

Los Angeles City Fire Department

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BARRICADE

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I. INTRODUCTION

Barricade is a liquid concentrate composed of superabsorbent polymers. These superabsorbent polymers can absorb hundreds of times their weight in water. A 1% to 2% mixture of Barricade to water produces a unique fire blocking gel. The gel, when applied to the exterior surface of combustible materials, provides an insulating zone between the heat of a fire and the protected surface. Properly applied, Barricade provides a high level of protection from radiant heat, flying

embers, and direct flame impingement.

II. COMPARISON: CLASS "A" FOAM VS. BARRICADE

Foaming agents (such as Class "A" foam) are mixed with air and water to produce air bubbles in a process known as aeration. An aerated foam solution increases the surface area of the liquid thereby increasing the heat absorptive capability of the foam solution. The increased surface area also improves the mixtures ability to cling to vertical surfaces. Tests have demonstrated that air bubbles burst when exposed to temperatures in the range of 170 degrees Fahrenheit. Foam blankets break down 15 to 30 minutes following application.

Barricade produces a bubble of water surrounded by a polymer shell. The mixed product looks and feels like slime. Being filled with water instead of air, the bubble can absorb far more latent heat than compressed air foams. Barricade does not break down like foam blankets. Following application, Barricade can be expected to remain in place from 4 to 8 hours. Unlike foams which must be reapplied when the foam blanket drains off, the barricade coating dries in place and can be reactivated with a fine mist.

Barricade is non-toxic. The product will not harm paint or metal surfaces. When the threat of fire diminishes, the product can be hosed off with an ordinary garden hose.

III. INDICATIONS FOR USE

Barricade's ability to coat and cling to vertical surfaces makes it ideally suited for exposure protection. The product can be applied to all exterior structural surfaces including metal, glass, stucco and wood. Barricade may also be applied with success to compressed gas cylinders, motor vehicles or railroad tank cars. Barricade can also be applied to vegetation surrounding a structure to increase the defensible zone.

Direct fire attack should not be made with Barricade. Barricade is an expensive additive (\$30/gallon) and does not provide the reach and handling characteristics normally associated with fire department hose streams. It should be applied in anticipation of the fire, not as a result of the fire (if flames are approaching fast, stick with water).

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IV. DISPENSING EQUIPMENT

Equipment provided to dispense Barricade include the following:

- Collapsible 5-gallon backpack.
- 1" self-educting plastic nozzle
- Quick connect hose with in-line shut-off
- Plastic funnel
- Plastic backpack liner
- Clean-out tube

Companies should normally carry one 5-gallon container of Barricade on the apparatus. The equipment listed above should be carried empty. When the probability of brush fires increase, i.e. red-flag alert or extreme BBI (81+), companies shall fill the collapsible backpack with Barricade

and carry two additional 5-gallon containers of Barricade on the apparatus (bringing the total product carried to 15 gallons).

V. FILLING THE BACKPACK

To fill the collapsible backpack with Barricade:

1. Place a plastic liner inside the backpack.
2. Remove plastic plug. Thread funnel into fill port.
3. Pour concentrate from 5-gallon container into backpack. Be careful not to spill product, as it is very slippery.
4. When the backpack is full, remove funnel and replace plastic plug into fill port
5. Save 5-gallon container. You will need it to save the Barricade if it is not used.

VI. EMPTYING THE BACKPACK

When fire conditions change and it is no longer necessary to keep the backpack full:

1. Remove funnel adapter from funnel. Place funnel in empty saved 5-gallon container.
2. Pour Barricade from collapsible backpack to container.
3. Discard plastic backpack liner.

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4. Rinse backpack thoroughly to remove any spilled product
5. Use the **"flush wand"** provided to remove product from pick-up tube.

VII. APPLICATION PROCEDURES

To apply Barricade:

1. Attach plastic nozzle to 1" hose line.
2. Use quick-connect to attach pick-up tube to fill plug.
3. Don the filled backpack.
4. Attach shut-off end of pick-up tube to the nozzle.
5. Deliver 75 psi to the nozzle.
6. Use the in-line shut off located on the end of the pick-up tube to adjust the mixture rate. If it is anticipated that the fire will pass through in 1 to 2 hours, lean out the mixture by closing the in-line shut off. If the fire will not pass through for 2 to 8 hours, use a richer mixture by opening the in-line shut off. Fully open, the eductor provides an extremely thick mixture of 4%.
7. Work back towards the apparatus. Start with the roof and then coat vertical surfaces.

Coat combustible surfaces and windows first.

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CAUTION:

Barricade produces an extremely slippery slime. When coating roof areas always operate from a ladder. Do not walk on roof surfaces coated with Barricade.

CAUTION:

Barricade should only be dispensed from the backpack eductor. Mixing Barricade in the apparatus water tank could result in a thick mixture that will clog the pump.

8. Work in pairs. The Firefighter not wearing the backpack assists by pulling hose and checking for coverage.

VIII. REACTIVATION

If Barricade dries out before the fire approaches, apply water from a fine mist to reactivate the product. Be careful not to over-apply water so that you do not wash the Barricade off.