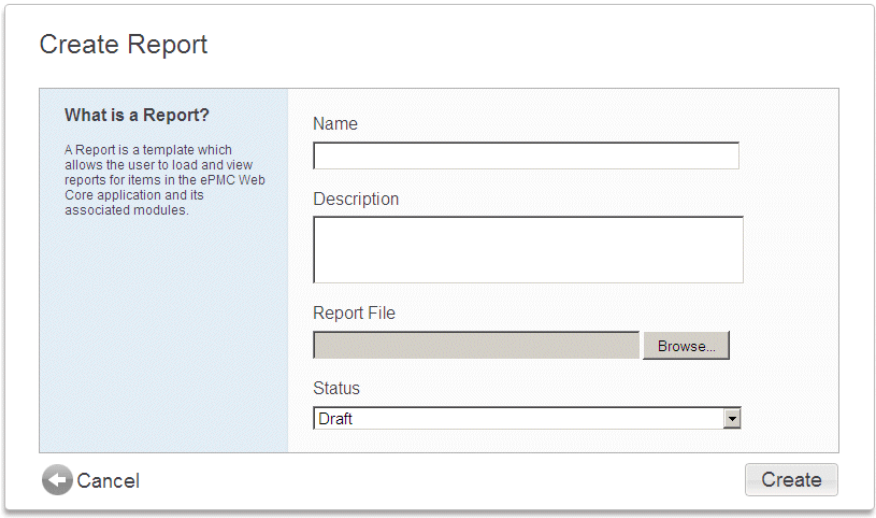
2 In the *Reports* home page, click **Create Report**.

3 In the *Create Report* page:

a. Enter a name for the new report.

b. Enter a description (optional).

c. Click the **Browse** button and select the associated Crystal Report file.



Creating a New Report

d. Click **Create**.

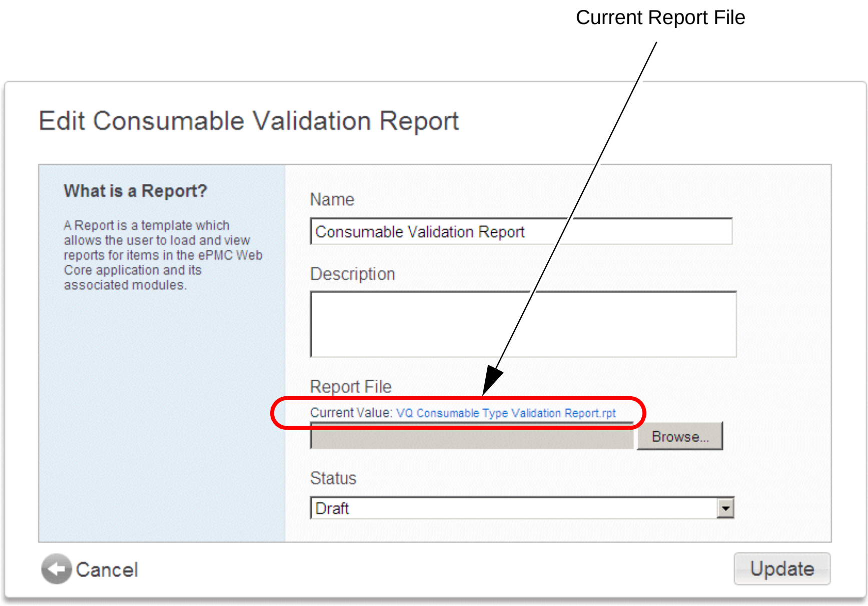
The new report is displayed in the *Reports* home page with a status of "Draft." When this report is ready to be used in the system, edit the report and set its status to "Active." Refer to *Editing a Report* on page 4-5.

Editing a Report

To edit a report:

1. Click the **REPORTS** tab in the main menu bar.
2. In the *Reports* home page, do one of the following:
   - Click **Edit** preceding the report.
   - Click the name of the report to open the report's *View* page, then click **Edit**.

3 In the *Edit Report* page, edit the configured fields as necessary. The current report file is displayed above the Report File field. You can browse to a different report, if necessary.



Editing a Report

4 Click **Update**.

5 In the *Reason Code Entry* dialog box, select a Reason Code and enter your password. The dialog is not displayed for reports whose status is "Draft."

Running a Report

To run a report:

1 Click the **REPORTS** tab in the main menu bar.

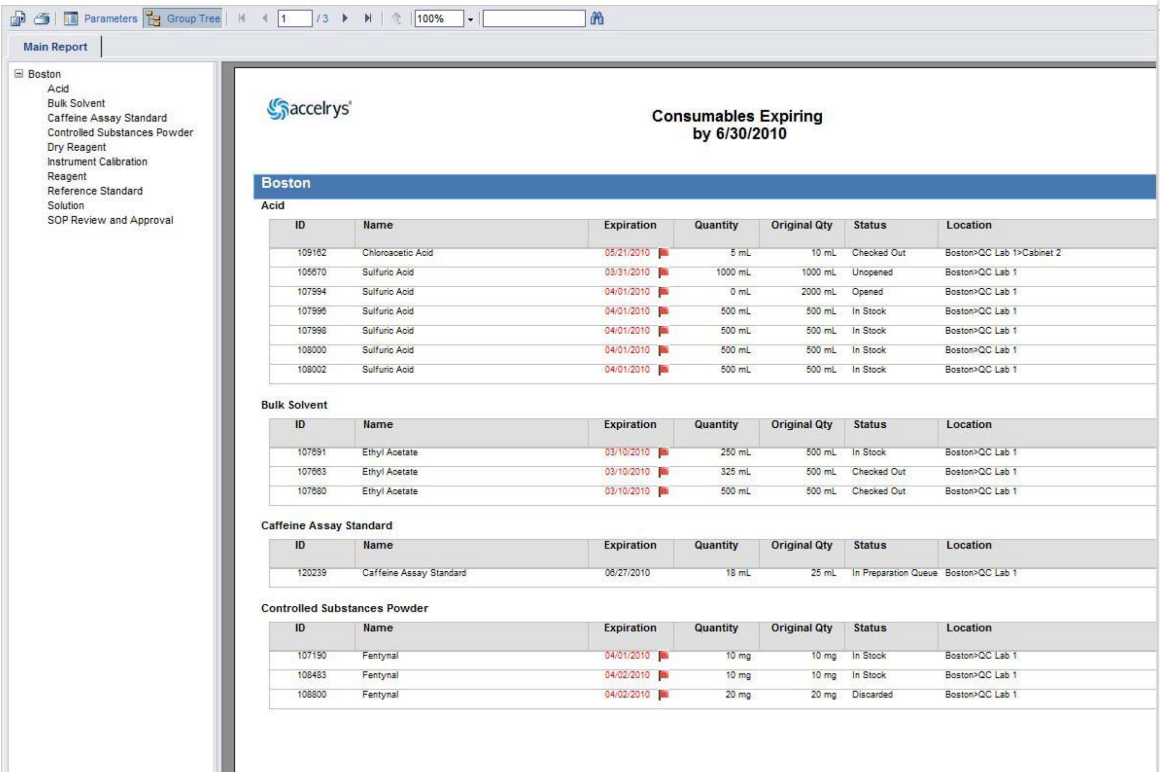
2 In the *Reports* home page, do one of the following:

- Click **View** preceding the report.
- Click the name of the report, and in the report's *View* page, click **View Report**.

3 Configure the parameters for the report.

4 Click **OK** to run the report. The Crystal Report Viewer displays the results of the report.

Note: The time values in registered reports may differ from the values stored in the database by one (1) second. This is caused by the translation that is performed by the Crystal Report Template on the serial value stored in the database.



Consumables Expiring
by 6/30/2010

Boston

Acid

ID	Name	Expiration	Quantity	Original Qty	Status	Location
109162	Chloroacetic Acid	05/21/2010	5 mL	10 mL	Checked Out	Boston>QC Lab 1>Cabinet 2
105670	Sulfuric Acid	03/31/2010	1000 mL	1000 mL	Unopened	Boston>QC Lab 1
107994	Sulfuric Acid	04/01/2010	0 mL	2000 mL	Opened	Boston>QC Lab 1
107996	Sulfuric Acid	04/01/2010	500 mL	500 mL	In Stock	Boston>QC Lab 1
107998	Sulfuric Acid	04/01/2010	500 mL	500 mL	In Stock	Boston>QC Lab 1
108000	Sulfuric Acid	04/01/2010	500 mL	500 mL	In Stock	Boston>QC Lab 1
108002	Sulfuric Acid	04/01/2010	500 mL	500 mL	In Stock	Boston>QC Lab 1

Bulk Solvent

ID	Name	Expiration	Quantity	Original Qty	Status	Location
107691	Ethyl Acetate	03/10/2010	250 mL	500 mL	In Stock	Boston>QC Lab 1
107663	Ethyl Acetate	03/10/2010	325 mL	500 mL	Checked Out	Boston>QC Lab 1
107680	Ethyl Acetate	03/10/2010	500 mL	500 mL	Checked Out	Boston>QC Lab 1

Caffeine Assay Standard

ID	Name	Expiration	Quantity	Original Qty	Status	Location
120239	Caffeine Assay Standard	06/27/2010	18 mL	25 mL	In Preparation Queue	Boston>QC Lab 1

Controlled Substances Powder

ID	Name	Expiration	Quantity	Original Qty	Status	Location
107190	Fentynal	04/01/2010	10 mg	10 mg	In Stock	Boston>QC Lab 1
108483	Fentynal	04/02/2010	10 mg	10 mg	In Stock	Boston>QC Lab 1
108800	Fentynal	04/02/2010	20 mg	20 mg	Discarded	Boston>QC Lab 1

Viewing a Report in the Crystal Report Viewer

Use the functions in the Crystal Report Viewer toolbar to export, print, or search for specific criteria in the report.

Upgrading a Report

To make a report temporarily unavailable while you edit it, set its status to "Upgrading." Its dependencies will use the last active version of the report. Refer to *Editing a Report* on page 4-5.

Inactivating a Report

To make a report permanently unavailable, set its status to "Inactive." Its dependencies in the system will not be able to use this report. Refer to *Editing a Report* on page 4-5.

Exporting a Report

The export function is not supported for reports.

Deleting a Report

You can only delete a reports if its status is "Draft."

To delete a report:

1. Click the **REPORTS** tab in the main menu bar.
2. In the *Reports* home page, do one of the following:
   - Click **Delete** preceding the report.
   - Click the name of the report, and in the *Report View* page, click **Delete**.
3. In the confirmation dialog, click OK to delete the report.

Viewing Audit Trails for a Report

Every change made to a report is recorded in its audit trail.

To view the audit trails for a report.

1. Click the **REPORTS** tab in the main menu bar.
2. In the *Reports* home page, click the report whose history you want to view.
3. In the report's *View* page, click **History** to expand the table of revisions.
4. Select the row that corresponds to the revision you want to view. The selected version is displayed under the table.
5. Click **Print** to print the entire table of revisions.
6. Click **Close** to close the table.

5

Monitoring Consumables with Dashboard Widgets

What is a Widget?

A *widget* is a small element that provides a real-time snapshot of the consumables currently in the system. BIOVIA distributes a predefined set of widgets separately from the IM module, and your administrator will have imported them into your system. The widgets that are available are listed below:

- Consumables by Location Quantity
- Current Users
- Expired Consumables
- Location Quantity by Consumables
- Top Ten Expired Consumables
- Wasted Consumables by Month

Additional widgets will be available periodically as they are developed and released.

The *Home* page of BIOVIA LIMS provides a default “dashboard” that is initially blank. The dashboard area allows you to construct and view the widgets. The widgets display data that is the result of a fixed search query and they reflect an accurate view of the BIOVIA LIMS database at any given time. You cannot edit the information displayed in the widgets, they are intended for viewing only.

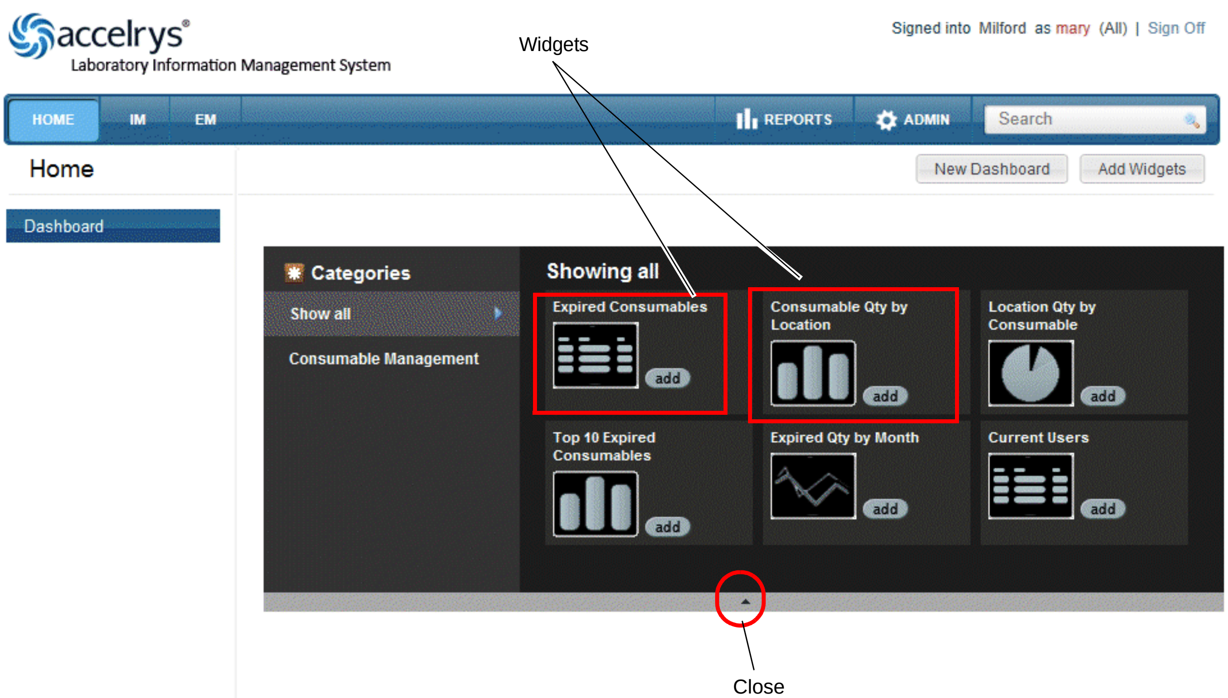
There is no special eligibility required to manage dashboards and widgets—they are available to all users.

Adding Widgets to the Dashboard

To add widgets to the dashboard:

1 Click the **HOME** tab in the main menu bar.

2 Click **Add Widgets**. The Dashboard Configuration Panel is displayed.



Dashboard Configuration Panel

The elements in the Dashboard Configuration Panel are described below:

- **Categories Panel**—Displays all of the categories of available widgets.

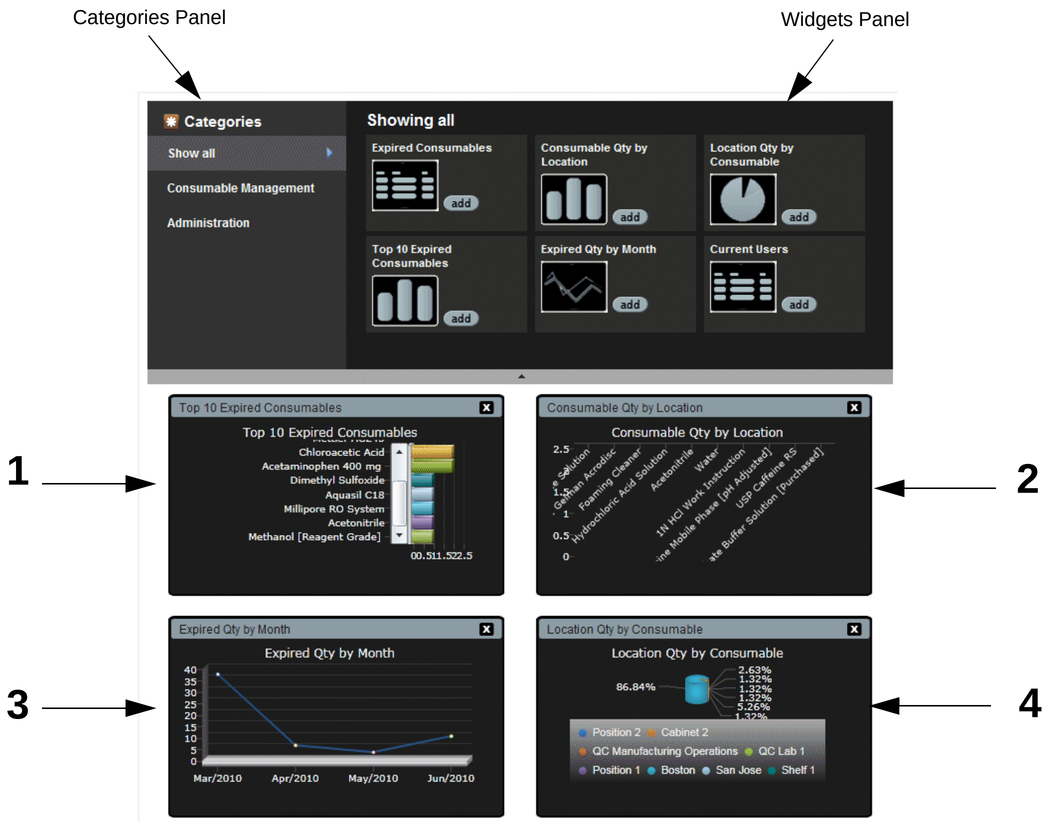
  Show all— Displays all of the currently available widgets.

  <Category>—Displays only those widgets that belong to the selected category.

- **Widgets Panel**—Displays the available widgets for the selected category.

- **Widgets**—The widgets are displayed in rows within the Widget Panel. The graphic for each widget displays the format of the data it represents (for example, graph, chart, and table).
- **Close**—Closes the Dashboard Configuration Panel and saves the dashboard.

3 Click **Add** in the lower right corner of the widget to add it to the dashboard. Widgets are added below the Configuration Panel in the order shown in the following figure.

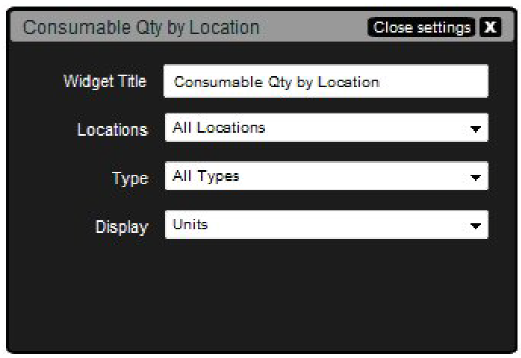


Sequence of Adding Widgets to the Dashboard

Configuring Widget Settings

To configure the settings for a widget:

1 Click Settings in the right corner of the widget's title bar. The Settings Panel is displayed.



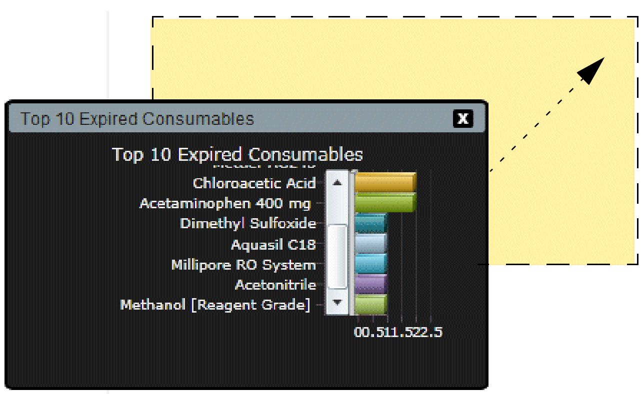
Widget Settings Panel

2 Each widget contains settings unique to its own purpose. Configure the settings as necessary.

3 Click Close settings to go back the original view.

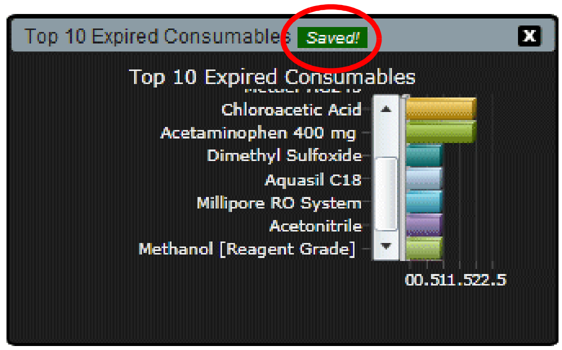
Moving Widgets on the Dashboard

You can drag and drop a widget to a new position on the dashboard. The target position is highlighted in yellow.



Moving Widgets

When you drop the widget to its new position, the title bar indicates the position has been saved.



Saving the New Widget Position

Deleting a Widget

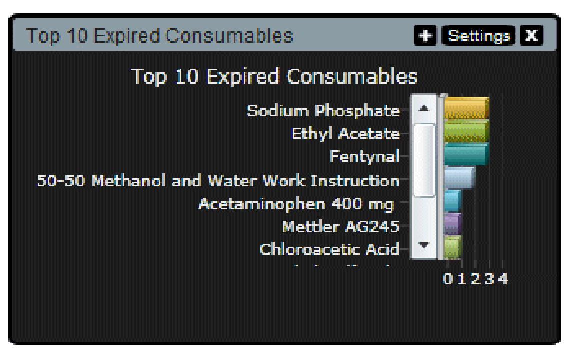
Click  in either the settings or the widget main view to close and remove the widget.

How Widgets Refresh Data

Widgets display the accurate number of consumables in the system in real-time. When the number of items in inventory changes, the widgets update the data in two different ways:

- If the number of categories is the same number after the database change, the widgets update the data automatically without refreshing.

Before: **After:**

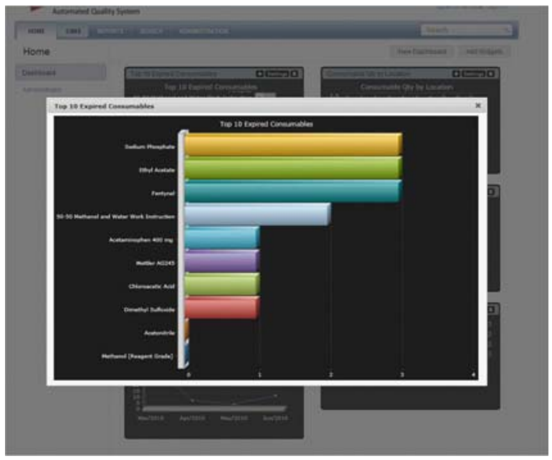


Auto-Refreshing Data

- If the actual number of categories is updated, the widget refreshes to incorporate the new categories. The chart is momentarily blank while it is refreshing.

Expanded View

To expand the view of a widget, click in the upper right corner of the title bar. A larger view of the widget is displayed. This view refreshes the data as described in the previous section.

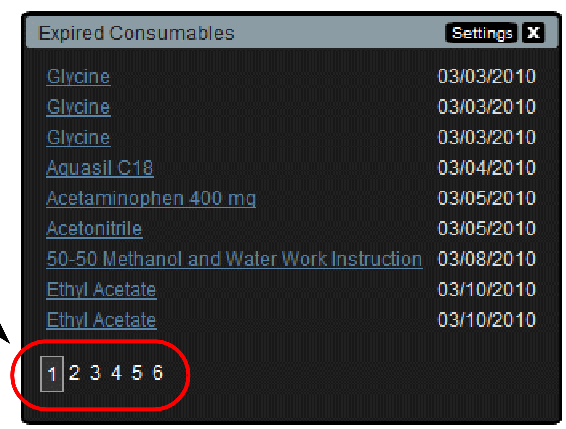


Expanded View of Widget

About Widgets in Table Format

For widgets displayed in table format, a pagination control allows you to page through larger amounts of data.

Pagination Control



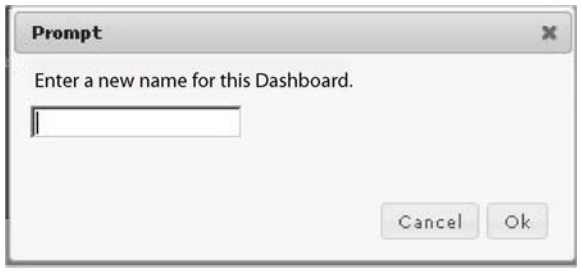
Pagination Control for Widgets in Table Format

Creating a Custom Dashboard

The *Home* contains one default dashboard. You can create additional dashboards as necessary.

To create a new dashboard:

1. In the *Home* page, click **New Dashboard** above the widget viewing area.
2. At the prompt, enter a name for the new dashboard.



Creating New Dashboard

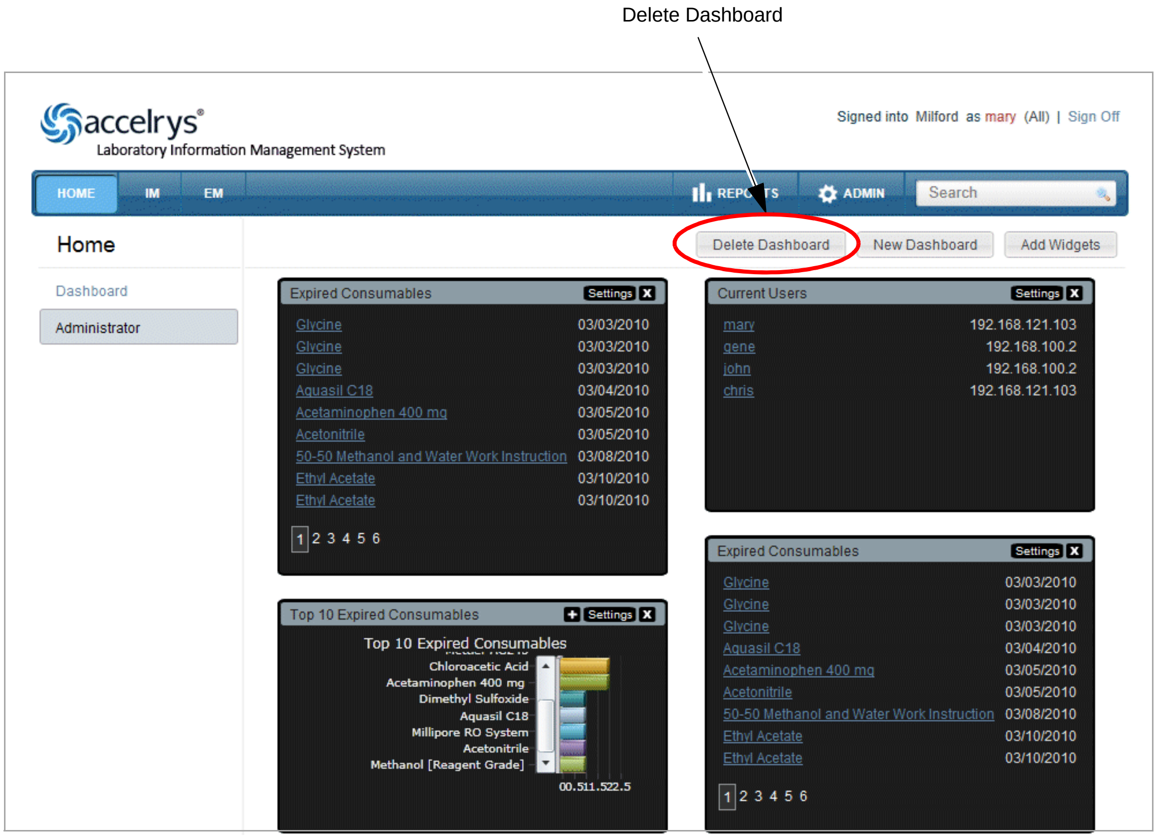
3. Click OK. The new dashboard is listed in the left navigation panel.
4. Click the new dashboard in the left panel to open it.
5. Add widgets to the dashboard, as described on page 5-2.

Deleting a Custom Dashboard

You can delete the custom dashboards that you have created. You cannot delete the default dashboard.

To delete a custom dashboard:

1. In the *Home* page, select the name of the custom dashboard in the left navigation panel.
2. Click **Delete Dashboard** above the widget viewing area.



Deleting a Custom Dashboard