Laser® Export Concentrate

Laser Export Concentrate is a special blend to be used only in situations where shipping costs and import tariffs would prevent the use of Laser EX, Laser EX 50, or Laser S. Laser Export Concentrate would be used to prepare Laser products, which would then be used under the normal operating conditions prescribed in the product bulletin.

To prepare Laser EX, Laser EX 50 OR Laser S, the Export Concentrate would be mixed with locally obtained, stabilized Hydrogen Peroxide. The blend that results could be either a 35% or 50% by weight Hydrogen Peroxide depending upon the concentration of the stock 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 and descaling baths. High Metal tolerance

Operating Conditions

Mixing instructions

To make Laser EX - 35%
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 Laser Export Concentrate.
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.

To make Laser EX - 50%

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 Laser Export Concentrate.

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.

TO MAKE Laser S

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 6.0% [5.52% by weight] by volume of Propylene Glycol.
3. Add 1.0% [0.91% by weight] by volume of Laser Export Concentrate.
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.

Quality Control Checks

Test Format	Specifications		
	35%	50%	LASER S
1. Sg @21°C	1.114 +/- 0.01	1.180 +/- 0.01	1.100+/-0.01
2. Peroxide content	32.0% min	46.0% min	31.0 min
3. Ph	less than 2.0	less than 2.0	less than 2.0

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

Titration Method

Test Procedures

1. 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 0.1 N 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 LASER EX products must be drummed in the appropriate containers (Polypropylene, Polyethylene - not steel). This should be new - not reconditioned.

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

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

"Laser EX 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."

Caution

DO NOT STORE LASER SOLUTIONS IN SEALED DRUMS. DISCHARGE USED LASER SOLUTIONS TO WASTE TREATMENT SYSTEMS EQUIPPED TO HANDLE THEM.

WARRANTY: THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.

Our people. Your problem solvers.

For more information on this process please call us at
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