

NATIONAL UNIVERSITY OF SINGAPORE
FACULTY OF SCIENCE


Experiment-Based Risk Assessment Form

Name of Department	Chemistry	Location of Lab	S7-04
Name of Laboratory	Advanced Chemistry Teaching Lab	Name of PI (lecturer-in-charge)	Dr. Chng Yong Sheng
Name of Lab Officer	Leng Zhi Jin	Name of Activity/Experiment	CM5176 GIST (Sem 1) Iodometric Titration of Copper

Hazard Identification				Risk Evaluation & Control						
No	Description / Details of Steps in Activity	Hazard(s)	Possible Accident(s) or ill Health, and Persons-at-Risk	Existing Risk Control (Mitigation)	Severity	Likelihood (probability)	Risk Level	Additional Risk Control	Person Responsible	By (Date)
1	In an Erlenmeyer flask, dilute exactly 25 mL of the CuSO ₄ solution with 25 mL of deionized water	CuSO ₄ : Toxic	Harmful if swallowed or inhaled	No eating or drinking in lab, use in fume hood	2	1	2			
		CuSO ₄ : Irritant	Irritating to eyes and skin	Wear gloves, safety glasses, long pants, covered shoes and lab coat	2	1	2			
2	To this add 5 mL of conc. H ₂ SO ₄ , 0.2 g of KI(s) and 2.0 g of KSCN	H ₂ SO ₄ : Toxic	Harmful if swallowed or inhaled	No eating or drinking in lab, use in fume hood	2	1	2			
		H ₂ SO ₄ : Corrosive	Corrosive to eyes and skin	Wear gloves, safety glasses, long pants, covered shoes and lab coat. A dispenser is used to dispense the appropriate volume to minimize contact	2	1	2			
		H ₂ SO ₄ : Oxidizing agent	May causes fire in contact with strong reducing agents	Keep away from contact with strong reducing agent	2	1	2			
		KI: Toxic	Harmful if swallowed or inhaled.	No eating or drinking in lab, use in fume hood	2	1	2			
		KI: Irritant	Irritating to eyes and skin	Wear gloves, safety glasses, long pants, covered shoes and lab coat	2	1	2			
		KSCN: Toxic	Extremely harmful if swallowed or inhaled. Thermal decomposition gives toxic gases	No eating or drinking in lab, use in fume hood. Keep away from heat sources	2	1	2			
3	Immediately titrate the copper solution with the 0.1 mol/L standard thiosulfate solution	Na S O solution	Harmful if swallowed or inhaled	No eating or drinking in lab,	1	1	1			
		Na S O solution: Irritant	Irritating to eyes and skin	Wear gloves, safety glasses, long pants, covered shoes and lab coat	1	1	1			
		Broken glassware	Cuts from broken glassware	Check glassware before using, handle glassware appropriately, secure burette with clamp.	2	1	2			
4	Shortly before the equilibrium point has been reached (the solution will be red/orange-yellow to yellow), add 1–2 mL of the starch solution.	Starch solution: irritant	Irritating to eyes and skin	Wear gloves, safety glasses, long pants, covered shoes and lab coat	1	1	1			

Conducted By


Name Dr. Chng Yong Sheng

Signature 

Date 1/6/2022

Approved By

Name Assoc Prof Fan Wai Yip

Signature 

Approval date 1-Jun-22

Next Revision date 31-May-22
(Maximum 3 years)