

ASC SPECIFICATION NO. 296

HYPOCHLORITE (60%-70%)

1. **Description.** It is a white amorphous powder with a pungent smell of chlorine. It is a bleaching powder of high purity of Sodium/Calcium compound which contains 60%-70% of available chlorine. It is more stable than ordinary bleaching powder and deteriorates much less on storage. It is almost non hygroscopic and gives a practically clear aqueous solution.

2. **Examination.**

a. **Specified Limit Hypochlorite.** 60%-70% of available Chlorine.

b. **Identification.**

(i) It becomes moist and gradually decomposes in air, CO₂, being absorbed and chlorine is evolved.

(ii) **Solubility.** Partly soluble in water and ethanol.

(iii) Aqueous solutions are strongly alkaline.

3. **Assay.** Weigh accurately a weighing bottle, containing about 2.5 gm of bleaching powder which has been powdered as finely as possible. Prepare in 250 ml measuring flask a solution of 4 to 5 gm KI in 20 ml of water. Transfer the bleaching powder to a mortar and weight the bottle again. Rub the bleaching powder into a paste with a little water at a time, transferring the paste to the 250 ml flask, until all the bleaching powder is in the flask. Acidify the mixture with 5-10 ml Acetic Acid and make the volume to 250 ml with water. Shake the flask well and titrate 25 ml of the solution against the Sodium Thiosulphate, using starch as indicator. When the solution has a pale Yellow colour and continue the titration drop wise until the blue colour just disappears. Repeat the titration two/three times.

4. **Calculation.**

$Cl_2 = I_2 = Na_2S_2O_3$ of 0.1 M 35.5x2

(i) Mass of available Cl₂ = $\frac{2 \times 35.5 \times b \text{ gm}}{20,000}$

(ii) Mass of available Cl₂ per 250 ml of solution = $\frac{2 \times 35.5 \times 10 b}{20,000}$

(iii) % of available chlorine in the bleaching powder = $\frac{2 \times 35.5 \times 10 b \times 100}{20,000 a}$

Where a = Sample Taken
b = ml of 0.1 M Sodium Thiosulphate required.

5. **Packing.** The bleaching powder should be packed in a hermetically sealed airtight tin/plastic container. Each container shall contain 15-25 Kg net weight content of Hypochlorite (Bleaching Powder) or as may be specified in the indent basing on the package size generally available in the market.

6. **Marking.** The container shall be stencilled on one side as follows:

- Hypochlorite (60%-70%)
- Net weight of contents.
- Gross weight.
- Name of Manufacturer/supplier.
- Manufacturing date.

7. **Inspection.** Inspection of supplies tendered for acceptance shall be carried out by an officer acting on behalf of DST. The inspecting officer shall draw representative sample from this consignment and submit them to AFFDL, Dhaka Cantonment for analysis and report.

The analytical report of AFFDL shall be forwarded to DST whose decision regarding the consignment shall be final and the delivery shall be same/as per the sample approved by AFFDL in all respect.

