



Tishk International University
Faculty of Applied Science
Nutrition and Dietetics Department
2nd Grade
Nutritional Biochemistry II

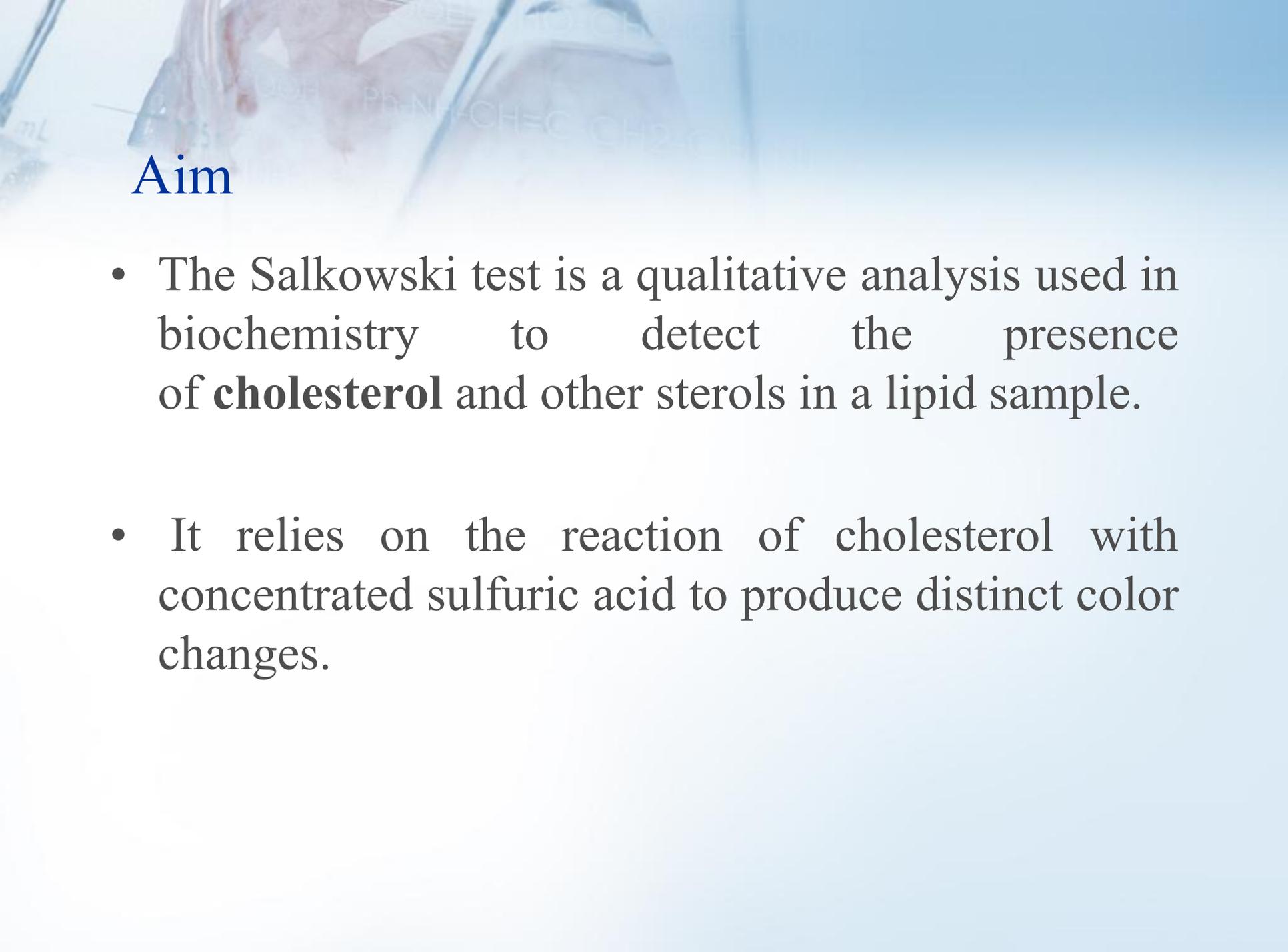
**Experiment Name: Lipid Analysis
'Salkowski Test'**

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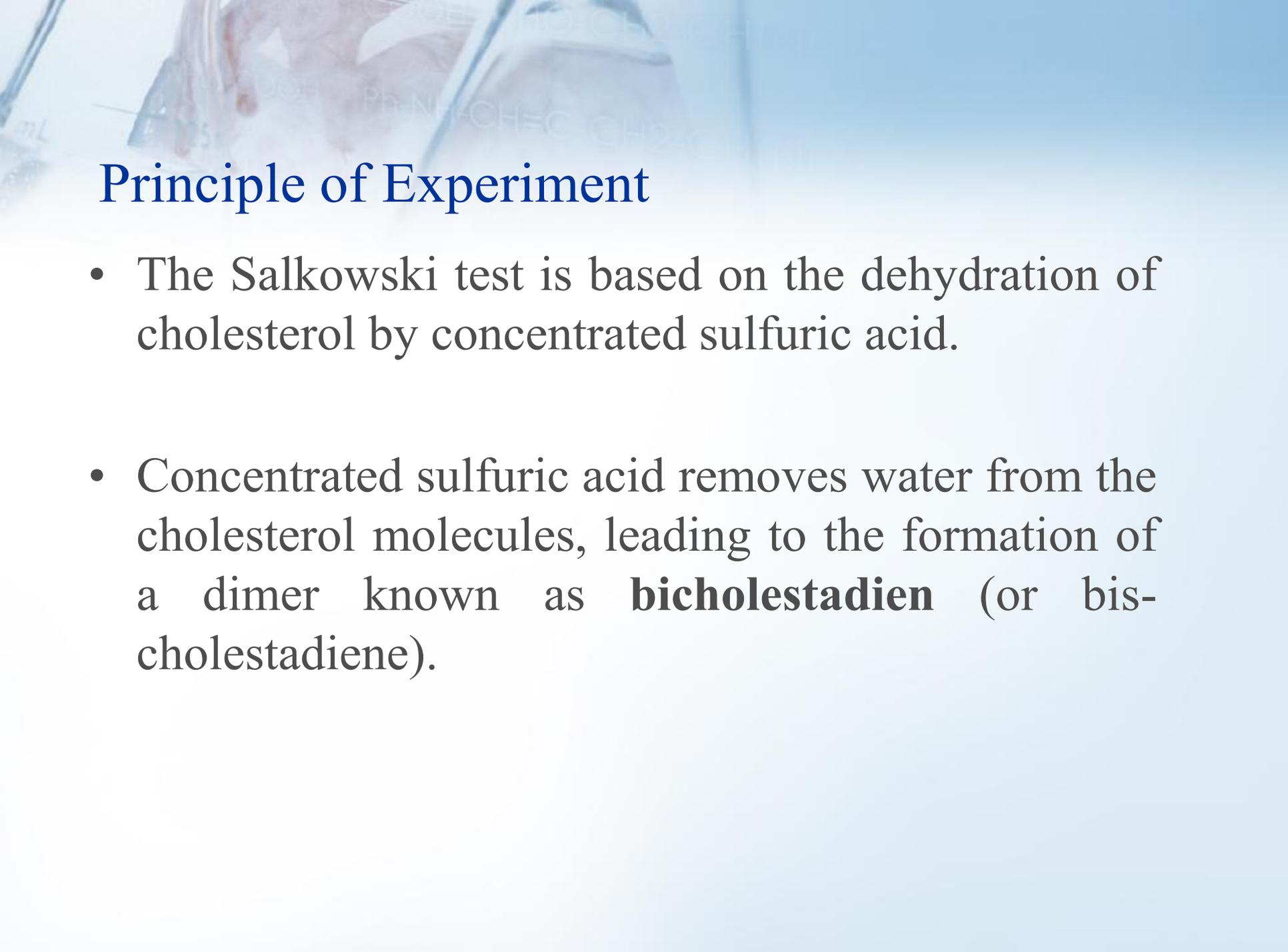
Objectives

- Aim
- Principle of Reaction
- Laboratory Significance



Aim

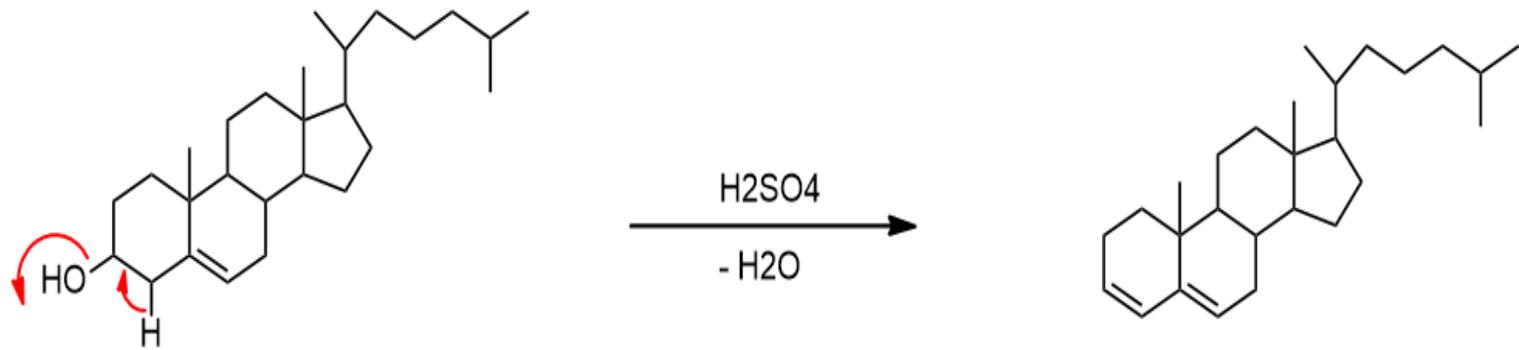
- The Salkowski test is a qualitative analysis used in biochemistry to detect the presence of **cholesterol** and other sterols in a lipid sample.
- It relies on the reaction of cholesterol with concentrated sulfuric acid to produce distinct color changes.

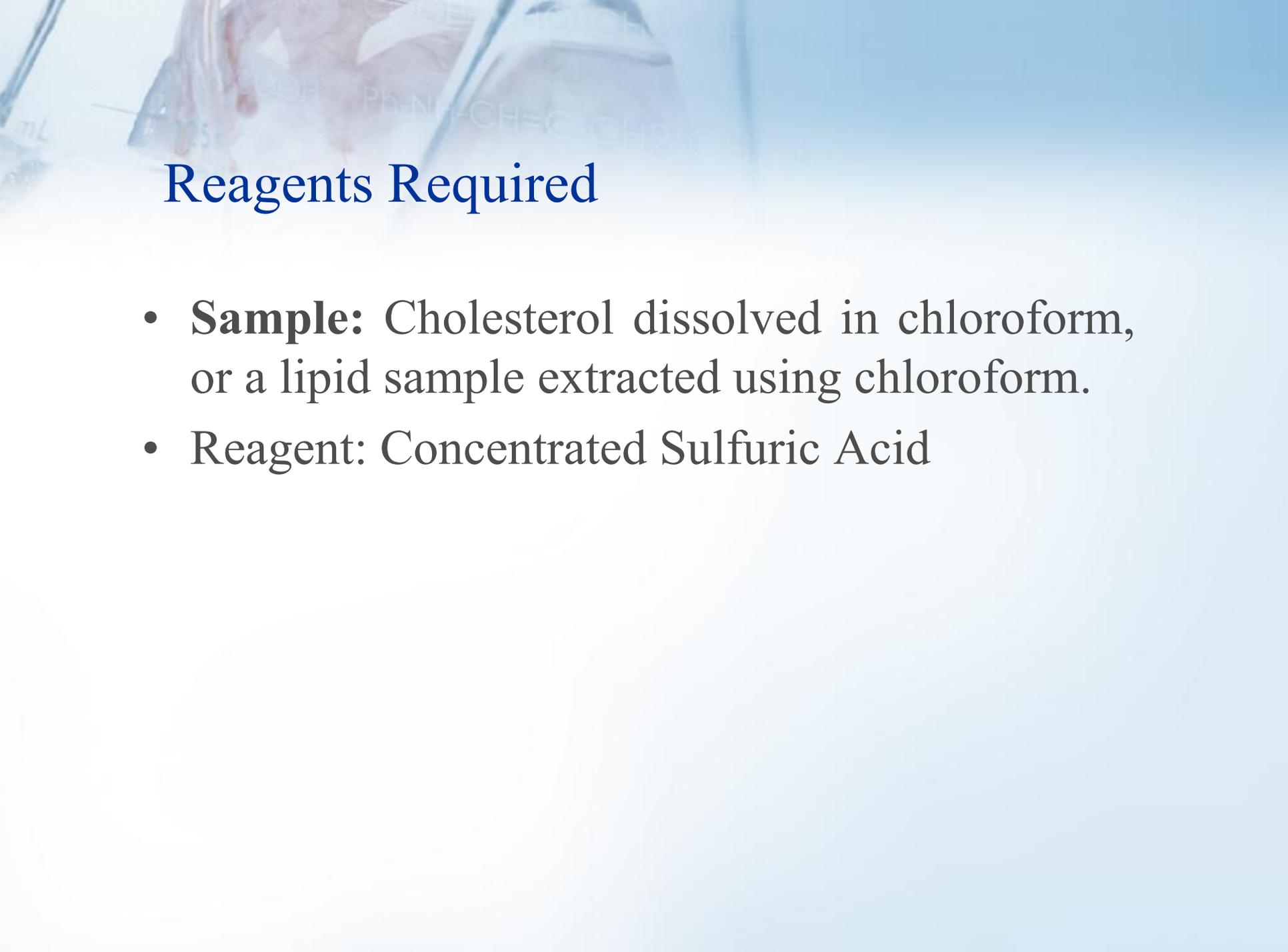


Principle of Experiment

- The Salkowski test is based on the dehydration of cholesterol by concentrated sulfuric acid.
- Concentrated sulfuric acid removes water from the cholesterol molecules, leading to the formation of a dimer known as **bicholestadien** (or bis-cholestadiene).

Biochemical Reaction



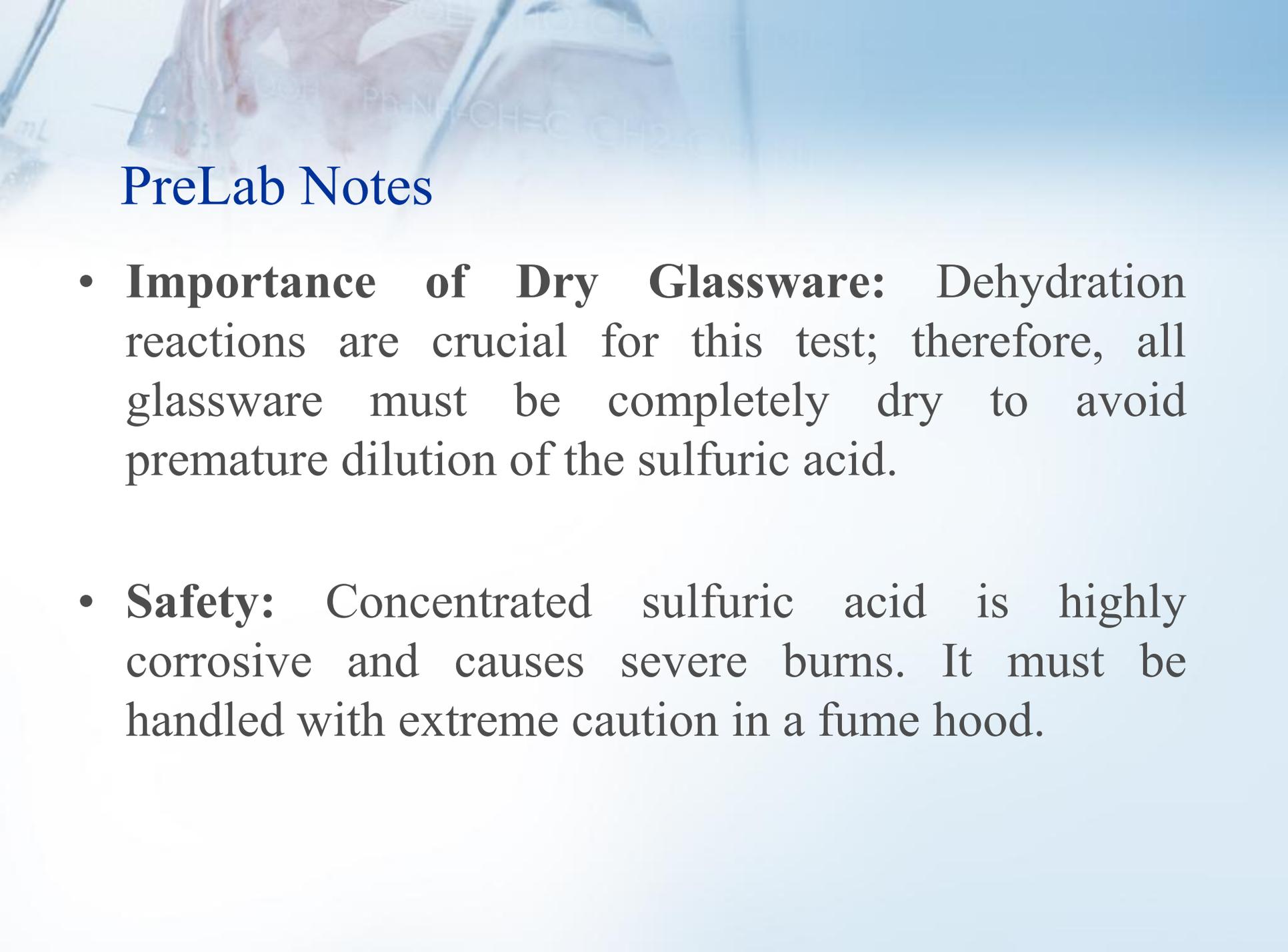


Reagents Required

- **Sample:** Cholesterol dissolved in chloroform, or a lipid sample extracted using chloroform.
- **Reagent:** Concentrated Sulfuric Acid

Method:

1. Dissolve cholesterol in 2ml of chloroform in dry test tube.
2. Add equal amount of conc. H_2SO_4
3. Shake gently.
4. The upper layer turns red and H_2SO_4 layer shows a yellow color with a green fluorescence.



PreLab Notes

- **Importance of Dry Glassware:** Dehydration reactions are crucial for this test; therefore, all glassware must be completely dry to avoid premature dilution of the sulfuric acid.
- **Safety:** Concentrated sulfuric acid is highly corrosive and causes severe burns. It must be handled with extreme caution in a fume hood.