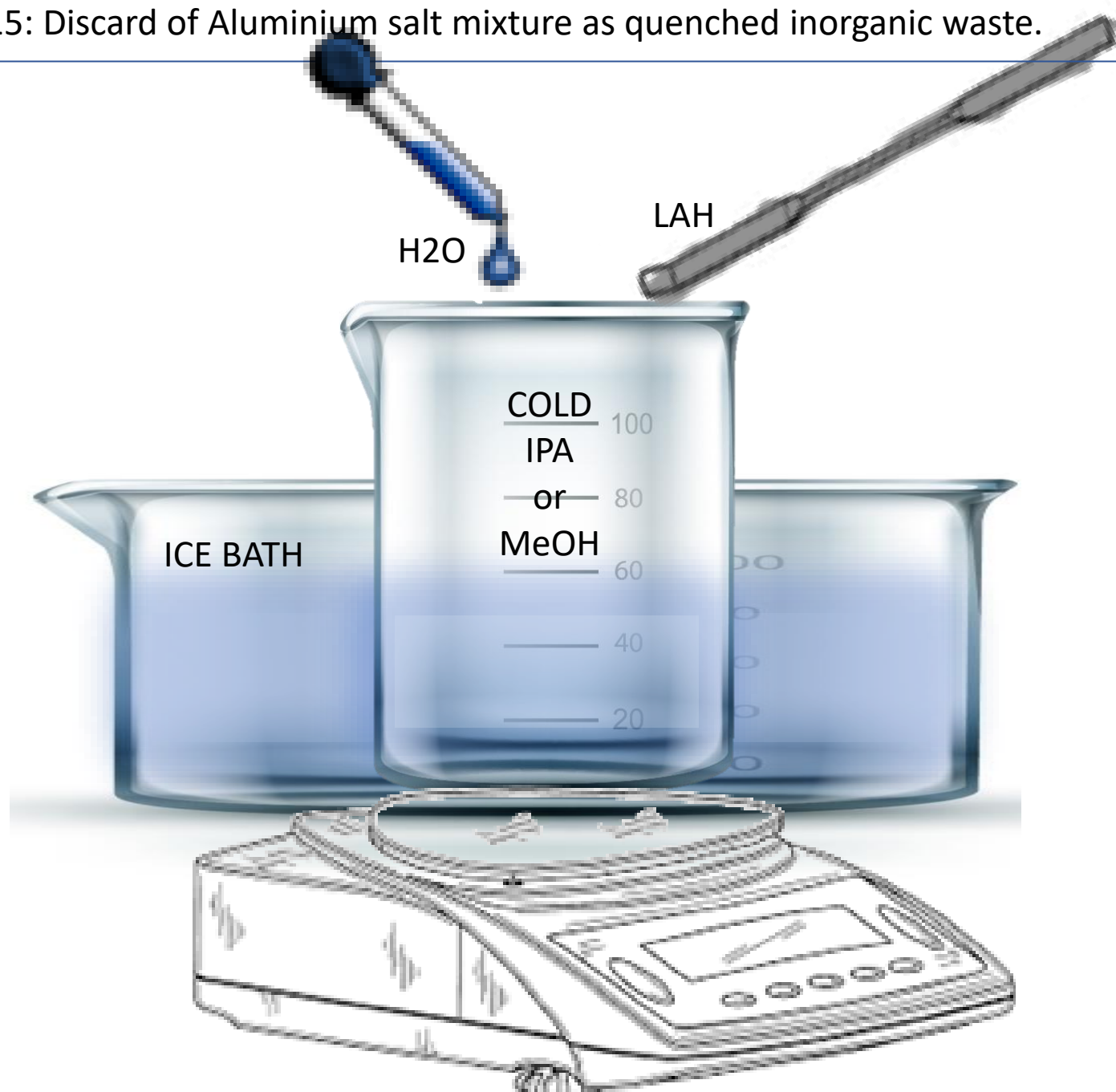


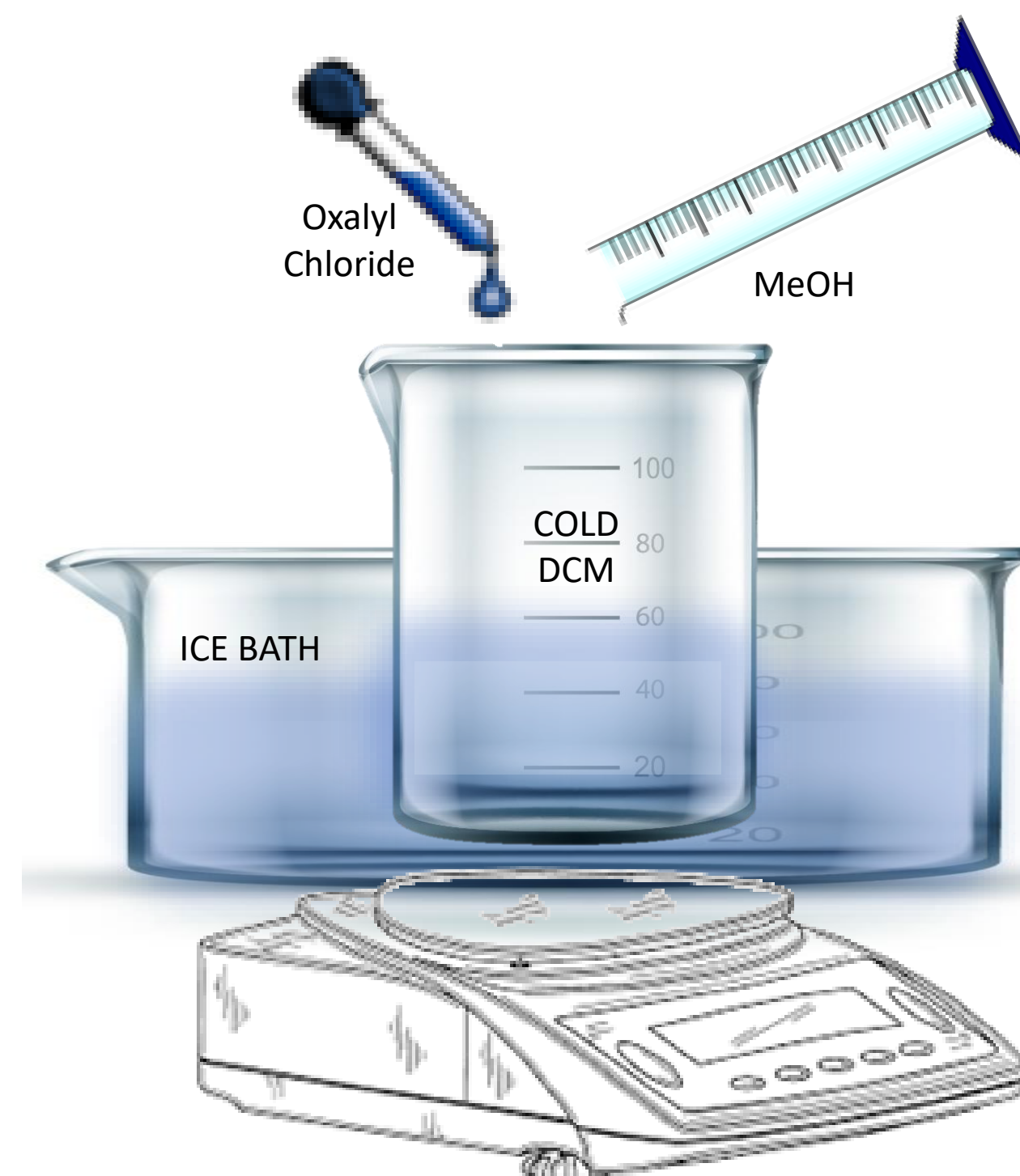
QUENCHING OF LITHIUM ANHYDRIDE (LAH)

- Step 1: Get a magnetic stirrer and place in fume hood.
Step 2: Prepare an ice bath in a bucket - $\frac{1}{4}$ water + ice.
Step 3: Place on magnetic stirrer.
Step 4: Check if the Lithium Anhydride (LAH) is reactive by taking a tiny spatula amount & placing it into a vial. Add a couple of drops of water (H_2O) - if no reaction proceed to step 11.
Step 5: If reactive add $\frac{1}{4}$ of Isopropanol (IPA) in a beaker.
Step 6: Add stirrer bar to the IPA.
Step 7: Set stirrer on slow & switch on.
Step 8: Place a blast shield between sash and set-up - have sand bucket close by.
Step 9: Slowly add spatula or less LAH powder to cold IPA.
Step 10: Let it stir in IPA checking for sudden temperature rise in mixture.
Step 11: Add Methanol (MeOH) $\frac{1}{4}$ to the beaker and repeat steps 9 to 10 but this time adding LAH to the MeOH.
Step 12: Add water dropwise to solution until it starts bubbling.
Bubbles = H_2 -gas
Step 13: Continue with stirring until bubbles dissipated.
Step 14: Repeat steps 12-13 until a white Aluminium salt precipitate forms.
Step 15: Discard of Aluminium salt mixture as quenched inorganic waste.



QUENCHING OF OXALYL CHLORIDE

- Step 1: Get a magnetic stirrer and place in fume hood.
Step 2: Prepare an ice bath in a bucket - $\frac{1}{4}$ water + ice
Step 3: Place on magnetic stirrer.
Step 4: Add about $\frac{1}{4}$ of DCM (Dichloromethane) in a large glass beaker
Step 5: Add stirrer bar to DCM.
Step 6: Set stirrer on slow & switch on.
Step 7 Place a blast shield between sash and set-up - have sand bucket close by.
Step 8: Slowly add Oxalyl Chloride (liquid) a few drops at a time to the cold DCM.
Step 9: Let it stir into the DCM checking for sudden temperature rise in mixture.
Step 10: Slowly add Methanol (MeOH) to the solution: +/- 50% MeOH/DCM split - until it starts fuming.
Fumes = HCl fumes.
Step 11: Continue with stirring until fumes dissipated.
Step 12: Repeat steps 7 – 11 until all the Oxalyl Chloride has been quenched.
Step 13: Discard of unreactive mixture as quenched halogenated waste.



QUENCHING ETHER over SODIUM (Na) WIRE

- Step 1: Prepare an ice bath in a bucket - $\frac{1}{4}$ water + ice.
- Step 2: Place bottle/beaker containing Ether over Sodium (Na) Wire in ice bath.
- Step 3: Place a blast shield between sash and set-up - have sand bucket & DCP Fire extinguisher close by.
- Step 4: Slowly add small amounts of Isopropanol (IPA) to cold Ether/Na Wire & allow to mix. This is also to dilute ether in mix.
- Step 5: Let it slowly react checking for sudden temperature rise in mixture & bubbles forming from Na Wire.
- Bubbles = H₂-gas
- Step 6: Continue adding IPA until the formation of bubbles slows down and the Na is more exposed.
- Step 7: Switch over with adding small amounts of Methanol (MeOH) continually stopping for bubbling to continue & slow down.
- Step 8: Continue with adding small amounts MeOH until Na Wire disappeared.
- Step 9: Repeat steps 7 - 8 until a white Sodium salt precipitate forms.
- Step 10: Discard of Sodium ethoxide salt mixture as quenched inorganic waste.

QUENCHING OF 4-METHOXY BENZYL CHLORIDE (PMB CHLORIDE)

- Step 1: Get a magnetic stirrer and place in fume hood.
- Step 2: Prepare an ice bath in a bucket - $\frac{1}{4}$ water + ice
- Step 3: Place on magnetic stirrer.
- Step 4: Add about $\frac{1}{4}$ of DCM (Dichloromethane) in a large glass beaker
- Step 5: Add stirrer bar to DCM.
- Step 6: Set stirrer on slow & switch on.
- Step 7: Place a blast shield between sash and set-up - have sand bucket close by.
- Step 8: Slowly add the 4-Methoxy benzyl chloride (PMB Chloride) liquid - a few drops at a time to the cold DCM.
- Step 9: Let it stir into the DCM checking for sudden temperature rise in mixture.
- Step 10: Slowly add Methanol (MeOH) to the solution: +/- 50% MeOH/DCM split - until it starts fuming.
- Fumes = HCl fumes.
- Step 11: Continue with stirring until fumes dissipated.
- Step 12: Repeat steps 7 – 11 until all the 4-Methoxy benzyl chloride has been quenched.
- Step 13: Discard of unreactive mixture as quenched halogenated waste.

