

Lab Procedure for Samples Handout Example Answers

Phosphorescence in Bioplastic: Changing the amount of Cornstarch

SAMPLE NAME: HLM 10gCS

Reaction Scheme

Corn Starch	10 grams
Water	60 mL
Vinegar	5 mL
Glycerin	5 mL
Phosphorescence Solid	0.6 grams

Procedures	Observations
1. In a 1000mL Beaker add 10 grams of cornstarch (using weigh paper and a balance)	10.0g CS White, soft, clumpy
2. Add 5 mL of vinegar (using a 10 mL graduated cylinder) to the same beaker	5mL V Clear, distinct smell
3. Add 5 mL of Glycerin (using a 10 mL graduated cylinder) to the same beaker	5mL G Sticky/thick
4. Add 60 mL of Water (using a 100 mL graduated cylinder) to the same beaker. USE YOUR MEASURED WATER TO GET THE GLYCERIN RESIDUE FROM THE GRADUATED CYLINDER IN STEP 3.	60 mL H ₂ O cloudy in beaker / milky
5. Stir the mixture using a silicon spatula until the corn starch is dissolved and mixture is thoroughly combined	clumpy / dissolved / milky
6. Measure out 60mL of the mixture (using a graduated cylinder) and dispense into to a clean 250mL beaker	60mL of mixture milky
7. Add 0.6 grams of the Phosphorescence Solid to the 60 mL mixture in the 250mL beaker (from STEP 6)	.6g of powder to mixture milky / cloudy

8. Stir the mixture using a clean silicon spatula until the Phosphorescence Solid is completely dissolved through out.	no change from step 7
9. Heat the mixture in the 250mL beaker using a hot plate preheated to 400°C	thick white mixture
10 CONTINUOUSLY STIR THE MIXTURE WHILE HEATING USING THE SILICON SPATULA	thick white mixture continues to thicken
11. Continue to heat and stir the mixture until it becomes clear or becomes viscous solid that will be hard to stir for 6mins and 30 secs. **BE CONSISTANT WITH TIME FOR ALL YOUR SAMPLES**	continues to thicken
12. Transfer the heated mixture into a small petri dish that is lined with aluminum foil and labeled with the Sample Name. Transfer using the silicon spatula.	thick cloudy slimy gel like substance 2:50 PM
13. Allow the Phosphorescence bioplastic to dry and harden overnight.	in lab

1:54pm: gel like | moist | slimy | smells like glue