

Let's Make Samples

List of Materials and Equipment

Ingredients	Equipment
<ul style="list-style-type: none"> Oil Water Soy Lecithin Food coloring 	<ul style="list-style-type: none"> Capped tubes Scale Weighboat A stick to scrape off residue Mortar and pestle Vortex Rubber band Labels and pens

Sample Ratios

SAMPLE A: O/W (Oil in Water)			
Raw Ingredient	Percent	Mass	Volume
Oil	70%	7g	≈7.5ml
Water	20%	2g	2ml
Soy Lecithin	10%	1g	
Total	100%	10g	

SAMPLE B: W/O (Water in Oil)			
Raw Ingredient	Percent	Mass	Volume
Oil	20%	2g	≈2.5ml
Water	70%	7g	7ml
Soy Lecithin	10%	1g	
Total	100%	10g	

SAMPLE C: Bicontinuous (Equal Amounts of Water and Oil)			
Raw Ingredient	Percent	Mass	Volume
Oil	45%	4.5g	≈5ml
Water	45%	4.5g	4.5ml
Soy Lecithin	10%	1g	
Total	100%	10g	

SAMPLE D: Bicontinuous + Extra Surfactant			
Raw Ingredient	Percent	Mass	Volume
Oil	40%	4g	≈4.5ml
Water	40%	4g	4ml
Soy Lecithin	20%	2g	
Total	100%	10g	

SAMPLE E: O/W + Extra Surfactant			
Raw Ingredient	Percent	Mass	Volume
Oil	20%	2g	≈2.5ml
Water	60%	6g	6ml
Soy Lecithin	20%	2g	
Total	100%	10g	

Protocol (To make a single sample)

1. Prepare a tube with blue cap.
2. Weigh out **water** according to the ratios above and pour into tube.
3. Weigh out **soy lecithin*** according to the ratios above and pour into tube.
 Note: if soy lecithin is chunky use mortar and pestle to grind it thoroughly, but not smudging it onto the mortar, before putting it in.
4. Invert tube **2-3** times and vortex tube for **3** minutes at level **8**.
 Note: If there are still undissolved soy lecithin particles, vortex a bit more, and use probing stick to manually break particles.
5. Weigh out oil according to the ratios above and pour into tube.
 Note: Volume can also be used, but weight may be more accurate for viscous solutions like oil.
6. Put **one** drop of food coloring in the tube.
7. Vortex tube for **5** minutes until the color is uniformly distributed.