#1 CONTACT INFORMATION: Timothy Hagen, Office: Faraday 350, Phone: (815)-753-1463

| Procedure Title | Using the Biotage Isolera for Column Chromatography |
| Procedure Author | Zheng Zhang |
| Date of Creation/Revision | 9/22/2015 (Travis Helgren Edited) |
| Name of Responsible Person | Timothy Hagen |
| Location of Procedure | LaTourette Hall (Lab: 334) |
| Approval Signature | |

#2 THIS STANDARD OPERATING PROCEDURE (SOP) IS FOR A:

- [ ] Specific laboratory procedure or experiment
- [x] Generic laboratory procedure that covers several chemicals
- [ ] Generic use of specific chemical or class of chemicals with similar hazards

#3 PROCESS OR EXPERIMENT DESCRIPTION

The use of the Biotage Isolera One for the purification of compounds using normal phase column chromatography. This SOP only outlines the use of the Biotage Isolera One with silica gel columns packed by the user. For the use of the Biotage Isolera One with prepacked reverse phase columns, see the corresponding SOP (Using the Biotage Isolera for Reverse Phase Chromatography)

| Frequency: | [ ] one time  [ ] daily  [ ] weekly  [ ] monthly  [x] other: Based on each experiment |
| Duration per Expt: | around 20-30 minutes; or _______hours |

#4 SAFETY LITERATURE REVIEW & HAZARD SUMMARY

For assistance with this form contact NIU Environmental Health and Safety, 815-753-0404.
Review MSD sheets for solvents to be used. Keep solvents away from ignition sources as most are flammable.

#5 STORAGE REQUIREMENTS

No storage requirements.

#6 STEP-BY-STEP OPERATING PROCEDURE

<table>
<thead>
<tr>
<th>Steps to include in your procedure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Don personal protective equipment.</td>
</tr>
<tr>
<td>× appropriate street clothing (long pants, close-toed shoes)</td>
</tr>
<tr>
<td>× gloves; indicate type: Nitrile examination gloves</td>
</tr>
<tr>
<td>× safety goggles   □ safety glasses   □ face shield</td>
</tr>
<tr>
<td>× lab coats   □ other:___________________________</td>
</tr>
</tbody>
</table>

2. Check the location and accessibility of the safety equipment that serves your lab:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Fume Hood/Glove Box or other Ventilation Control</td>
<td>Location: <strong>Various Locations</strong></td>
</tr>
<tr>
<td></td>
<td>Location: <strong>Near front lab door/in the hallway</strong></td>
</tr>
</tbody>
</table>

3. Determine the amount of silica gel necessary for your separation (use 10x the mass of your sample). Determine the appropriate column size for this amount of silica gel (pack the column ~3/4 full). Add the silica gel to the empty column. Add the appropriate size filter frit to the top of your column. Use the appropriately sized plunger to press the frit into the column until it is flush with the silica gel. Connect the column to the system and run a column equilibration to pre-wet your column with your chosen solvent system.
4. After equilibration, remove the plunger from the silica gel column. If your sample is to be dry-loaded, add the mixture of silica gel and compound to your column. Add another frit of the appropriate size, replace the plunger and start your chromatographic run. If your sample is to be added as a solution, add the solution to the top of the silica gel, hit load sample on the touch-screen and wait for your solution to run onto the silica gel column. When the sample has been completely added to the column, hit load sample again to stop the slow drip out of the column. Replace the plunger and start your chromatographic run. Watch the output chromatogram to view when your sample has run off the column. Collect these tubes and run a TLC plate to double check separation. Rota-vap the tubes containing your sample to afford a dry powder.


6. Clean up work area and lab equipment.

7. Remove PPE and wash hands.

#7 WASTE DISPOSAL

All waste may be deposited in the appropriate organic waste bin.

#8 TRAINING REQUIREMENTS

General Training (check all that apply):
- XGeneral Safety & Emergency Preparedness
- XChemical Safety for Laboratories
- XRadiation Safety
- □Biosafety training
- □Other: __________________________

Location Where Records Maintained: Online, Stockroom

Laboratory-specific training (check all that apply):
- X Review of SDS for other chemicals involved in process/experiment
- X Review of this SOP
- □Other: __________________________

Location Where Records Maintained: Online, Stockroom
## PRIOR APPROVALS

Prior approvals are required by the following University Committees:

- **Radiation Safety Committee**: Radioactive material,
- **Radiation Safety Committee**: X-Ray machines
- **Laser safety**: Laser producing equipment Class 3b or above.
- **IACUC**: Animal use in research
  [http://www.orc.niu.edu/orc/animal_research/index.shtml](http://www.orc.niu.edu/orc/animal_research/index.shtml)
- **IBC**: Recombinant DNA, potential pathogens, human tissue/body fluids