

Ball Lab Standard Operating Procedure 1

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Facility: Ball Laboratory
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Introduction and Purpose: This SOP details the procedure and safety considerations for the withdrawing of the liquid reagents from their respective containers and the addition of such reagents.

Kind of SOP: Technique

Last Revision: 01/07/2014

Uses: Any organic chemistry reactions that involves inert gas condition with liquid reagents

General Procedure:

1. Prior to the withdrawal, locate the reagent bottle and determine the volume needed. Use the appropriately-sized syringe and needle.
2. Assemble the needle with the syringe. Insert the needle into the reaction flask via the septum. Withdraw the inert gas and let it fill up the syringe chamber fully. Remove the syringe from the reaction flask and expel the inert gas with the needle tip pointing away from any personnel.
3. Repeat step 2 for a total of 3 withdrawal-expelling cycles of the inert gas.
4. Insert the needle into the reagent reservoir deep within the reagent bottle. Withdraw sufficient amount of reagent by pulling the syringe handle.
5. Remove the needle from the reagent bottle and invert the syringe to keep it upside-down.
6. Expel any gas bubbles within the inverted syringe by pointing the needle tip towards a beaker and pushing the syringe handle.
7. Insert the needle into the reaction flask via the septum. Add the reagent dropwise to the reaction mixture by pushing the syringe handle.
8. Once sufficient reagent has been added, withdraw some of the inert gas within the reaction flask by pulling the syringe handle.
9. Remove the needle from the reaction flask and expel any remaining liquid into the waste container.
10. Wash the syringe with acetone. Discard the syringe in the solid waste container and discard the needle into the sharp waste container separately.

Safety Considerations and Precautions:

- Point the needle away from any lab personnel, including yourself, at all time.
- Make sure the needle tip is sufficiently submerged while withdrawing from the reagent reservoir to prevent withdrawal of gas.
- Discard the syringe and needle separately.