Reactions run with aluminum based reagents (LiAlH$_4$, DIBAL...) will form aluminum hydroxide upon aqueous quenching which can create awful emulsions. Here are some common techniques on how to quench these and easily get rid of the aluminum salts.

Lithium Aluminum Hydride (LiAlH$_4$) Reactions

**Fieser method**

For a reaction ran with x grams of LAH:

- cool your reaction to 0 °C (or lower depending on the scale/equivalents of LAH)
- slowly add x mL of water
- add x mL of 15% aqueous sodium hydroxide (or potassium hydroxide)
- add 3x mL of water
- warm to rt and stir 30 min
- Optional: add some anhydrous magnesium sulfate and stir 15 min
- filter over Celite

**Rochelle Salt (Potassium Sodium Tartrate)**

- cool your reaction to 0 °C (or lower depending on the scale/equivalents of LAH)
- quench by slow addition of EtOAc (the EtOH byproduct will be washed out in the aqueous layer)
- dilute with saturated or half-saturated Rochelle Salt solution
- warm to rt and stir until you get two distinct layers (30 min to 12 h)

**Glaubler's Salt (Na$_2$SO$_4$•10H$_2$O)**

- Glauber's Salt can be purchased or made from recrystallizing sodium sulfate from water
- cool your reaction to 0 °C (or lower depending on the scale/equivalents of LAH)
- carefully add Glauber's salt until hydrogen evolution is no longer evident, then add some more
- warm to rt and stir 15 min
- filter over Celite

**Acetic acid quench**

- make sure your product is not acid-sensitive
- carefully add your reaction to a cold (0 °C) dilute aqueous solution of acetic acid while stirring
Diisobutyl aluminum hydride (DIBAL) Reactions

The methods given for LAH also work for DIBAL. The Fieser method can be adapted this way:

**Fieser method**

For a reaction ran with x mmol of DIBAL:

- slowly add 0.04x mL of water at -78 °C
- add 0.04x mL of 15% aqueous sodium hydroxide (or potassium hydroxide)
- add 0.1x mL of water
- warm to rt and stir 30 min
- Optional: add some anhydrous magnesium sulfate and stir 15 min
- filter over Celite

**Contributors**

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