**Product Bulletin**
Product Name: Peroxide Stabilizer 3
Product Code: 2708019
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# Peroxide Stabilizer 3

Peroxide Stabilize 3 is a special blend stabilizer package to use with commercial grade Hydrogen Peroxide to blend de-scaling and bright dip solution concentrates for use on copper and copper- based substrates.

Peroxide Stabilizer 3 can be blended with 35% or 50% by weight Hydrogen Peroxide.

*As with all solutions of Hydrogen Peroxide, the utmost care should be taken to guard eyes, skin, mucous membranes from splashing and contact.*

## Features & Benefits

| | |
|---|---|
| Exceptional stabilizer package | Prolonged bath life of Hydrogen Peroxide brightening and descaling baths, high metal tolerance; lower cost of use |

## Operating Conditions

Example solutions

To make bright dip concentrate; 35% Hydrogen Peroxide
mixing instructions are by volume or [ by weight]

1. Fill the mixing tank (Polypropylene, Polyethylene, stainless steel, plastisol - not steel) to 96.4% [96.68% by weight] of the desired volume with 35% by weight Hydrogen Peroxide.
2. Add 3.5% [3.16% by weight] by volume of the desired volume of Peroxide Stabilizer 3
3. Add 0.1% [0.18% by weight] by volume of Sulfuric Acid.
4. Mix thoroughly for at least 15 minutes.
5. Check the pH (the pH must be less than 2.0). If it is high, add very small amounts of 1% Sulfuric Acid to adjust below 2.0.
6. Drum the material. *Be sure double vented caps are used on all storage containers as some gassing will occur. Store in cool, dry, ventilated place free from sun exposure.*

To make bright dip concentrate; 50% Hydrogen Peroxide
mixing instructions are by volume or [by weight]

1. Fill the mixing tank (Polypropylene, Polyethylene, stainless steel, plastisol - not steel), to 94.9% [95.48% by weight] of the desired final volume with 50% by weight Hydrogen Peroxide.

2. Add 5.0% [4.37% by weight] by volume of the desired volume of Peroxide Stabilizer 3
3. Add 0.1% [0.15% by weight] by volume of Sulfuric Acid.
4. Mix thoroughly for at least 15 minutes.
5. Check the pH (the pH must be less than 2.0). If it is high, add very small amounts of 1% Sulfuric Acid to adjust below 2.0.
6. Drum the material. *Be sure double vented caps are used on all storage containers as some gassing will occur. Store in cool, dry, ventilated space free from sun exposure.*

To make de-scaler concentrate; 35% hydrogen peroxide
mixing instructions are by volume or [by weight]

1. Fill the mixing tank (Polypropylene, Polyethylene, stainless steel, plastisol - no steel) to 93.0% [93.57% by weight] of the desired volume with 35% by weight Hydrogen Peroxide.
2. Add 6% [5.52% by weight] deionized water.
3. Add 1.0% [0.91% by weight] by volume of Peroxide Stabilizer 3.
4. Mix thoroughly for at least 15 minutes.
5. Check the pH (the pH must be less than 2.0). If it is high, add very small amounts of 1% Sulfuric Acid to adjust below 2.0.
6. Drum the material. *Be sure double vented caps are used on all storage containers as some gassing will occur. Store in cool, dry, ventilated place free from sun exposure.*

Quality control checks

| Test format | Specifications | |
|---|---|---|
| | 35% | 50% |
| 1. Sg @21°C | 1.114 +/- 0.01 | 1.180 +/- 0.01 |
| 2. Peroxide content | 32.0% min | 46.0% min |
| 3. pH | less than 2.0 | less than 2.0 |

Reagents and equipment
1. Sulfuric acid, 50% by volume
2. 0.1 N Potassium Permanganate
3. Standard laboratory equipment
4. pH meter (buffered to 4.0)

## Titration Method

Specific gravity

a. Place 200 mL of sample into a 250 mL graduate cylinder. Float a hydrometer calibrated for 1.100 - 1.200 in the sample. Read the gravity.

b. Pre-weigh or tare a 250 mL volumetric flask. Fill the flask to the line with material. Reweigh.

c. Difference in weight = specific gravity
250 mL

2. Peroxide

a. Weigh 1.0 - 1.2-gram sample on analytical balance, into a 100 mL volumetric flask.

b. Add DI water to mark and mix well.

c. Pipette a 10.0 mL aliquot into a 250 mL Erlenmeyer flask containing about 75 mL of DI water.

d. Acidify with about 10 mL of 50% sulfuric acid solution.

e. Titrate with 0.1N Potassium Permanganate solution to faint pink endpoint.

f. % H202 = mL of titrant x 1.701

3. pH

a. With a pH meter buffered to 4.0, check the pH of the concentrate. It should read 2.0 or less. If it is greater than 2.0 adjust with sulfuric acid.

***Once approved, the product must be drummed in the appropriate containers (Polypropylene, Polyethylene - not steel). These should be new - not reconditioned.***

***Vented bung caps must be used on all hydrogen peroxide products. Care should be taken to store in a cool place. Store on plastic pallets or concrete floor (not wood).***

## Caution

Appropriate safety and warning labels must be attached. Although required standards may vary, the following is an acceptable example:

Contains Hydrogen Peroxide. Hydrogen Peroxide is strongly oxidative and acts caustically on the eyes and skin.

Self-ignition is possible if the liquid is soaked up by an inflammable material. Protect eyes and skin."

Eye contact
Wash thoroughly with water. Contact a doctor.

Skin contact
Wash with water.

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