Nuclear Medicine

The CRIS Nuclear Medicine Module contains four main sections:

1. CREATING AND RECORDING VIALS AND ADMINISTRATIONS (SYRINGES)
2. ALLOCATING AN ADMINISTRATION / INJECTING PATIENTS
3. POST PROCESSING EXAMINATIONS
4. NUCLEAR MEDICINE ACCESS SETTINGS & TABLE CONFIGURATION

1. Creating and Recording Vials / Administrations (Syringes)

This section of the CRIS Nuclear Medicine Module is used to record all Vials / Administrations onto the system at the time of their delivery into the department. This is in preparation for the administrations which will then be administered to patients throughout the course of the day.

Please note: For maximum efficiency, HSS recommend that you record all Vials / Administrations details in batches at the beginning of the day. Administrations can be created at the same time as the Vial or at the time of recording the Administration via [NM Admin] worklist.

Click on the NUCLEAR MEDICINE icon at the top of the screen or go to TOOLS> NUCLEAR MEDICINE to access the Module. This opens the Nuclear Medicine module / screen.

To Create a Vial

1. Click on the Vials tab in the Nuclear Medicine screen. Click on the [NEW] button to complete the Vial details:

Field Name	Required Information
Vial ID	The Vial ID is automatically generated once all the fields have been completed and saved.
Site	Press [F4] to select a site.
Copy Number	Type the number of Vials to be created.
Vial Serial	Type in the Vial Serial number.
Isotope	Enter the relevant Isotope and Chemical code. Press [F4] to select from listed options.
Chemical	
Initial Volume (ml)	Enter current volume of the Vial.
Initial Activity (MBq)	Enter current activity of the Vial.
Creation Date	Defaults to current date or can be modified.
Creation Time	Defaults to current time or can be modified.
Current Volume (ml)	Displays the current volume of Vial.

2. To save the completed Vial details, click on the [SAVE] button. The Vial will now appear on the Vials screen. To close the Vials screen click [Finished].

To create an Administration (i.e. Syringe)

1. Click on the Administrations tab. This screen will default to 'All Administrations for date' using TODAYS date although it is also possible to specify an alternative date or click 'In Department' to display all Administrations irrespective of date.

2. Click on the [NEW] button to complete the Administration details:

Field Name	Required Information
Create from Vial	Type in the Vial details or press [F4] to select from listed Vials.
Serial Number	Type in the serial number or if selecting from the listed Vials the Serial Number will be displayed automatically.
Isotope	Press [F4] and enter the Isotope and Chemical codes. If created from an existing Vial, the codes will be automatically displayed.
Chemical	
Administration Method	Press [F4] to select administration method, I.e. Injected, Oral, or Inhalation.
Required at	Will default to the current date or can be modified.
Time	Defaults to current time or can be modified. This field can be left blank.
Volume (ml)	Enter current volume of the Syringe.
Activity (MBq) at required time	Enter total Activity Level (MBq). The Syringe details will appear as [Unused Syringes] in the Injections screen ready for use. This field can also be left blank.
Reserve for patient (CRIS Number)	Allows the Administration to be reserved for a particular patient using their CRIS number.

3. To save the completed Administration, click on the [Save] button. Repeat these steps to create all required administrations. To close the Administrations tab click [Done].

Changing/Correcting Isotope (Vial / Administration) Details

To make changes to any existing Vial or Administration details, you should click to highlight the appropriate Vial or Administration and select the [Change] function button. Edit the details as required and to save click on the [Save] button.

Deleting Vial / Administration Details

Click to highlight the appropriate Vial or Administration and then click [Delete] button. Click [YES] to the message confirming deletion.

Record Isotope Disposal

The CRIS Nuclear Medicine Module has been designed to allow you to record the disposal of Vials/ Syringes. Click to highlight the appropriate Vial / Administration and click the [Dispose] button. Click [YES] to the message confirming disposal.

Please note: You do not have to use this option, although Vials/ Administration not allocated to a patient will remain on the 'In Department' list. All Vials/ Administration disposed will also be logged to a CRIS system management file for audit purposes.

Assign a Test Dose

The [Test Dose] button can be used to change the status of an existing administration to that of a Test Dose.

2. Allocating an Administration / Injecting Patients

If Vials / Administrations have already been entered onto the system:

1. You should load the relevant patient record. Highlight the required attendance on the Events screen and click on the [NM Admin] button. You can also load patients from the [Day List] on the 'Main CRIS Menu' screen and use the [NM Admin] button from here.

2. This will display the 'Administrations' screen.

   New - The Administrations screen now has colour coding to allow users to identify at a glance what the Isotope / Chemical is being used for.

Colour	Purpose
Black	Identifies an Unallocated Administration.
Blue	Identifies a reserved/allocated Administration.
Red	Identifies a Blood Syringe. Please note: These are always reserved for the patient the blood has been taken from.

3. It is also now possible to record the patients BSA (Body Surface Area) to allow for the correct amount of isotopes / chemicals to the given to the patient via the 'Event Details' screen for each request / event.

   This should be entered in CENTIMETRES and KILOS respectively. It is however also possible to enter the patient's weight and height in Imperial measurement by typing in feet, then space, then inches (e.g. for 5'6", type in 5 6). This is the same principle for weight (e.g. for 9st 7lb, type in 9 7). CRIS will then convert the measurement to metric.

   Once you have entered the height and weight of the patient press [Enter/Return] out of the field to calculate the BSA.

To Add an Administration without making a change to the Administration details

1. Highlight the required Administration via the Unused Administrations list and click the [Add] function button on the right hand side of the screen. It is also possible to double-click the vial to negate the need to click [Add] if preferred.

2. The Administration details will be displayed at the bottom of the screen as an 'Administration' row in the Administrations on Event section and proceed to section COMPLETING ADMINISTRATION DETAILS.

To add an Administration and amend the Administration details

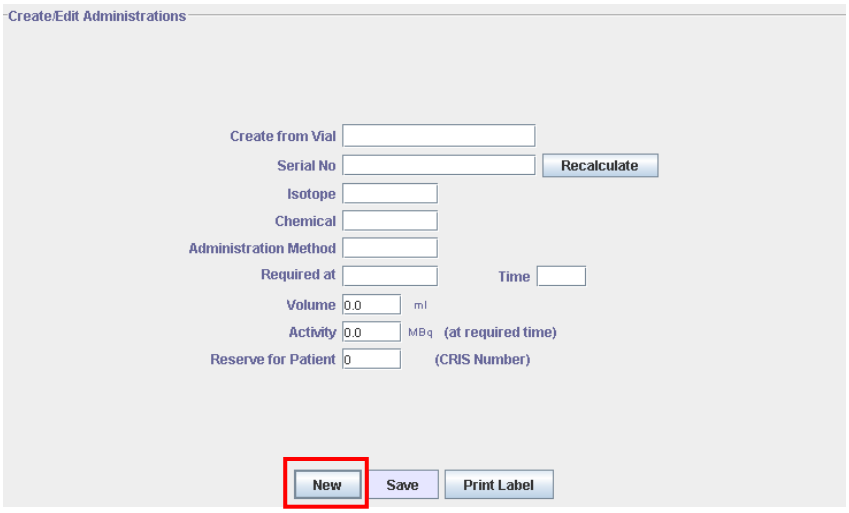
1. Highlight the required Administration via the Unused Administrations list. The Administration details will be displayed on the right hand side via the Create/ Edit Administrations section and it is possible to amend the [Serial No], [Required at] date and [time] details, [Volume] and [Activity].

2. To save the changes click [Save] followed by the [Add] function button on the right hand side of the screen. It is also possible to double-click the vial to negate the need to click [Add] if preferred.

3. The Administration details will be displayed at the bottom of the screen as an 'Administration' row in the Administrations on Event section and proceed to section **COMPLETING ADMINISTRATION DETAILS**.

To create an Administration not in the displayed list

1. Click on the [New] function button as follows:



2. Complete the following fields:

Field Name	Required Information
Create from Vial	Type in the Vial details or press [F4] to select from listed Vials if applicable.
Serial Number	Type in the serial number or if selecting from the listed Vials the Serial Number will be displayed automatically.
Isotope	Press [F4] and enter the Isotope and Chemical codes. If created from an existing Vial, the codes will be automatically displayed.
Chemical	
Administration Method	Press [F4] to select administration method, i.e. Injected, Oral, or Inhalation.
Required at	Will default to the current date or can be modified.
Time	Defaults to current time or can be modified. This field can be left blank.
Volume (ml)	Enter current volume of the Syringe.
Activity (MBq) at required time	Enter total Activity Level (MBq). The Syringe details will appear as [Unused Syringes] in the Injections screen ready for use. This field can also be left blank.
Reserve for patient (CRIS Number)	Allows the Administration to be reserved for a particular patient using their CRIS number.

3. To save the Administration click on [Save] and the newly created Administration will then be displayed in the Unused Administrations list.

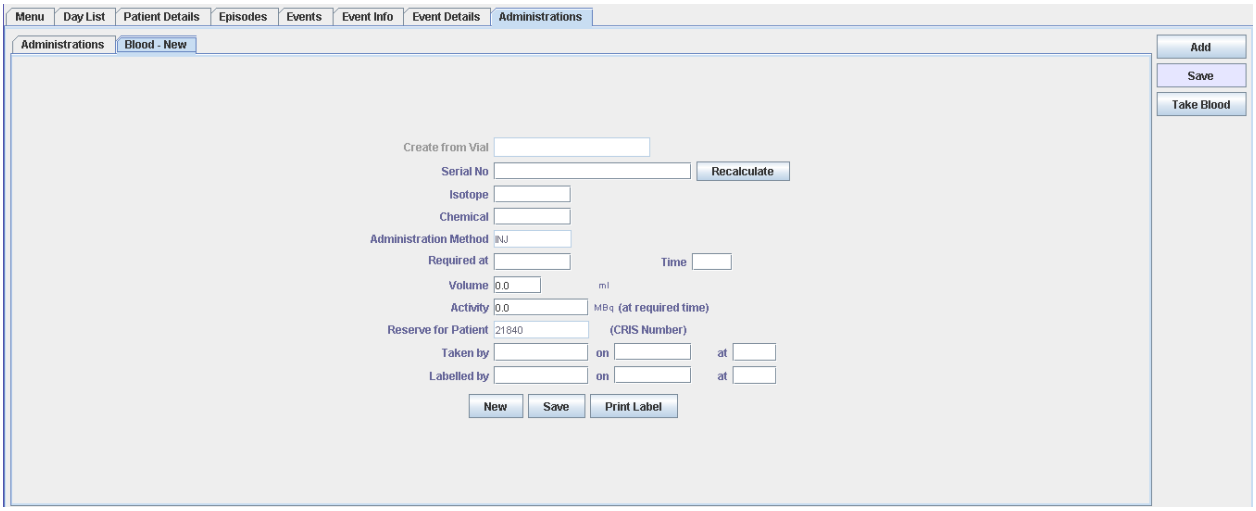
4. Highlight the required Administration via the Unused Administrations list and click the [Add] function button on the right hand side of the screen. It is also possible to double-click the vial to negate the need to click [Add] if preferred.

5. The Administration details will be displayed at the bottom of the screen as an 'Administration' row in the Administrations on Event section and proceed to section COMPLETING ADMINISTRATION DETAILS.

Taking a Patient's Blood Sample

It is possible to take a blood sample from a patient and label it with a radiopharmaceutical for re-injection at a later stage. Once the vial has been created, this functionality can be accessed by selecting the event / attendance and clicking [NM Admin] via the Events screen or the [Daylist] worklist.

1. Once in the Administrations screen users can select the [Take Blood] button.



2. You should then complete the following fields:

Field	Description
Serial No	Used to identify the blood sample being taken.
Isotope	Isotope used to label blood sample. Press [F4] to select from listed options.
Chemical	Chemical used in conjunction with Isotope. Press [F4] to select from listed options.
Administration	Specifies how the blood will be given back to the patient – defaulted to Injected.
Required at	Will default to the current date or can be modified.
Time	Defaults to current time or can be modified. This field can be left blank.
Volume (ml)	Volume of blood taken.
Activity (MBq)	Radiation activity.
Reserve for patient	This field defaults to the CRIS number of the patient being injected.
Taken by / on / at	User who took the injection, in addition to the date and time.
Labelled by / on / at	User who labelled the blood sample, in addition to the date and time.

3. Once completed click [Save] at the bottom of the screen, followed by [Print labels] if required.

   You can then return to the Administrations screen to record the blood being re-administered by highlighting the required Administration (displayed in red) via the Unused Administrations list and clicking the [Add] function button on the right hand side of the screen.

   The Administration details will be displayed at the bottom of the screen as an 'Administration' row in the Administrations on Event section and proceed to section **COMPLETING ADMINISTRATION DETAILS**.

4. **ALTERNATIVELY** if you do not wish to record any administrations of Blood at this point click [Save] on the right hand side of the screen to save and clear the record without administering the blood at this point.

Completing Administration Details

5. Having added, or created an administration / Blood Sample you should then complete the following Administration field details:

Field Name	Required Information
Examination	This is defaulted from the event details as the Exam that the Administration has been prepared for.
Serial	Administration Serial Number defaulted from the selected administration if completed or can be entered using [F4] to select from listed options.
Method	Administration method defaulted from the selected administration if completed or can be entered using [F4] to select from listed options. This will default to INJ(ECTED) for Blood.
Time	This field will default to current time or can be modified.
Activity	If the Activity was been recorded at the time the Vial was entered on the system, this value will automatically appear but can be modified if required. Alternatively the Activity level (MBq).
Administrated By	Press [F4] to select from listed options. Please note: To appear in this list staff must be entered in the Radiologist table (SETUP TABLES> PEOPLE> STAFF) and have the Nuclear Medicine Role assigned to them (SETUP TABLES> PEOPLE> STAFF> ROLES).
Checked By	
Tissued	Click to tick if the injection has tissued or leave blank if you have not tissued.

6. To save the Administration / injections click on [Save] and the screen will close.
7. Once an administration has been recorded against an event an injection icon  will be displayed against the event / attendance until the exam has been Post Processed.

Changing an Existing Administration and Deleting an Administration

1. To change existing administration details load the patient and highlight the appropriate attendance via the Events screen and click on the [NM Administration] button.

2. Make any changes and click [Save] to save and close the screen.

3. To delete the Administration click the cross next to the unwanted administration row before clicking on [Save]. Deleting will remove the 'Administration' row and place the Administration into the Unused Administrations List.

3. Post Processing Examinations

Nuclear medicine examinations are post processed in the same way as any other radiological examination, please refer to the CRIS POST PROCESSING CRIB sheet for further details. The associated Administration details will also be displayed via the Post processing screen for reference (the Administration details cannot be amended in the Post Processing screen).

Please note: The Syringe icon is replaced by the post processing icon following post processing.

Nuclear Medicine Access Settings

XR Settings

The following XR setting are designed for use with the Nuclear Medicine Module. These settings can be applied at XRTR (Trust), XRS (Site) or XRT (Terminal) Level as applicable via **TABLES > SYSTEM TABLES > XR SETTINGS.**

Setting	Description
NUCMED.Usevials	Should be set as YES to enable use of vials in Nuclear Medicine.
NUCMED.DefaultToVials	The Nuclear Medicine module will default to Administrations as standard but can be amended to Vials by setting to YES.
NUCMED.DefaultIsotope	This setting can be used to default a particular Isotope but is not commonly used and is only recommended at Terminal level.
NUCMED.DefaultChemical	This setting can be used to default a particular Chemical but is not commonly used and is only recommended at Terminal level.
NUCMED.AutoFillSyringeSerial	Should be set as YES to enable the serial number to fill in automatically when creating an Administration / Syringe from a vial. The user will still need to add a suffix (i.e.12345#1 etc).
NUCMED.DefaultCurrentActivity	Should be set as YES to make the system use the current activity as the default activity.

Security Settings and Roles

Each relevant NM user must be allocated the security setting VIEWS > Nuclear Medicine via SETUP TABLES > PEOPLE > STAFF > SECURITY SETTINGS in order to access the Nuclear Medicine Module.

Additionally any users who inject isotopes will also need the role of Nuclear Medicine adding via SET-UP TABLES > PEOPLE > STAFF TABLES > ROLES > Nuclear Medicine.

Nuclear Medicine Module Table Configuration

Specifying Arsac Limits for Examinations

Each relevant NM exam must be allocated an 'ARSAC' value and 'WASTE' via SETUP TABLES> OTHER> GENERAL> EXAMINATION CODES in order to enable an NM injection to take place and to activate decay and disposal functionality.

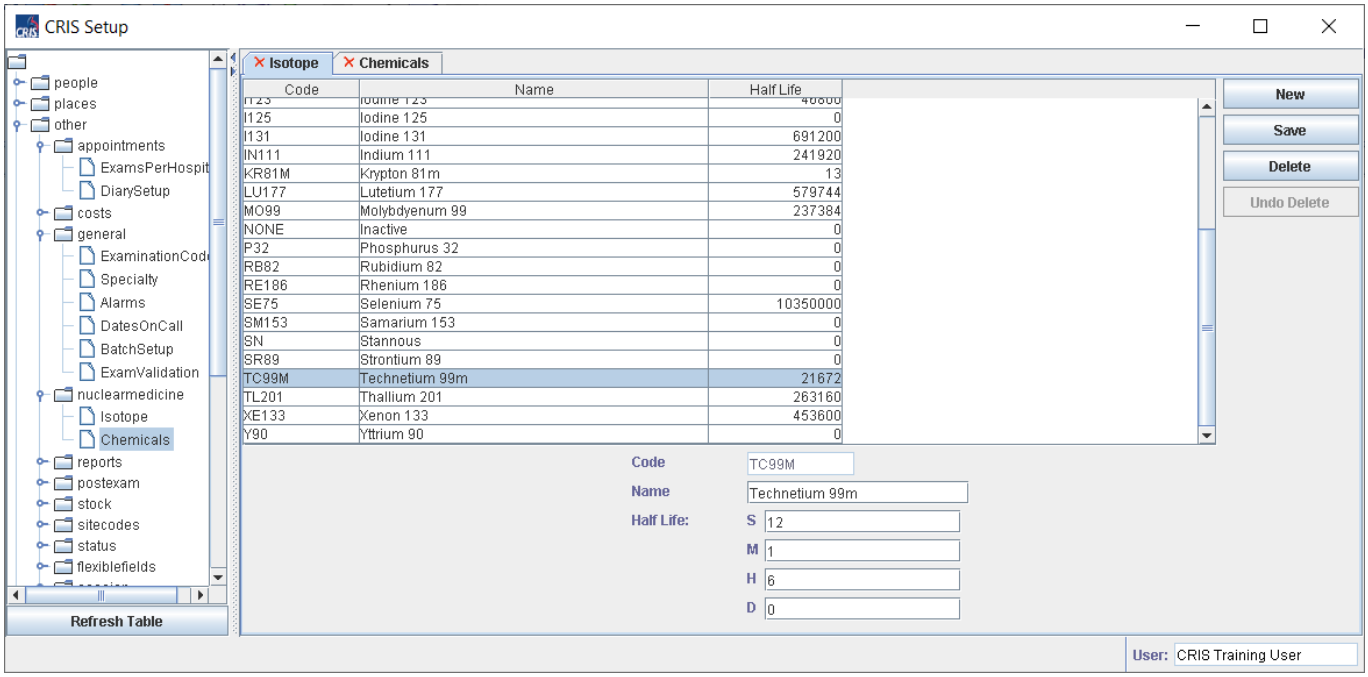
It is also possible to specify a local ARSAC Level via SETUP TABLES> OTHER> APPOINTMENTS > EXAMSPERHOSPITAL

Please Note: If you receive an error message advising that you have exceeded the 'Arsac' level, you may also need to review the 'Arsac' level as above.

Specifying / Managing Isotopes and Chemicals

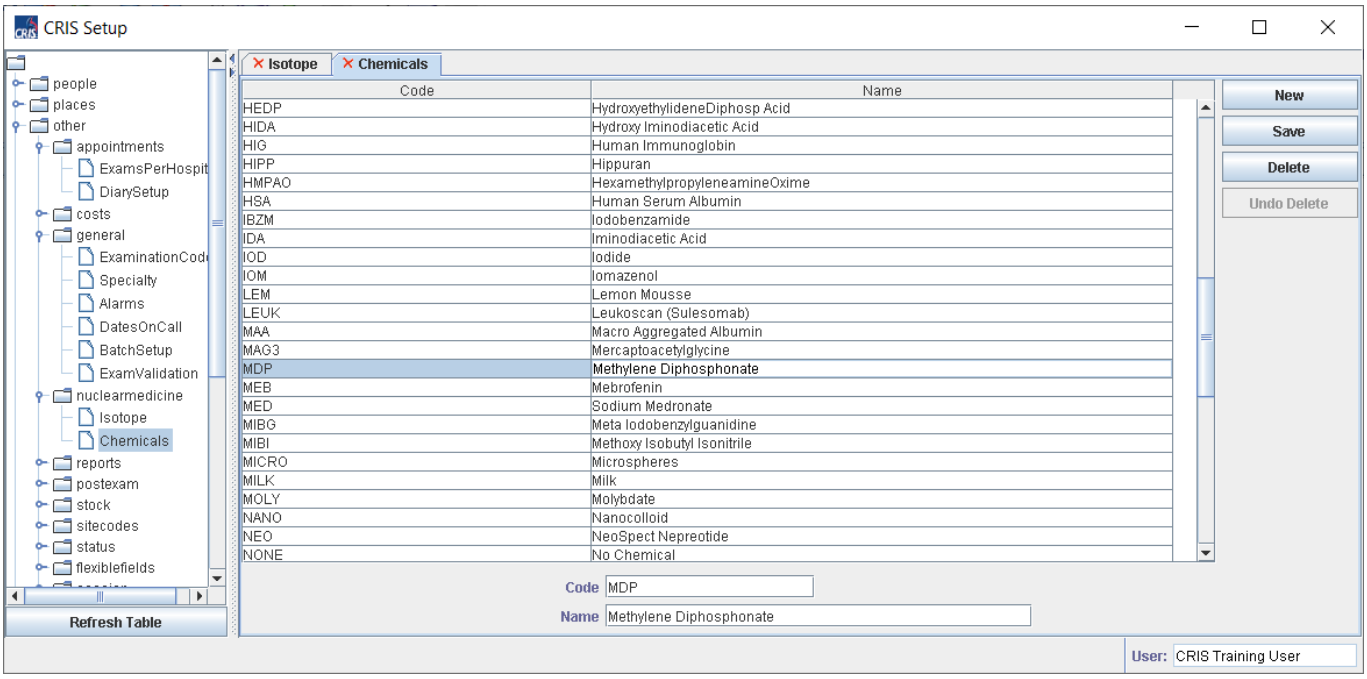
ISOTOPE and CHEMICAL Tables can be accessed via CRIS SETUP TABLES> OTHER TABLES > NUCLEAR MEDICINE

Isotopes Table



The 'Half-life' of each Isotope is specified via the ISOPTOPES table in Seconds, Minutes, Hours, and Days to activate decay and disposal functionality.

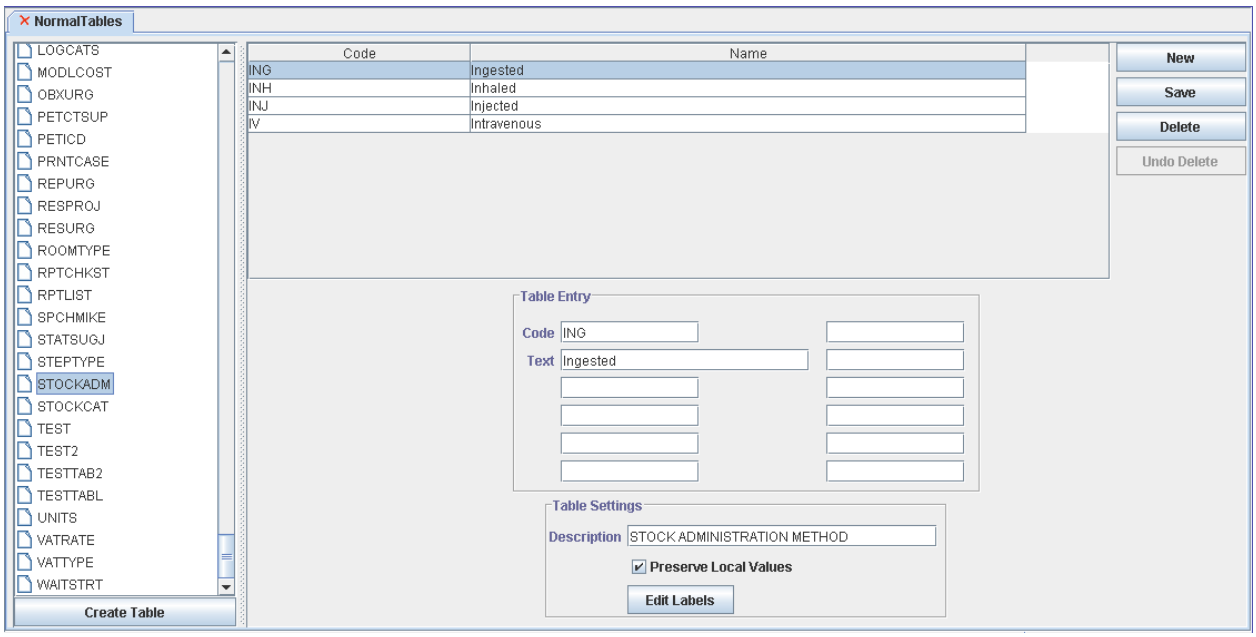
Chemicals Table



Please note: The Isotopes and Chemicals Tables is System Wide so it will be necessary to agree any changes with all Trusts in Consortium deployments.

Specifying / Managing Administration Methods

It is also possible to create different types of Administration methods by editing the following table via CRIS SETUP TABLES> SYSTEM TABLES > NORMAL TABLE > STOCKADM. This is however a consortium / system wide activity.



Please note: The STOCKADM Table is System Wide so it will be necessary to agree any changes with all Trusts in Consortium deployments. This table is also shared with the stock module and therefore any amendment to this table will also show within the stock administration within Post Processing

Document Control

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Review Date	18/10/2024