

Basic laboratory skills

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1 Personal Protective Equipment (PPE)

- protect against specific hazards
- worn at all times

eye safety glasses with side protection »> splash goggles

shortwave UV full face mask with UV protectant material

gloves latex, nitrile, vinyl

latex simple barrier

heat/cold resistant for extreme temperatures

feet closed-toed shoes

2 Pipetting

2.1 vacuum-assisted pipets

- liquid drawn by creating vacuum w/ pump
 - pump can be rubber bulb, motorized pump, etc.

- 1-25 mL
- measure volume at bottom of meniscus
- some have cotton plug inside top

Pasteur pipet glass, no graduation marks; used to transfer liquid

plastic transfer pipet, bulb pipet graduated, but not accurate

- available in sterile packages

volumetric glass, graduation marks; measure single specific volume very accurately

- accurate w/ gravity; do NOT blow out remaining liquid
- 10 mL Class A has 0.02 mL accuracy

graduated glass/plastic cylindrical shape, not as accurate as volumetric

Mohr pipets dead volume beyond zero mark; do NOT empty

serological pipet deliver entire contents; blow out last drops

10 mL disposable serological pipet has 0.15 mL accuracy

2.2 micropipets

- measure fixed or adjustable volumes
- <1 mL

volume ranges 0.5-10, 2-20, 20-200, 100-1,000 (uL)

- most accurate at top of range

accuracy ~0.5-4%

- fresh tip for every new reagent
- mechanisms