

AP Chemistry: A Sample Formal Laboratory Report

This paper is designed to help you prepare a chemistry lab report. Keep it in your chemistry notebook. All chemistry lab reports must be written neatly and well organized to receive full credit. Lab reports may be written or typed. It is highly recommended that you use graph or engineering bond paper for written reports.

Laboratory #7: Quantitative Determination of an Empirical Formula

I. Hypothesis: If nitric acid is poured onto tin, a tin oxide will be produced. If we know the initial mass of the tin metal and the mass of the final product, we can determine the empirical formula of the tin oxide product. There should be a whole number ratio between oxygen and tin. *(The hypothesis explains what is to be tested and will be written after reading the entire laboratory worksheet.)*

II. Equipment: *(Non-chemical equipment used in the experiment.)*
evaporating dish
watch glass
stirring rod
burner with ring stand, ring and wire gauze
forceps
beaker
balance

III. Reagents: *(A listing of chemicals used in the experiment with their amounts and any warnings.)*
tin metal (granulated) ~2 g.
5 cm³ (mL) nitric acid (HNO₃) **caution! severe burns**

IV. Procedure: Each step of the procedure must be written here. You may paraphrase and shorten the explanations, but the reader must be able to perform the experiment from these instructions. *(The procedure must be read carefully before the lab begins. Drawings of the experimental setup may be included here. The teacher may make changes to the procedure; make sure that you write any changes down!)*

V. Data: *(If the laboratory report is handwritten use a ruler to draw data tables and graphs! Always include units with all data entries.)*

	Procedure	Trial 1	Trial 2
a	mass of dish, and watch glass	74.14 g	
b	mass of dish, glass and tin	76.20 g	
c	mass of tin =b-a	2.06 g	
d	moles of tin	.0173 mol	
e	mass of dish, glass, and product	76.76 g	
f	mass of oxygen =e-b	.56 g	
g	moles of oxygen	.0350 mol	
h	mole ratio	2.02 : 1	
i	accepted ratio	2 : 1	
j	% error	1.00 %	

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