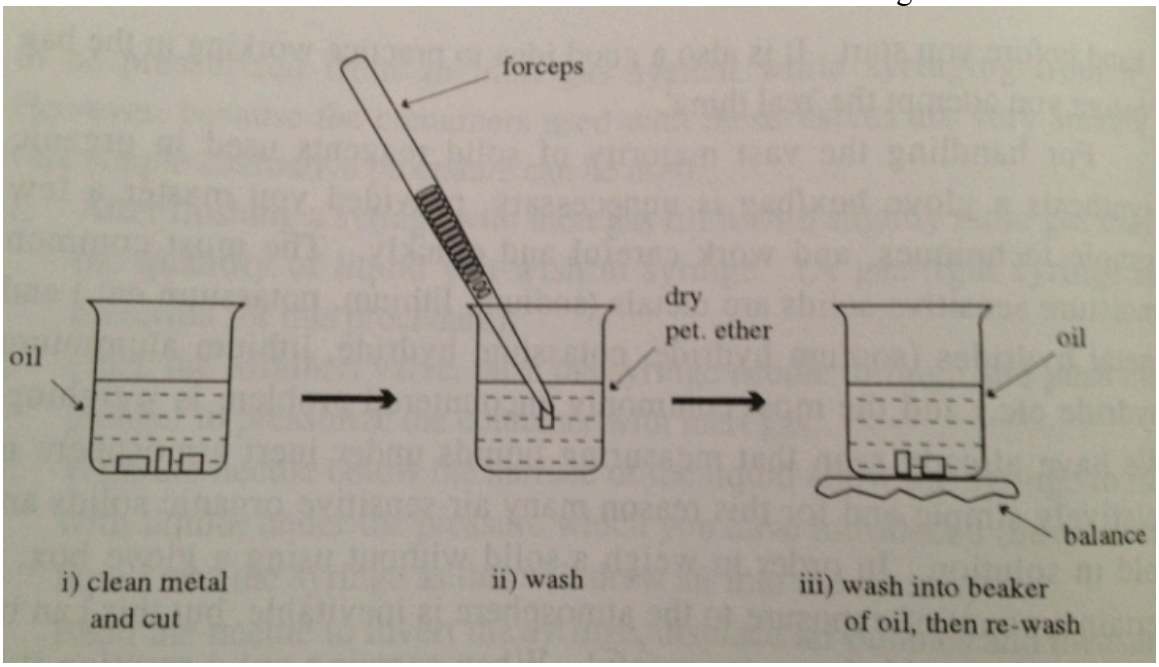
Ways to handle sensitive solids:

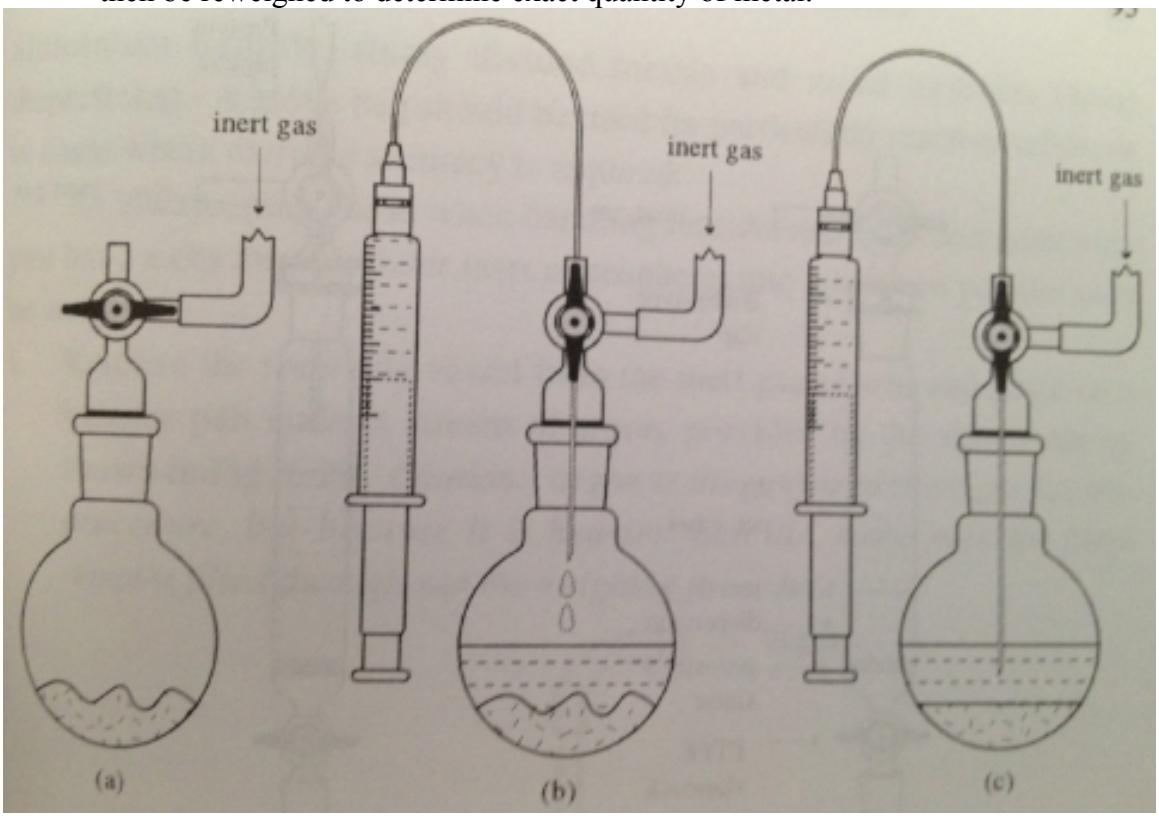
Weighing reactive solid materials under paraffin oil: (ie. Li rod, Na)

1. Make sure you have a pre-dried flask ready and under inert gas if applicable.
2. Get a beaker and fill it with oil. Get another beaker and fill with either hexane or ether. Get a third beaker and fill it with oil.
3. Place the metal that you are using into a beaker, covering it with oil, and then cut some of it into small pieces with a scalpel or razor blade. Make sure to remove any coating and leaving the shiny surface exposed.
4. Using forceps, transfer the metal you need quickly into the second beaker with hexane/ether to remove the oil.
5. Tare the third beaker on the balance.
6. Remove the chunks of metal from second beaker, allowing briefly for solvent to dry, then add into third beaker. Record the weight.
7. Re-wash the metal in the 2nd beaker before adding in pre-dried flask/ into reaction vessel.
8. Add ethanol into all beakers to neutralize metal before cleaning beakers with water.



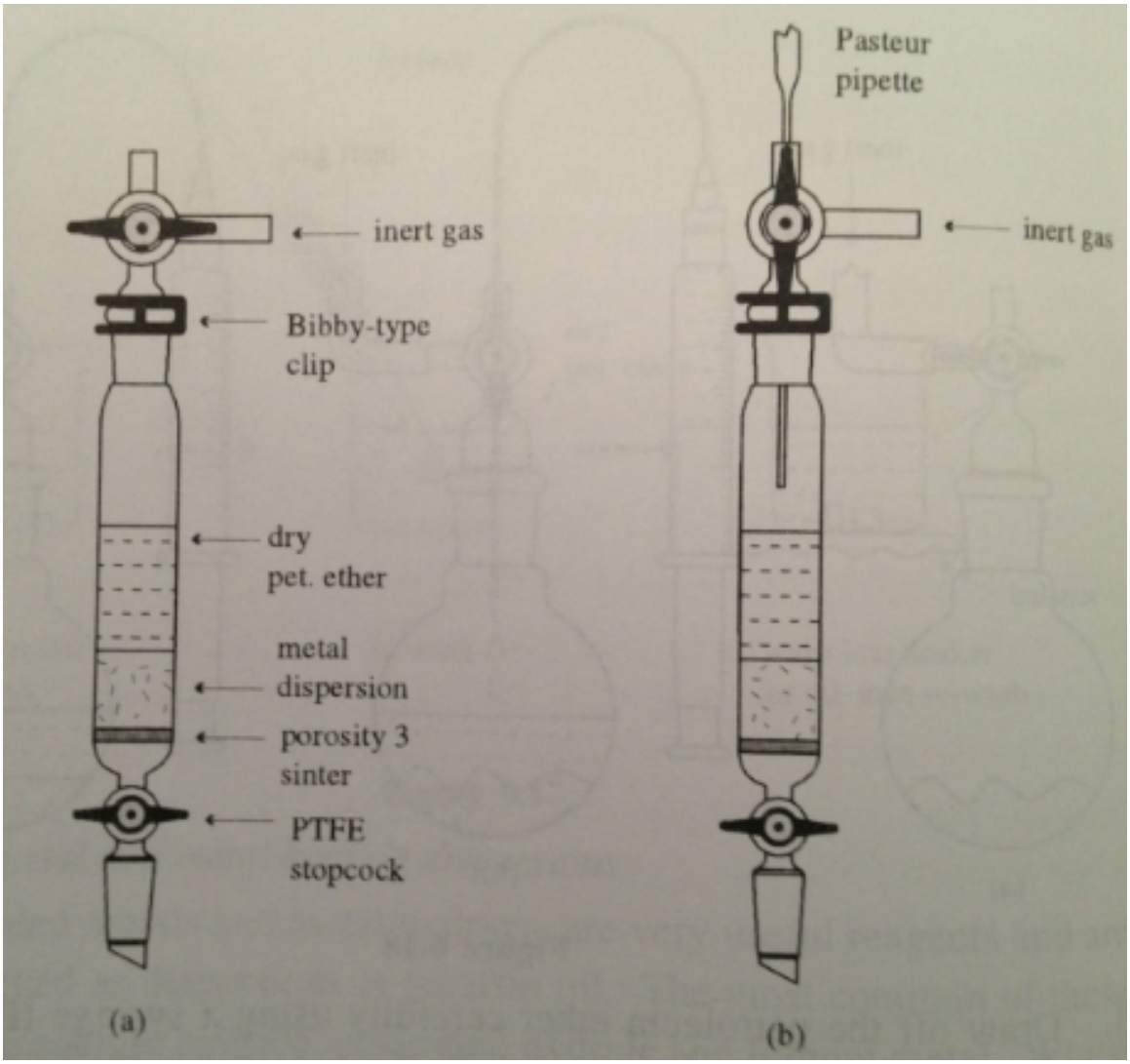
Handling metal and metal hydride dispersions & removing oil from them: (ie. NaH)

1. Weigh the dispersion in a flask & place it under an inert atmosphere.
2. Add some dry petroleum ether (or hexanes) into the flask using a syringe. Swirl the flask to dissolve the oil, and then let it stand until the metal has settled on the bottom.
3. Draw off the petroleum ether carefully using a syringe. Discard the solvent carefully, into alcohol, to ensure that all metal is quenched.
4. Repeat the washing process at least 2 more times.
5. The flaks can be evacuated under high vacuum to remove residue solvent. Then flask can then be reweighed to determine exact quantity of metal.



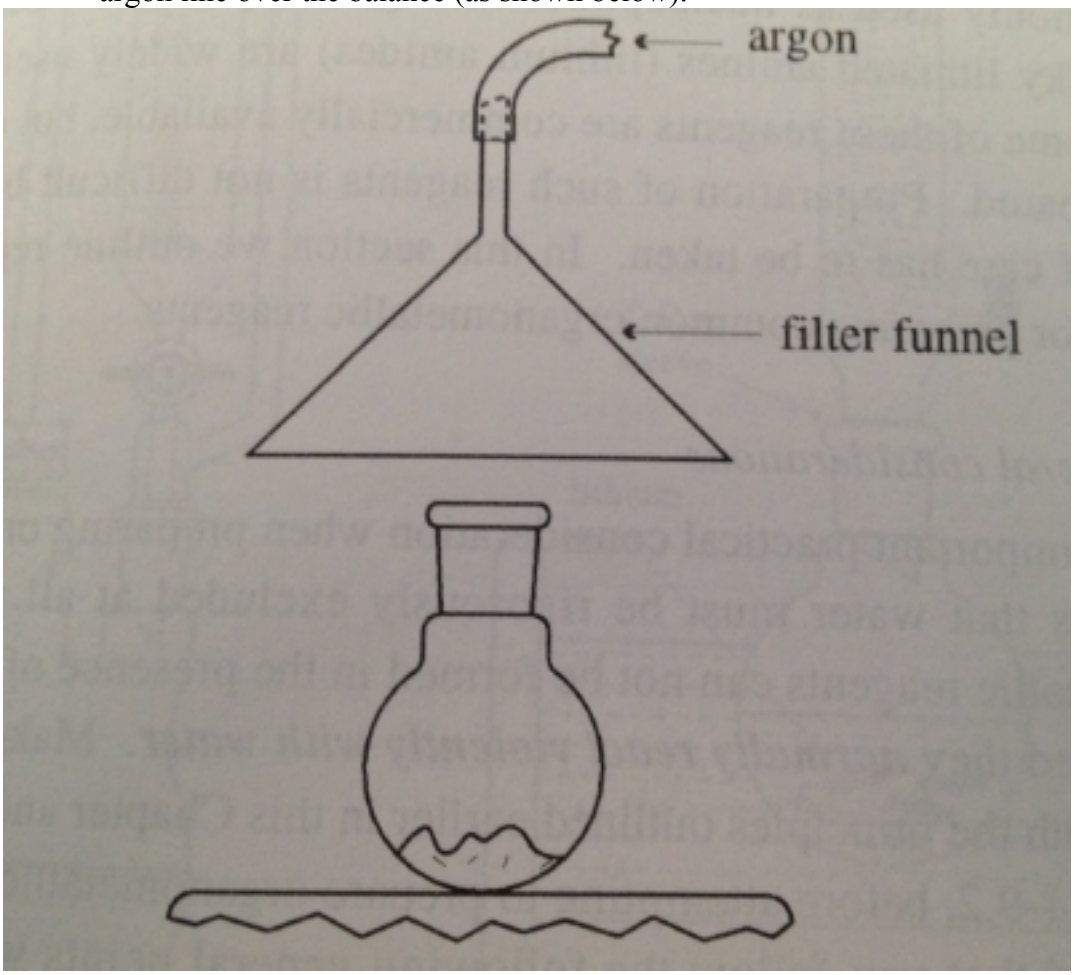
If you need to separate the oil from a quantity of metal dispersion without placing it directly into a reaction flask:

1. After drying the filtration apparatus and cooling it under a stream of inert gas, quickly weigh into it slightly more than the required quantity of the dispersion, loosely packed.
2. Add some dry petroleum ether/hexanes to the apparatus and seal with 3-way adaptor or balloon.
3. Open the stopcock at the bottom of the funnel and pressurize with inert gas.
4. Before the level of the solvent reaches the stop of the dispersion, add more solvent into the apparatus (if using a 3-way adaptor, turn it so that argon is directed out of the vertical inlet as well as into the funnel. Then add more solvent through the vent using a Pasteur pipette).
5. Repeat the washing steps until solvent flows freely, indicating that all the oil has been washed away, then close the stopcock. This can be kept for a few hours in the sealed apparatus without deterioration. Be careful though, since this metal is now extremely reactive.



Weighing reactive powdered solids: (ie. LAH)

1. Make sure you dry the receiving vessel and keep it under argon. Set up a funnel under an argon line over the balance (as shown below).



2. Keep the top of the container holding the powdered metal under the argon stream whilst removing it, and quickly weigh the required amount into the flask. Avoid sifting the reactive solid through the air.
3. Reconnect the flask to an inert gas system, evacuate without disturbing the powder, and then refill with inert gas.
4. Neutralize trace metal on funnel/balance with alcohol.