



HOLISTA TRANZWORLD PRIVATE LIMITED

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Doc No : HTPL-SOP05

Food Safety and Quality Management System

Issue/Rev : 1.0

Lab Test Procedure SOP

Date : 19.09.2022

5. Total Hardness

Purpose:

To provide a standard method for determining Total hardness of the water sample.

Scope:

The procedure covers activities of QA department.

Responsibility:

The process chemist is responsible for performing the activity.

QA in charge is responsible for monitoring the effectiveness of the activity.

Equipment / Reagent:

1. 100ml Pipette

2. 10 ml burette

3. 250 ml Conical flask

4. Reagents / Chemicals:

- STD 0.02 N Ethylene Diamine Tetra Acetic Acid (EDTA) Solution.
- Ammonia buffer test solution.
- Erichrome Black T indicator.

Procedure:

1. Measure exactly 100ml of water sample and transfer it into 250ml conical flask.
2. Add 6 drops of ammonia buffer test solution and 2 drops of Erichrome Black T indicator and titrate against STD 0.02N EDTA solution till the end points turns purple to permanent pale blue colour.
3. Note down burette reading (titre value).

$$\text{Total Hardness} = \frac{\text{Titre value} \times \text{Normality of EDTA} \times 50 \times 1000}{\text{Volume of the sample taken}}$$

Where 50 = Equivalent weight of calcium carbonate.

Prepared by

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