TEN TEXPROS CO. LIMITED Africa's Premier Provider of Linen Solutions	Doc No: TTP.R.L.012	Prepared By: Ssemuyiga Denis
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TEN TEXPROS LAUNDRY SERVICES

SOP FOR PREPARING 0.5% SODIUM HYPOCHLORITE SOLUTION

Introduction

Dilution is the process of adding a solvent to a solution to reduce the concentration of the solute. Proper dilution ratios are important for safety and to provide better outcome when using a chemical. Over dilution wastes the product and money and it gives poor results i.e. it may fail to decontaminate infectious linen or remove stains completely. While under dilution could cause safety hazards like skin burns or irritations and may damage linen, machines and other surfaces. Recommended precautions by the manufacturer such as dilution ratios, direction for use and right use of PPE should be respected if desired outcome is to be achieved for a specific application.

Purpose

This document provides instructions for the preparation of sodium hypochlorite disinfectant solution to be used in disinfecting soiled and infected linen, worksurfaces, floors, trolleys, washing machines, equipment, and furniture.

Scope

This document shall guide laundry staff, housekeepers and ward staff of Ten Texpros when diluting sodium hypochlorite desired for linen processing or when disinfecting other surfaces.

Responsibility

It shall be the responsibility of linen management supervisor to train and guide staff on proper dilution of Sodium hypochlorite.

It shall be the responsibility of staff to adhere to this guideline when diluting sodium hypochlorite.

Management has the responsibility of providing staff with sodium hypochlorite and desired PPE.

MATERIALS REQUIRED

Reagents	REQUIREMENTS	PPE
• Sodium hypochlorite	• Workplace label • Measuring cylinder/Cup of 0.5l • 20ltr bucket • Permanent marker • Chemical resistant tape	• Safety gloves • Head cap • Mask • Overall • Apron • Gumboots • Safety googles

PROCEDURE

I. Dilution Table

% OF CHLORINE CONCENTRATION AVAILABLE IN DILUTED LIQUID BLEACH	VOLUME OF WATER REQUIRED	ITEMS TO BE DISINFECTED	DIRECTIONS FOR USE
Desired concentration 0.5%	1 volume of sodium hypochlorite in 6 volumes of water or as per the manufacturer's guidance.	Soiled and infected linen, worksurfaces, floors, machines, equipment, furniture, cupboards, tote boxes, basins, buckets, brushes and mops.	• Contaminated or soiled linen: Immerse for 1 hour before main wash. • Surfaces, machines and furniture: Damp dust with sodium hypochlorite solution and allow to air dry. • Floors: Scrub or use a mop system. • Equipment including buckets and basins: Decontaminate for 15-20 minutes. Then wash with detergent, rinse with water and let them air dry.

II. How to prepare 0.5% Sodium hypochlorite (JIK) solution

STEP	ACTION	RATIONALE
Step 01	Don PPE appropriately according to risk of exposure.	To protect oneself against irritations from chemical reagents/residues.
Step 02	Obtain a designated, clean and clearly labelled bucket with a cover.	For preparation and storage of sodium hypochlorite solution.
Step 03	Measure 3 litres (6 parts) of water using a measuring jag and pour into the bucket.	Use a permanent marker to mark the water level on the bucket.
Step 04	Measure and add 0.5 litre of sodium hypochlorite or as per dilution table and stir well to mix. Tightly cover the bucket.	Stir well to ensure proper mix and concentration of 0.5% sodium hypochlorite.
Step 05	Indicate the dates and time of preparation and expiration on the bucket.	The standing time for sodium hypochlorite solution is 24 hours only.

A. Storage

Store in air-tight non-metallic containers away from heat, light and humidity in a ventilated area. Sodium hypochlorite solution loses stability with heat and light exposure.

B. Labeling instructions

Make and complete the label bearing the product identifier, date and time prepared, expiry date and time and attach it to the appropriate storage bucket.

C. Side effects

i. It irritates eyes causing burns on them.
ii. It causes severe skin burns, itching and dermatitis (red, cracked skin).
iii. Ingestion of sodium hypochlorite solution may harm the mouth, throat, oesophagus and other tissues of the digestive system if swallowed.
iv. Breathing chemical residues or vapor of the solution may irritate the nose, throat, mucous membrane or upper respiratory tract.

D. Precautions

i. Ensure personal safety by using PPE.
ii. Ensure that the container for sodium hypochlorite solution is closed tightly every after use.

E. Symbol for hazardous chemicals

Procedural Notes

- Do not use sodium hypochlorite solution in work areas containing ammonia and ammonium salts, amines, strong acids, methanol, peroxides as it may react violently and explosively.
- Chlorine bleach can be corrosive. Protect metal instruments by thoroughly rinsing them with water after soaking for 10 minutes.
- Never place sodium hypochlorite solution in contact with water, acid, fuel, detergents, organic or inflammable materials e.g. food, paper or cigarettes.

Conclusion

Always use a chemical the way it is intended to be used. That is, check labels before using the chemical, wear suggested PPE for protection and dilute the chemical properly according to labels. Adhering to this guide shall always give the best outcome and keep staff safe.

References

- *Standard operating procedures for preparing sodium hypochlorite (chlorine bleach) by Wake Forest university laboratory.*
- *Material Safety Data Sheet (MSDS) for sodium hypochlorite by Allied Universal Corporation dated 09/06/2007.*

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