

# LMMS User Guide

LMMS access: <https://aces.nus.edu.sg/lmms>

# Contents

- Types of Roles in LMMS
- Manage user access (for Dept/Faculty Administrators)
- Adding inventory
- Managing inventory

# Types of user roles in LMMS

Name

Role

Status

Location

Faculty / RIRC

- Please Select
- NUS ADMINISTRATOR
- FACULTY ADMINISTRATOR
- DEPARTMENT ADMINISTRATOR
- PRINCIPAL INVESTIGATOR
- RESEARCHER
- LABORATORY ADMINISTRATOR

Access to LMMS must be first granted to you by a department administrator (a role which is usually by the department safety coordinator)

# NUS Administrator

Role	Role Description
NUS ADMINISTRATOR	<ul style="list-style-type: none"><li>• Access to chemical records in all locations in NUS and can perform the following functions: Manage Chemical Name</li><li>• Manage Manufacturer</li><li>• Manage Product</li><li>• Manage Location</li><li>• Manage User Access</li><li>• Generate reports (e.g. Audit trail report)</li><li>• Search inventory records</li><li>• Manage request for new product creation</li></ul>

# Faculty Administrator

Role	Role Description
FACULTY ADMINISTRATOR	<ul style="list-style-type: none"><li>• Access to chemical records in locations belonging to own Faculty and can perform the following functions: Manage User Access</li><li>• Generate reports</li><li>• Search inventory records</li></ul>

- Assigned to Dean of faculty/school, or Director of research institute/centre to have an overview of inventory.

# Department Administrator

Role	Role Description
DEPARTMENT ADMINISTRATOR	<ul style="list-style-type: none"><li>• Access to chemical records in locations belonging to own Department and can perform the following functions:<ul style="list-style-type: none"><li>Manage User Access</li><li>• Generate reports</li><li>• Search inventory records</li></ul></li></ul>

- Assigned to HoD / department safety coordinator

# Principal Investigator

Role	Role Description
PRINCIPAL INVESTIGATOR	<ul style="list-style-type: none"><li>• Access to own inventory records and can perform the following functions: Add New Inventory (with management barcode)</li><li>• Update Inventory</li><li>• Dispense chemical</li><li>• Dispose chemical</li><li>• Repackage chemical</li><li>• Transfer chemical</li><li>• Search inventory records</li><li>• Generate reports (e.g. Chemical Inventory Report)</li><li>• Request for creation of new product</li><li>• Accept / Reject chemical transfer</li></ul>

- Can only view and manage inventory that he/she owns

# Researcher

Role	Role Description
RESEARCHER	<ul style="list-style-type: none"><li>• Access to all inventory records of his/her PI and can be granted access to perform any of the following functions: Add New Inventory (with management barcode)</li><li>• Update Inventory</li><li>• Dispense chemical</li><li>• Dispose chemical</li><li>• Repackage chemical</li><li>• Transfer chemical</li><li>• Search inventory records</li><li>• Generate reports (e.g. Chemical Inventory Report)</li><li>• Request for creation of new product</li><li>• Accept / Reject chemical transfer</li></ul>

- Can only view and manage inventory of the PI and the location that he/she is tagged to

# Lab Administrator

Role	Role Description
LABORATORY ADMINISTRATOR	<ul style="list-style-type: none"><li>• Access to all inventory records of location(s) assigned and can be granted access to perform any of the following functions:<ul style="list-style-type: none"><li>Add New Inventory (with management barcode)</li></ul></li><li>• Update Inventory</li><li>• Dispense chemical</li><li>• Dispose chemical</li><li>• Repackage chemical</li><li>• Transfer chemical</li><li>• Search inventory without management barcode (for barcode tagging purpose)</li><li>• Search inventory records</li><li>• Generate reports (e.g. Chemical Inventory Report)</li><li>• Request for creation of new product</li><li>• Accept / Reject chemical transfer</li></ul>

- Can only view and manage inventory of the location that he/she is tagged to
- Role usually held by the scientific officer, laboratory technologist or laboratory supervisor

# After Login

Welcome to Laboratory Material Management System

Please choose one role that you want to use when accessing this application.

NUS Administrator

Faculty Administrator

Department Administrator

Principal Investigator

Researcher

Laboratory Administrator

Logout

- Some may have multiple roles, ie. Dept administrator, laboratory administrator.
- Click on the desired role

# LMMS Home Page

Home   Inventory ▾   Search Inventory   Report ▾   Switch Role   Logout

List of functions  
available

Welcome to Laboratory Material Management System

Pending action items(s)
No pending action items(s)

Pending action  
items

# Manage User Access



Home Configuration ▾ Search Inventory Report ▾ Switch Role Test Page Logout

Manage User Access ▶

Search User Access

New User Access

Welcome to Laboratory Material Management System

Only for Department/Faculty administrator

- ‘new user access’ to grant new PIs, LTs, staff, students access
- ‘Search user access’ to edit existing users

# Manage new user access

[Home](#) [Configuration](#) [Search Inventory](#) [Report](#) [Switch Role](#) [Test Page](#) [Logout](#)

## Manage User Access (New)

NUSNET ID \*

Role \*

Please Select [View Role Description](#)

- Please Select
- PRINCIPAL INVESTIGATOR
- RESEARCHER
- LABORATORY ADMINISTRATOR

[Submit](#)

[Back to Search page](#)

- Key in valid NUSnet ID
- Select appropriate role

# New User Access - PI

Home Configuration Search Inventory Report Switch Role Test Page Logout

## Manage User Access (New)

NUSNET ID \*

Role \* PRINCIPAL INVESTIGATOR View Role Description

Faculty / RIRC \* ENGINEERING

Department \* CHEM/BM ENG

Location \* Unselected ( Showing all 68 ) Selected ( Empty list )

Filter Filter

→ → ← ←

E4 > 04 > 11A  
E4 > 04 > 11B  
E4A > 07 > 06  
E4A > 07 > 07  
E4A > 07 > 08  
E4A > 07 > 09

Submit Back to Search page

Click to select locations

- Select the appropriate department, and location to assign to PI
- Click on 'submit' and confirm submission

# New User Access - Researcher

## Manage User Access (New)

NUSNET ID \*  Yu Zhiwei, Ryan

Role \* RESEARCHER [View Role Description](#)

Faculty / RIRC \* Please Select ▾

Department \* Please Select ▾

Principal Investigator \* Please Select ▾

Location \* Unselected ( Empty list ) Filter

Click to select locations researcher is working in

- EW2 > 06 > 13
- EW2 > 06 > 14
- EW2 > 06 > 15
- EW2 > 06 > 16
- EW2 > 06 > 18A

Selected ( Empty list ) Filter

- 

Access \*  Add Inventory (with Management Barcode)  
 Dispense Inventory  
 Transfer Inventory  
 Repackage Inventory  
 Dispose Inventory  
 Update Inventory  
 Search Inventory  
 Report

Select type of access rights to grant to the researcher. All functions are selected by default.

[Submit](#) [Back to Search page](#)

# New User Access - Scientific Officer/Lab technologist

- Process is similar to granting researcher access
- Role assigned as laboratory administrator

## Manage User Access (New)

NUSNET ID \*

Role \* LABORATORY ADMINISTRATOR [View Role Description](#)

Faculty / RIRC \* ENGINEERING ▾

Department \* CHEM/BM ENG ▾ ← Select the department

Location \* **Unselected ( Showing all 68 )** **Selected ( Empty list )**

Filter

Filter

→ →

← ←

Click to select locations SO/LT is working in →

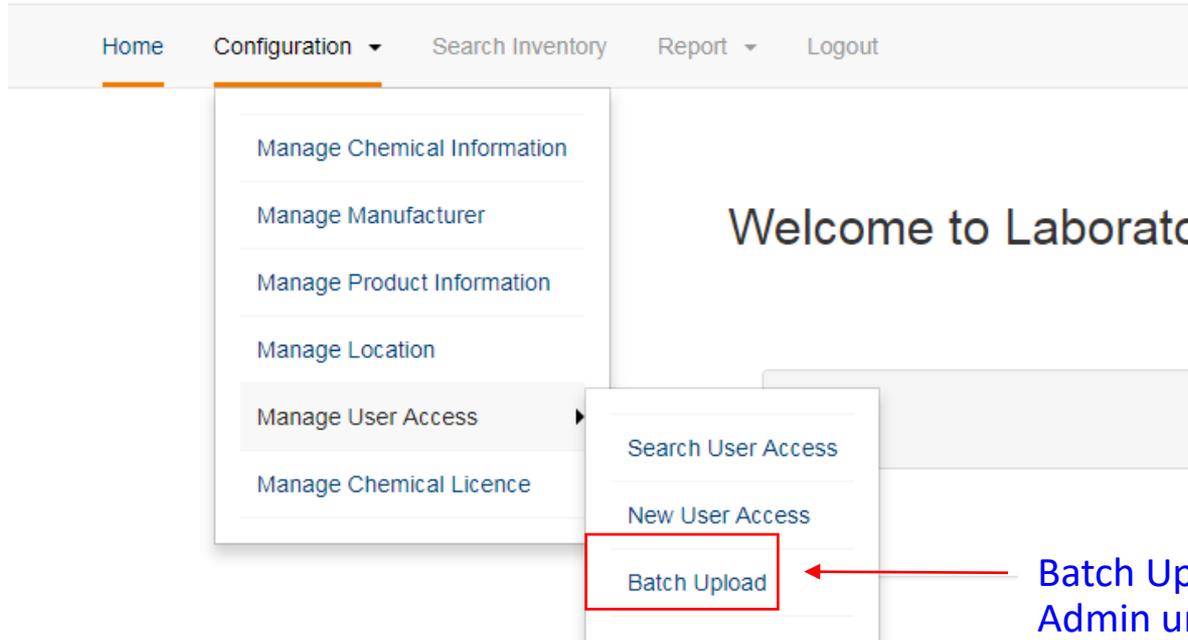
E4 > 04 > 11A  
E4 > 04 > 11B  
E4A > 07 > 06  
E4A > 07 > 07  
E4A > 07 > 08  
E4A > 07 > 09

Access \*

Add Inventory (with Management Barcode)  
 Dispense Inventory  
 Transfer Inventory  
 Repackage Inventory  
 Dispose Inventory  
 Update Inventory  
 Search Inventory  
 Report  
 Add Inventory (without Management Barcode)

Select type of access rights to grant to the SO/LT. All functions are selected by default. ←

# New User Access – Batch Upload



Batch Upload function for Dept. Admin under 'configuration' tab

# New User Access – Batch Upload

## Manage User Access - Batch Upload

Upload File \*

 Browse ...

Submit

Back

Select the template for batch upload of users appointed to the respective role

Principal Investigator

Researcher

Laboratory Administrator



Select appropriate template to download and use.

Complete the excel file and proceed to upload on the same page.

# New User Access – Batch Upload

Researcher\_UserAccess\_Template (5) - Excel

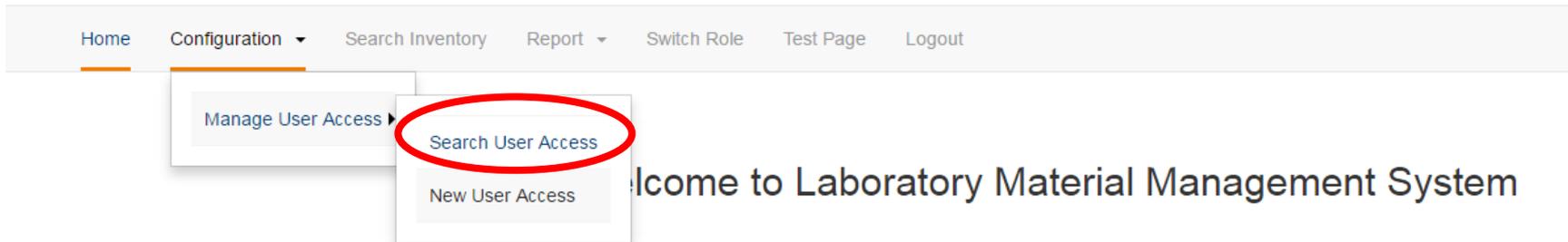
Joel Swee Dao Wen

1	A	B	C	D	E	Access						M	N	O	P	Q	R	S	T	U	V	W	X	Y
						F	G	H	I	J	K													
2	NUSNET ID	Faculty/RIRC	Department	Principal Investigator	Location	Add	Dispense	Transfer	Repackage	Dispose	Update	Report												
3						Y	Y	Y	Y	Y	Y													
4		ARTS & SOC																						
5		DENTISTRY																						
6		DUKE-NUS																						
7		ENGINEERING																						
8		SAW SWEE																						
9		SCHOOL OF SCIENCE																						
10		SPECIALITY F																						

Example of template for batch upload of users

# Update User Access

Change of location, access rights are some examples of reasons for update



At the 'Search User Access' function, search for the relevant user

# Update User Access

Example of search result (*staff with access to 6 locations*):

## Manage User Access - Search

Name

Role

Status  All  Active  InActive

Location

Faculty / RIRC

[Search](#) [New User Access](#) [Clear All](#)

### Search Result

<input type="checkbox"/>	Name	Role	Principal Investigator	Location	Faculty / RIRC	Department
<input type="checkbox"/>	Person abc	LABORATORY ADMINISTRATOR		E5 > 04 > 08	ENGINEERING	CHEM/BM ENG
<input type="checkbox"/>	Person abc	LABORATORY ADMINISTRATOR		E5 > 04 > 07	ENGINEERING	CHEM/BM ENG
<input type="checkbox"/>	Person abc	LABORATORY ADMINISTRATOR		E5 > 04 > 06	ENGINEERING	CHEM/BM ENG
<input type="checkbox"/>	Person abc	LABORATORY ADMINISTRATOR		E5 > 04 > 05	ENGINEERING	CHEM/BM ENG
<input type="checkbox"/>	Person abc	LABORATORY ADMINISTRATOR		E5 > 04 > 04	ENGINEERING	CHEM/BM ENG
<input type="checkbox"/>	Person abc	LABORATORY ADMINISTRATOR		E5 > 04 > 03	ENGINEERING	CHEM/BM ENG

Click on any row to edit the access of user

# Update User Access

Example of user information page:

## Manage User Access (Update)

Name

Role \*  [View Role Description](#)

Faculty / RIRC \*

Department \*

Location \* **Unselected ( Showing all 77 )** **Selected ( Showing all 6 )**

Filter	Filter
<p>→ →</p> <ul style="list-style-type: none"><li>E2 &gt; 02 &gt; 09</li><li>E2 &gt; 02 &gt; 10</li><li>E2 &gt; 02 &gt; 11</li><li>E2 &gt; 02 &gt; 12</li><li>E4 &gt; 04 &gt; 11A</li><li>E4 &gt; 04 &gt; 11B</li></ul>	<p>← ←</p> <ul style="list-style-type: none"><li>E5 &gt; 04 &gt; 03</li><li>E5 &gt; 04 &gt; 04</li><li>E5 &gt; 04 &gt; 05</li><li>E5 &gt; 04 &gt; 06</li><li>E5 &gt; 04 &gt; 07</li><li>E5 &gt; 04 &gt; 08</li></ul>

Access \*  Add Inventory (with Management Barcode)  
 Dispense Inventory  
 Transfer Inventory  
 Repackage Inventory  
 Dispose Inventory  
 Update Inventory  
 Search Inventory  
 Report  
 Add Inventory (without Management Barcode)

[Click to edit](#)

Location can be updated

Access rights can be updated

# Add inventory

Following 'goods receipt' in LMPRS, the items will be automatically updated into the LMMS inventory of the laboratory location.

These items are updated into LMMS as 'inventory without barcode'.

Click on 'Search Inventory' on menu bar



Welcome to Laboratory Material Management System

Pending action items(s)
No pending action items(s)

# Add inventory

Home Inventory Search Inventory Report Switch Role My Requests Logout User Guide FAQ

## Search Inventory

LMMS Barcode  With Barcode  Without Barcode Select 'without barcode' option

Chemical Type  All  Single Chemical  Mixture

Chemical Name

CAS Number

LMMS Barcode

Concentration

Remaining Qty

Purchase Order Number  Input PO number

Owner / Co-Owner(s)

Date of Inventory From Date  To Date

Expiry Date From Date  To Date

Empty Container  Yes  No  All

Container Status  Active  Active (In Transfer)  Disposed  All

Manufacturer

Location

Regulation

Search Clear All

More search criteria can be input to further refine the search

# Add inventory

From the search results generated:

Search Result

<input type="checkbox"/>	Chemical Name	Chemical Type	CAS Number	Location	Cabinet/Shelf	Owner	Co-Owner(s)	Remaining Qty	Concentration
<input type="checkbox"/>	CEOLUS (KG1000) MICROCRYSTALLINE CELLULOSE	MIXTURE		S1 > 02 >				10 (KILOGRAM)	
<input checked="" type="checkbox"/>	16% FORMALDEHYDE SOLUTION	MIXTURE		S1 > 02 >				100 (MILLILITRE)	16 (PERCENTAGE)
<input type="checkbox"/>	CEOLUS (KG1000) MICROCRYSTALLINE CELLULOSE	MIXTURE		S1 > 02 >				10 (KILOGRAM)	
<input type="checkbox"/>	UREA HYDROGEN PEROXIDE	SINGLE CHEMICAL	124-43-6	S1 > 02 >				100 (GRAM)	
<input checked="" type="checkbox"/>	16% FORMALDEHYDE SOLUTION	MIXTURE		S1 > 02 >				100 (MILLILITRE)	16 (PERCENTAGE)

Showing 1 to 5 of 5 rows

Select the relevant items to be tagged with a barcode.

# Add inventory

## Tag Inventory with LMMS Barcode

Selected Inventory

LMMS Barcode *	Transfer To	Chemical Name	CAS Number	Location	Cabinet/Shelf	Owner	Original Qty
please scan or enter barcode	Please Select	16% FORMALDEHYDE SOLUTION		S1 > 02 > SEM		Name of 00042022	100 (MILLILITRE)
please scan or enter barcode	Please Select	16% FORMALDEHYDE SOLUTION		S1 > 02 > SEM		Name of 00042022	100 (MILLILITRE)

Submit Back

Scan or enter the barcodes

'Transfer To' fields can be ignored if the inventory is not transferred to another laboratory group.

# Add inventory < Manual Addition >

(ie. for items costing more than \$15,000 and are purchased outside of LMPRS)



Home Inventory Search Inventory Switch Role Logout

Chemical

Add New Inventory

Manage Inventory

New Product Request

Welcome to Laboratory Material Management System

Pending action items(s)

No pending action items(s)

# Add inventory < Manual Addition >

## Add Inventory - Search Product

Chemical Name

CAS Number

 -  - 

Product Number

Manufacturer Name

Unselected ( Showing all 21 )

Filter

→ →

- 1ST BASE
- ACROS ORGANICS
- AITBIOTECH
- AKZO NOBEL CHEMICALS
- ALFA AESAR
- BASF

Selected ( Empty list )

Filter

← ←

Search

# Add inventory < Manual Addition >

- Click on the desired product to select it for addition to your inventory

Search Result

Click on the desired product to inventorise

	Chemical Name	CAS Number	Chemical Type	Manufacturer	Product Number	Concentration	Grade	Physical Form	Original Qty
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	ACROS ORGANICS	615090010			LIQUID	1 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	ACROS ORGANICS	615110040			LIQUID	4 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	ACROS ORGANICS	615090020			LIQUID	2 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	ACROS ORGANICS	615110010			LIQUID	1 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	AIK MOH			TECHNICAL	LIQUID	5 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	FISHER SCIENTIFIC	BP28184			LIQUID	4 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	FISHER SCIENTIFIC	BP2818100			LIQUID	100 (MILLILITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	FISHER SCIENTIFIC	A9954		CHROMATOGRAPHY (HPLC/GC)	LIQUID	4 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	FISHER SCIENTIFIC	A962P4			LIQUID	4 (LITRE)
Ⓢ	ETHANOL	64-17-5	SINGLE CHEMICAL	FISHER SCIENTIFIC	A405P4			LIQUID	4 (LITRE)

If the desired product is not among the search results, you can click on the 'Ⓢ' button to request for a product to be added to the LMMS database based on an existing record (eg. using the button when the same chemical of a different packaging quantity is not found). Refer to section on 'New Product Request' for more information

# Add inventory < Manual Addition >

- Product information will be shown.

Select the location  
to inventorise to

PI will be shown  
as the owner

Manufacturer Name	MERCK
Product Number	
Concentration	99 (PERCENTAGE)
Grade	GENERAL PURPOSE REAGENT
Physical Form	LIQUID
Original Packaging Quantity	1 (LITRE)
SDS File (PDF file only and max. 1MB)	<a href="#">Download</a>
Location *	EW2 > 06 > 13 ▾
Owner *	Swee Dao Wen ▾
Cabinet/Shelf	
Expiry Date *	15-Aug-2021 
Purchase Order Number	
Number of Container * <small>between 1 to 20</small>	3

Enter the number of bottle of the  
chemical that you are inventorising

[Tag Container With Barcode](#) [Back](#)

# Add inventory < Manual Addition >

- Tag the bottles with LMMS management barcodes, scan the barcodes for entry

Number of Container \* **between 1 to 20**

3

## List of Containers

Clear Container

S/N	Management Barcode
1	<u>please scan/enter barcode</u>
2	<u>please scan/enter barcode</u>
3	<u>please scan/enter barcode</u>

Barcodes will appear here after scanning.

Submit

Back

# Add inventory (Lab Admin only)

< Manual Addition >

The screenshot shows a web form for adding inventory. The form includes the following fields:

- Location \***: A dropdown menu with the text "Please Select".
- Add Inventory To \***: A radio button selection area with two options: "Principal Investigator" and "Central Store/Teaching Lab". This area is highlighted with a red rectangular box. A red arrow points from the text "LT can select where to add inventory to" to this box.
- Owner \***: A dropdown menu with the text "Please select".
- Cabinet/Shelf**: A text input field.
- Expiry Date \***: A date input field showing "12-Sep-2021" with a calendar icon.
- Purchase Order Number**: A text input field.
- Number of Container \***: A text input field with a grey tooltip that says "between 1 to 20".

At the bottom right of the form is an orange "Back" button.

Additional functions for LT:

- a) Add inventory on behalf of PI
- b) Add inventory to central store/teaching lab
  - Option of adding chemicals without tagging LMMS barcode

# Add inventory (Lab Admin only) – inventory without barcodes < Manual Addition >

## Add Inventory

Chemical Name	ETHANOL
CAS Number	64 - 17 - 5
Synonym	ETHYL ALCOHOL
Manufacturer	FISHER SCIENTIFIC
Product Number	
Concentration	100 (PERCENTAGE)
Grade	ACS
Physical Form	LIQUID
Original Packaging Quantity	2.5 (LITRE)
SDS File (PDF file only and max. 1MB)	<a href="#">Download</a>
Location *	E4 > D4 > 11A -
Add Inventory To *	<input type="radio"/> Principal Investigator <input checked="" type="radio"/> Central Store/Teaching Lab
Owner *	Please select -
Cabinet/ Shelf	
Expiry Date *	14-Sep-2021
Purchase Order Number	
Number of Container * <small>(between 1 to 20)</small>	
	<a href="#">Submit Without Tagging Barcode</a> <a href="#">Tag Container With Barcode</a> <a href="#">Back</a>

- For departments with central stores, Lab Technologists have the option of inventorising chemicals without tagging of barcode
- In managing central chemical stores, there could be instances where multiple bottles are delivered in carton boxes. It may not be practical to open all the boxes and tag the bottles. These bottles could be inventorised first without tagging of barcode
- At the point where the bottles are collected by the researchers, they can be transferred to the respective PI and tagged with a barcode in the system.

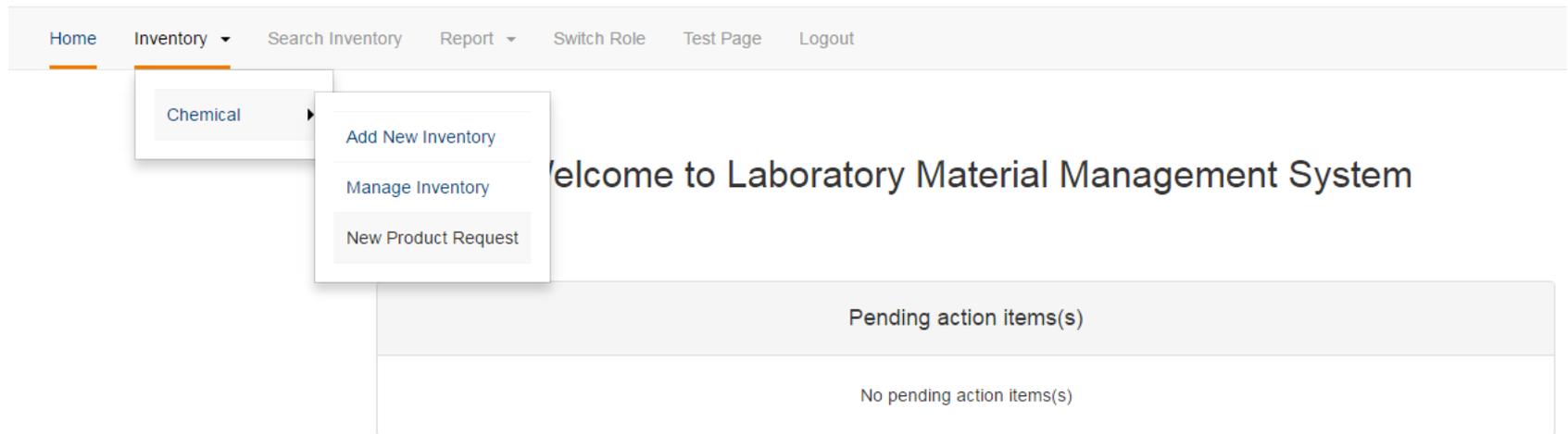
Selection option for adding inventory to central store

Selection option to inventorise without barcode. Click on 'Submit' button to inventorise

# Add inventory (notes)

- Each location is configured with a maximum allowable quantity (MAQ) of petroleum and flammable materials (PFM) that can be stored.
- User cannot inventorise PFM if the storage exceeds the MAQ.

# For products that cannot be found



- Request new products to be added in the system database
- To be used when chemical information cannot be retrieved in LMPRS
- Purchase request can still proceed in LMPRS if chemical can be retrieved but desired product is not available (eg. different packaging size, purity, grade, etc) <refer to page 36 for illustration>

# For products that cannot be found

In LMPRS:

## New Purchase Request - Search Chemical

Enter chemical name or CAS (preferred) to search for chemical products.

- Product number, packaging size and manufacturer input are optional
- If name or CAS of chemical cannot be retrieved, please proceed to LMMS to request for addition of the chemical/chemical mixture.

Display  All  Chemical only  Product only

Chemical Name

CAS Number

Product Number

Packaging Size

Manufacturer   
1-MATERIAL  
1ST BASE  
2D SEMICONDUCTORS  
3A CHEMICALS

Showing all 1035

Empty List

Input the CAS  
(or chemical  
name)

Select the first  
option (which has  
some blank fields)  
and LMPRS will  
allow user to input  
the necessary  
product information

Search Result										
	Chemical Name	CAS Number	Regulation(s)	Packaging Size	Concentration	Physical Form	Grade	Manufacturer	Product Number	Type
<input type="button" value="Add"/>	FORMALDEHYDE	50-00-0	HAZARDOUS SUBSTANCES (LICENCE)							SINGLE CHEMICAL
<input type="button" value="Add"/>	FORMALDEHYDE	50-00-0	HAZARDOUS SUBSTANCES (LICENCE)	200 mL	100 Percentage	Liquid		POLYSCIENCES	18814-20	SINGLE CHEMICAL





# New product request (mixtures)

ie. no CAS number for the chemical product

[Home](#) [Inventory](#) [Search Inventory](#) [Report](#) [Switch Role](#) [Test Page](#) [My Requests](#) [Logout](#)

## New Product Request

Please choose one type of request before you proceed

Single Chemical

Mixture

New Product Request - Mixture

Chemical Name \*  Please Select

Synonym  + -

Regulation \*

Manufacturer \*  Please Select

Product Number

Concentration

Unit of Measure - Concentration  Please Select

Grade  Please Select

Physical Form \*  Please Select

Original Packaging Quantity \*

Unit of Measure \*  Please Select

SDS File (PDF file only and max. 1MB) \*  Browse ...

Remarks

Submit Cancel

- Request of mixture is similar to that of single chemical, except that users will be required to identify the local regulations applicable to the product.

# Manage inventory

- Access to functions which is granted to the user such as **dispense, dispose, repackage, transfer, etc**



Home Inventory Search Inventory Switch Role Logout

Chemical

Add New Inventory

Manage Inventory

New Product Request

Welcome to Laboratory Material Management System

Pending action items(s)

No pending action items(s)

# Manage inventory

- Scan or key in the LMMS management barcode of the chemical



[Home](#) [Inventory ▾](#) [Search Inventory](#) [Switch Role](#) [Logout](#)

## Manage Inventory

Management Barcode

Submit

# Manage inventory

- Information of chemical bottle will be displayed
- Select action to be taken

Container Status	ACTIVE
Owner	Swee Dao Wen
Management Barcode	0000000031
Location	EW2 > 06 > 13
Cabinet/Shelf	
Expiry Date	15-Aug-2021
Purchase Order Number	
Remaining Quantity	1 (LITRE)

^ Usage History

No record found.

Select action to be taken

Dispense Repackage Dispose Update Transfer Back

# Manage inventory – repackage

- Repackage → to divide the contents of the bottle into smaller quantities for storage or transfer.
- Select number of bottles to repackage into and proceed to tag with barcode.

Remaining Quantity(after repackaging)

0.000 (LITRE)

Number of Container \* **between 1 to 20**

2

## List of Containers

S/N	Management Barcode *	Quantity (LITRE) *
1	0000000036	0.5
2	0000000037	0.5

# Manage inventory – dispense

- Enter intended dispense quantity
- Purpose of usage: research (default)

Cabinet/Shelf	<input type="text"/>
Expiry Date	15-Aug-2021
Purchase Order Number	<input type="text"/>
Remaining Quantity	0.900 (LITRE)

---

^ Usage History

No record found.

---

Dispensed Quantity *	<input type="text" value="0.1"/> (LITRE)
Purpose of Usage	<input type="text" value="RESEARCH"/>

# Manage inventory – dispense

- History of transactions recorded
  - to fulfill requirements of regulations, ie where usage of explosive precursors, drugs must be tracked.

## ^ Usage History

Date	Dispensed Quantity (LITRE)	Purpose of Usage	Last Updated By	Usage Type
16-Aug-2016	0.2	TEST	Swee Dao Wen	DISPENSE
16-Aug-2016	0.1	RESEARCH	Swee Dao Wen	DISPENSE

 Dispense  Repackage  Dispose  Update  Transfer  Back

# Manage inventory – transfer

- Select the relevant bottle, the transfer function will be available if the access rights are given.

Container Status	ACTIVE
Owner	Swee Dao Wen
Management Barcode	0000000031
Location	EW2 > 06 > 13
Cabinet/Shelf	
Expiry Date	15-Aug-2021
Purchase Order Number	
Remaining Quantity	1 (LITRE)

^ Usage History

No record found.

[Dispense](#) [Repackage](#) [Dispose](#) [Update](#) [Transfer](#) [Back](#)

# Manage inventory – transfer

Usage History

No record found.

Receiver NUSNET ID \*

Transfer Back

Enter PI or Lab Admin NUSnet ID

- Only able to transfer chemical bottles to someone with access to LMMS
- Transfer only to principal investigators or laboratory technologists
  - Researchers do not own chemicals, however they can manage the inventory of their PI (if the relevant rights are granted in the system)

# Manage inventory – accepting transfer

Welcome to Laboratory Material Management System

Pending action items(s)			
Date	Action Item(s)	Recipient	Requestor
16-Aug-2016	To accept chemical transfer	Swee Dao Wen	Tang Fenglin
16-Aug-2016	To accept chemical transfer	Swee Dao Wen	Kwong Mew Yuen

- Persons who can accept/reject transfer:
  - i. Principal investigator
  - ii. Researcher (only if access rights have been granted)
  - iii. Laboratory Technologist (only if access rights have been granted)

# Manage inventory – accepting transfer

- View the list of chemical bottles being transferred
- Perform the necessary action: to accept or reject

## Manage Inventory (Transfer)

Please accept the following inventory transfer from Kwong Mew Yuen

<input type="checkbox"/>	Chemical Name	CAS Number	Management Barcode	Remaining Quantity	Concentration	Grade	Physical Form	Manufacturer Name	St
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	0000000001	66 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	0000000007	49 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	4352423424	2.35 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	4524234242	2.45 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	4524342424	2.45 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	3242434242	2.45 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	4252523423	2.45 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	1243123123	2.45 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	5324242413	3.05 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI
<input type="checkbox"/>	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	0000000011	70 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	NI

Accept Reject

Able to select multiple records to accept/reject

# Manage inventory – accepting transfer

- Select location to inventorise the chemical bottles to (applicable for users with multiple locations)

Recipient: Swee Dao Wen

Location \*  
Please select ▾

Cabinet/Shelf

Search

- Please select
- EW2 > 06 > 13
- EW2 > 06 > 14
- EW2 > 06 > 15
- EW2 > 06 > 16
- EW2 > 06 > 18A

Submit Cancel

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# Manage inventory – accepting transfer

## Manage Inventory (Transfer) - Confirmation

Please accept the following inventory transfer from Kwong Mew Yuen

Inventory record(s) have been transferred successfully.

Chemical Name	CAS Number	Management Barcode	Remaining Quantity	Concentration	Grade	Physical Form	Manufacturer Name	Status
SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	0000000001	66 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	ACCEP
SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	0000000007	49 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	ACCEP

Recipient

Swee Dao Wen

Location \*

EW2 > 06 > 13

Cabinet/Shelf

- Shows the successful acceptance of chemical bottle, and it is being inventorised to selected location.

# Manage inventory – rejecting transfer

	CAS Number	Management Barcode	Remaining Quantity	Concentration	Grade
RATE	20624-25-3	0000000001	66 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	0000000007	49 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	4352423424	2.35 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	4524234242	2.45 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	4524342424	2.45 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	3242434242	2.45 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	4252523423	2.45 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	1243123123	2.45 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	5324242413	3.05 (GRAM)	100 (PERCENTAGE)	ACS
RATE	20624-25-3	0000000011	70 (GRAM)	100 (PERCENTAGE)	ACS

Comments will be  
required when rejecting  
chemicals

Remarks \*

test test

# Manage inventory – rejecting transfer

## Manage Inventory (Transfer) - Confirmation

Please accept the following inventory transfer from Kwong Mew Yuen

Transfer request has been rejected successfully. An email will be sent to the requestor.

Chemical Name	CAS Number	Management Barcode	Remaining Quantity	Concentration	Grade	Physical Form	Manufacturer Name	Status
SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	20624-25-3	4352423424	2.35 (GRAM)	100 (PERCENTAGE)	ACS	SOLID	ACROS ORGANICS	REJEC

Remarks \*

test test

OK

- Email notification will be sent when transfer is rejected.
- Remarks will be included in the email notification.

# Manage inventory – (Lab Admin only) transfer inventory without barcodes

The screenshot shows the 'Search Inventory' page. At the top, a navigation bar contains 'Home', 'Inventory', 'Search Inventory', 'Report', 'Switch Role', 'Test Page', and 'Logout'. The 'Search Inventory' link is highlighted with a red box and an arrow pointing to it with the text 'Click on 'search inventory''. Below the navigation bar, the page title is 'Search Inventory'. Under 'Management Barcode', there are two radio buttons: 'With Barcode' and 'Without Barcode'. The 'Without Barcode' option is selected and highlighted with a red box and an arrow pointing to it with the text 'Select inventory without barcode'. Below this are input fields for 'Chemical Name' and 'CAS Number'. The 'CAS Number' field is a three-part input with hyphens. Below these is a 'Manufacturer' dropdown menu. Further down is a 'Location' section with a dropdown arrow. Below the 'Location' dropdown are two columns: 'Unselected (Showing all 68)' and 'Selected (Empty list)'. The 'Unselected' column has a 'Filter' input and a list of location codes: E4 > 04 > 11A, E4 > 04 > 11B, E4A > 07 > 06, E4A > 07 > 07, E4A > 07 > 08, and E4A > 07 > 09. This list is highlighted with a red box and an arrow pointing to it with the text 'You may refine your search by entering the chemical and/or location'. Below the list is a 'Cabinet/Shelf' input field. At the bottom right, there are 'Search' and 'Clear All' buttons.

Click on 'search inventory'

Select inventory without barcode

You may refine your search by entering the chemical and/or location

# Manage inventory – (Lab Admin only) transfer inventory without barcodes

<input type="checkbox"/>	Chemical Name	CAS Number	Location	Cabinet/Shelf	Owner	Remaining Qty	Concentration	Grade
<input checked="" type="checkbox"/>	HYDROGEN PEROXIDE	7722-84-1	E4A > 07 > 06		Swee Dao Wen	1 (LITRE)	20 (PERCENTAGE)	ANALYTICAL REAGE
<input type="checkbox"/>	ETHANOL	64-17-5	E4A > 07 > 07		Swee Dao Wen	2.5 (LITRE)	100 (PERCENTAGE)	ACS
<input checked="" type="checkbox"/>	HYDROGEN PEROXIDE	7722-84-1	E4A > 07 > 06		Swee Dao Wen	1 (LITRE)	20 (PERCENTAGE)	ANALYTICAL REAGE
<input type="checkbox"/>	HYDROGEN PEROXIDE	7722-84-1	E4A > 07 > 06		Swee Dao Wen	1 (LITRE)	20 (PERCENTAGE)	ANALYTICAL REAGE
<input type="checkbox"/>	(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-HEPTADEC AFLUORONONYL)OXIRANE	38565-53-6	E4A > 07 > 06		Kwong Mew Yuen	25 (MILLILITRE)	100 (PERCENTAGE)	GENERAL PURPOSE
<input type="checkbox"/>	(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-HEPTADEC AFLUORONONYL)OXIRANE	38565-53-6	E4A > 07 > 06		Kwong Mew Yuen	25 (MILLILITRE)	100 (PERCENTAGE)	GENERAL PURPOSE
<input type="checkbox"/>	(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-HEPTADEC AFLUORONONYL)OXIRANE	38565-53-6	E4A > 07 > 06		Kwong Mew Yuen	25 (MILLILITRE)	100 (PERCENTAGE)	GENERAL PURPOSE
<input type="checkbox"/>	(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-HEPTADEC AFLUORONONYL)OXIRANE	38565-53-6	E4A > 07 > 06		Kwong Mew Yuen	25 (MILLILITRE)	100 (PERCENTAGE)	GENERAL PURPOSE
<input type="checkbox"/>	(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-HEPTADEC AFLUORONONYL)OXIRANE	38565-53-6	E4A > 07 > 06		Kwong Mew Yuen	25 (MILLILITRE)	100 (PERCENTAGE)	GENERAL PURPOSE
<input type="checkbox"/>	(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-HEPTADEC AFLUORONONYL)OXIRANE	38565-53-6	E4A > 07 > 06		Kwong Mew Yuen	25 (MILLILITRE)	100 (PERCENTAGE)	GENERAL PURPOSE

Showing 1 to 10 of 24 rows  records per page

[Tag Container With Barcode](#) [Export to Excel](#)

From the search results, select the  
desired chemicals and tag containers

# Manage inventory – (Lab Admin only) transfer inventory without barcodes

## Tag Inventory with Management Barcode

Selected Inventory

Scan or enter barcode

Management Barcode *	Transfer To	Chemical Name	CAS Number	Location	Cabinet/Shelf	Owner	Original Qty
please scan or enter barcode	NUSNET ID	HYDROGEN PEROXIDE	7722-84-1	E4A > 07 > 06		Swee Dao Wen	1 (LITRE)
please scan or enter barcode	NUSNET ID	HYDROGEN PEROXIDE	7722-84-1	E4A > 07 > 06		Swee Dao Wen	1 (LITRE)

Enter the PI to transfer to,

Submit

Back

*eg.*

*Student ABC from PI #1's lab group came to the central chemical store / lab supplies store to collect the chemical.*

*The transfer should be made to PI #1*

# Manage inventory – dispose

Management Barcode	0000000036
Location	EW2 > 06 > 13
Cabinet/Shelf	
Expiry Date	15-Aug-2021
Purchase Order Number	
Remaining Quantity	0.5 (LITRE)

Usage History

No record found.

Quantity to Dispose \*

Please Select

- Please Select
- 0
- 0.5

Submit Back

- User can select quantity of chemicals to be disposed:
  - Remaining quantity left in bottle, or
  - Dispose as empty bottle (ie. 0)

# Manage Inventory – Update

Management Barcode *	<input type="text" value="0000000036"/>
Location *	<input type="text" value="EW2 &gt; 06 &gt; 13 ▼"/>
Cabinet/Shelf	<input type="text"/>
Expiry Date *	<input type="text" value="15-Aug-2021"/> 
Purchase Order Number	<input type="text"/>
Remaining Quantity	<input type="text" value="0.5 (LITRE)"/>

- User can update the:
  - Management barcode (eg. barcode is worn out)
  - Location (chemical is moved to another of the PI's location)

# Manage Inventory – Update

User can do a 'mass' update to the location of chemicals (Eg. when shifting labs)

Click to select all

<input checked="" type="checkbox"/>	Action	Chemical Name	Chemical Type	CAS Number	Location	Cabinet/Shelf	Owner	Management Barcode	Remaining Qty	Concentration	Gr
<input checked="" type="checkbox"/>	   	ETHANOL	SINGLE CHEMICAL	64-17-5	EW2 > 06 > 13		Swee Dao Wen	0000000032	1 (LITRE)	99 (PERCENTAGE)	GE
<input checked="" type="checkbox"/>	   	ETHANOL	SINGLE CHEMICAL	64-17-5	EW2 > 06 > 13		Swee Dao Wen	0000000036	0.5 (LITRE)	99 (PERCENTAGE)	GE
<input checked="" type="checkbox"/>	   	ETHANOL	SINGLE CHEMICAL	64-17-5	EW2 > 06 > 13		Swee Dao Wen	0000000037	0.5 (LITRE)	99 (PERCENTAGE)	GE
<input checked="" type="checkbox"/>	   	FORMALDEHYDE	SINGLE CHEMICAL	50-00-0	EW2 > 06 > 13		Swee Dao Wen	0000900000	1 (LITRE)		
<input checked="" type="checkbox"/>	   	FORMALDEHYDE	SINGLE CHEMICAL	50-00-0	EW2 > 06 > 13		Swee Dao Wen	0000900001	1 (LITRE)		
<input checked="" type="checkbox"/>	   	HYDROGEN PEROXIDE	SINGLE CHEMICAL	7722-84-1	EW2 > 06 > 13		Swee Dao Wen	1000000200	1 (LITRE)	20 (PERCENTAGE)	AN
<input checked="" type="checkbox"/>	   	POTASSIUM CHLORIDE	SINGLE CHEMICAL	7447-40-7	EW2 > 06 > 13		Swee Dao Wen	0000000486	1 (KILOGRAM)	99 (PERCENTAGE)	GE
<input checked="" type="checkbox"/>	   	POTASSIUM CHLORIDE	SINGLE CHEMICAL	7447-40-7	EW2 > 06 > 13		Swee Dao Wen	0000000489	1 (KILOGRAM)	99 (PERCENTAGE)	GE
<input checked="" type="checkbox"/>	   	POTASSIUM CHLORIDE	SINGLE CHEMICAL	7447-40-7	EW2 > 06 > 13		Swee Dao Wen	0000000492	1 (KILOGRAM)	99 (PERCENTAGE)	GE
<input checked="" type="checkbox"/>	   	CHEMICAL MIX TEST 1	MIXTURE		EW2 > 06 > 13		Swee Dao Wen	0000003001	100 (MILLILITRE)		AC

Showing 1 to 10 of 15 rows  records per page

< 1 2 >

Click to update

 Dispose  Update  Transfer  Export to Excel

# Manage inventory without barcodes (Lab Admin only)

## Search Inventory

LMMS Barcode

With Barcode  Without Barcode

Chemical Type

All  Single Chemical  Mixture

Chemical Name

CAS Number

Concentration

Remaining Qty

Purchase Order Number

Owner / Co-Owner(s)

Date of Inventory

▼ Manufacturer

▼ Location

- At the point where the untagged bottles are collected by the researchers from the central chemical store, this function can be used to tag and transfer the bottles to the research group (with PI as the owner of the chemical).
- Under 'search inventory', select 'without barcode option'
- You may refine the search criteria to search for the desired chemical bottle(s).

# Manage inventory without barcodes (Lab Admin only)

Search Result

<input type="checkbox"/>	Chemical Name	Chemical Type	CAS Number	Location	Cabinet/Shelf	Owner	Co-Owner(s)	Remaining Qty	Concentration	Grade
<input checked="" type="checkbox"/>	FORMALDEHYDE	SINGLE CHEMICAL	50-00-0	E2 > 02 > 09		Name of <input type="text"/>		500 (MILLILITRE)		LIFE SCIENCE APPLICATIONS
<input type="checkbox"/>	FORMALDEHYDE	SINGLE CHEMICAL	50-00-0	E2 > 02 > 09		Name of <input type="text"/>		500 (MILLILITRE)		LIFE SCIENCE APPLICATIONS
<input checked="" type="checkbox"/>	FORMALDEHYDE	SINGLE CHEMICAL	50-00-0	E2 > 02 > 09		Name of <input type="text"/>		4 (LITRE)	37 (PERCENTAGE)	ACS

Showing 1 to 3 of 3 rows

[Tag Container With Barcode](#) [Export to Excel](#)

- By selecting the desired bottle(s) from the search results, and clicking on the 'tag container with barcode' button, the transfer can be made.

# Manage inventory without barcodes (Lab Admin only)

## Tag Inventory with LMMS Barcode

Selected Inventory

LMMS Barcode *	Transfer To	Chemical Name	CAS Number	Location	Cabinet/Shelf	Owner	Original Qty
<input type="text" value="please scan or enter barcode"/>	<input type="text" value="Please Select"/>	FORMALDEHYDE	50-00-0	E2 > 02 > 09		Name of 00047335	500 (MILLILITRE)
<input type="text" value="please scan or enter barcode"/>	<input type="text" value="Please Select"/>	FORMALDEHYDE	50-00-0	E2 > 02 > 09		Name of 00047335	4 (LITRE)

Scan or key in the barcode number

Enter the name of the PI to transfer the chemical bottle ownership to.

Click 'submit' to complete action

# Search inventory

Home Inventory Search Inventory Report Switch Role Test Page Logout

## Search Inventory

Chemical Name

CAS Number  -  -

Expiry Date

Empty Container  Yes  No

Container Status  Active  Disposed  All

Manufacturer

Location

Regulation

- Performs a general search of chemical inventory, ie. PI and his researchers can search for the inventory owned by the PI.
- Able to perform multiple disposal, transfer of chemicals here.
- You may refine the search criteria
- *Note: use the 'manage inventory function' if you wish to dispense, dispose, repack or transfer the particular chemical*

# Reports

The screenshot displays a web application interface with a navigation bar at the top. The navigation bar includes the following items: [Home](#), [Inventory](#) (with a dropdown arrow), [Search Inventory](#), [Report](#) (with a dropdown arrow), [Switch Role](#), [Test Page](#), and [Logout](#). The [Report](#) dropdown menu is open, showing a sub-menu for [Chemical](#) with a right-pointing arrow. The [Chemical](#) sub-menu is also open, listing the following report types: [My Reports](#), [Chemical Inventory Report](#), [Chemical Usage Report](#), and [Chemical Transfer Report](#).

Below the navigation bar, the main content area features a large heading: "Welcome to the Material Management System". Below this heading, there is a section for "Pending action items(s)". The content of this section is "No pending action items(s)".

# Reports

Able to generate reports based on department, chemical owner, chemical regulations. Example:

## Chemical Inventory Report

Faculty / RIRC

ENGINEERING ▾

Department

Unselected (Showing all 1)

Selected (Empty list)

Filter

Filter

→ →

← ←

CHEM/BM ENG

Owner

Please Select ▾

Regulation

Unselected (Showing all 13)

Selected (Empty list)

Filter

Filter

→ →

← ←

CHEMICAL WEAPONS  
CLASS A DRUGS  
CLASS B DRUGS  
CLASS C DRUGS  
EXEMPTED FROM NACWC  
EXPLOSIVE PRECURSORS

Generate Report

# Reports

- Due to potentially large amount of data, the system will notify you via email when the report is generated, ie. you need not wait on the webpage for the report to be generated.

[Home](#) [Inventory](#) ▾ [Search Inventory](#) [Report](#) ▾ [Switch Role](#) [Test Page](#) [Logout](#)

## Chemical Inventory Report

You will be notified by email when the report is ready for download

# Reports

Click on 'my reports' when you receive the email notification to access reports

The screenshot shows a web application interface with a navigation bar at the top containing links for Home, Inventory, Search Inventory, Report, Switch Role, Test Page, and Logout. The 'Report' dropdown menu is open, showing options for Chemical, My Reports, Chemical Inventory Report, Chemical Usage Report, and Chemical Transfer Report. The 'My Reports' option is highlighted with a red box. Below the navigation bar, the 'My Reports' section is visible, featuring a 'Duration' field with a date range from 15-Sep-2016 to 22-Sep-2016 and a 'Report Type' dropdown menu set to 'Please Select'. A table titled 'My Latest Reports' is displayed below, with the following entries:

Report File Name
Inventory Report 22Sep2016 180420
Transfer Report 22Sep2016 180253
Inventory Report 19Sep2016 093950

The first entry, 'Inventory Report 22Sep2016 180420', is highlighted with a red box. A red arrow points from the 'My Reports' option in the dropdown menu to the first entry in the table. Another red arrow points from the text 'Click to download as excel file.' to the first entry in the table.

Click to download as excel file.

# Technical Support

[Imms-support@groups.nus.edu.sg](mailto:Imms-support@groups.nus.edu.sg)