

## EJ-520 REFLECTIVE PAINT FOR LIQUID SCINTILLATORS

EJ-520 is a bright white paint consisting of titanium dioxide pigment and a paint base selected for its inertness to the solvent action of nearly all liquid scintillators. Unlike other paints based on epoxies, EJ-520 does not develop a yellow cast as it ages. The paint base is a two-part polyurethane selected for these optimal properties. It is intended for coating the inside walls of metal cells intended for holding liquid scintillators including those based on xylene and toluene which exhibit strong chemical solvent activity. Liquid EJ-520 contains strong solvents which can attack many plastics and hence should not be used on plastic scintillators or on liquid scintillator cells fabricated out of plastic materials such as acrylics. Use EJ-510 Reflective Paint for these latter applications.

### Application Instructions

- Work with EJ-520 in a well ventilated room or in a fume hood. Both components of EJ-520 contain flammable liquids.
- Clean the surface to be painted to remove any oils and dirt.
- Thoroughly mix 2 parts by weight of the white paint base (Part A) with one part by weight of hardener (Part B). It is best not to mix large volumes of the paint if it is not going to be applied within a period of about 30 minutes. The curing reaction is exothermic which could cause unexpected heating and very fast curing of a large mixed batch. Generally keep batch sizes below one liter.
- Allow the mixed paint to sit at room temperature for about ten minutes to thicken a little.
- Apply thin layers of the paint using a fine brush.
- Avoid accumulation of wet paint in corners
- Four coats are recommended. Apply successive coats before the previous layer has come to full dryness.
- Room temperature curing:  $20 \pm 5^{\circ}\text{C}$ 
  - Allow 40-60 minutes drying time between coats at  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ). Do not allow to achieve complete dryness between coats.
  - Allow 24-48 hours final cure with good ventilation.
- Elevated temperature curing:  $45 \pm 5^{\circ}\text{C}$ 
  - Apply a thin layer and bake for 20-30 minutes at  $45^{\circ}\text{C}$  ( $115^{\circ}\text{F}$ ). Do not bake to complete dryness between coats.
  - Apply up to three more successive coats with bake periods for each layer as above.
  - Bake the final coat to full dryness for a minimum of eight hours.
- Brushes can be cleaned with methyl alcohol or a similar solvent.

### EJ-520 Standard Kit Sizes

- 500 grams
- 1000 grams

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