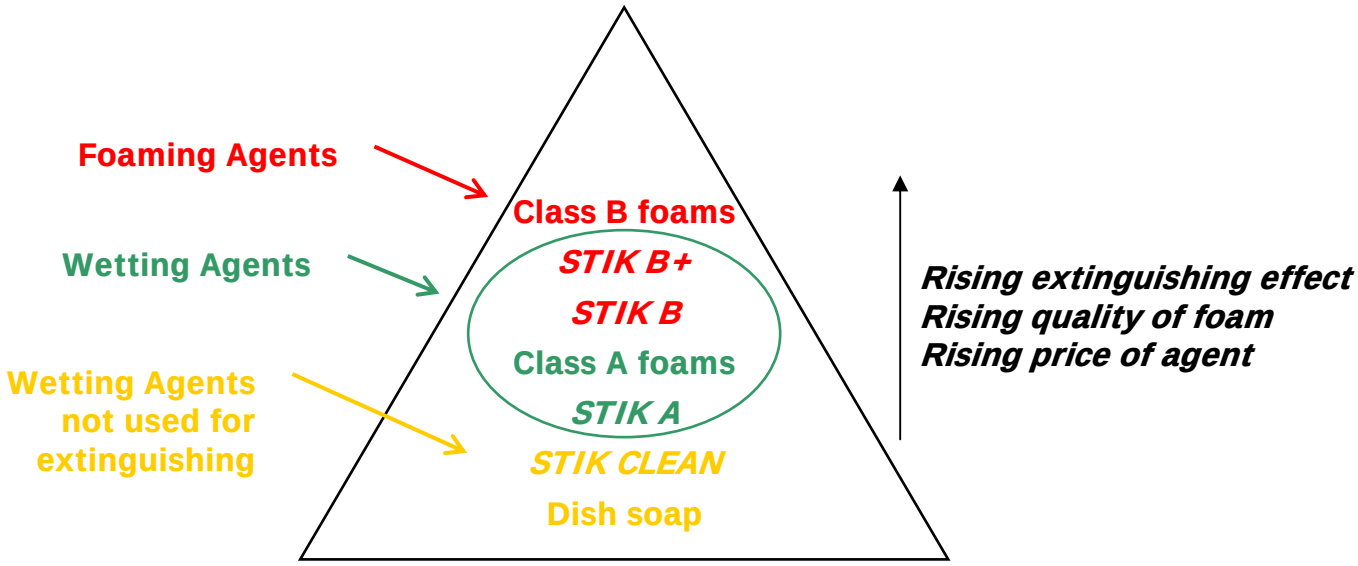
STIK vs. Liquid Foams



Did you know that 70-80% of your 5-gallon bucket of agent is water?

Many manufacturers of liquid agent state in their MSDS that the ingredients and compositions are 70-80% WATER which means, you are paying substantial money for water!! Also, consider the bulkiness and weight in your compartments.

REMEMBER, when you utilize an eductor or a self-educting system and you set it to 3% or 6%, you are only getting in the percentage of volume, 20% agent, the other percentage is WATER. For example, a specific foam has 80% volume of WATER in the composition of ingredients; your eductor set at 3% would only result in 0.6% of foam per volume.

Buckeye stiks yield at a rate of 0.1% -1.0%, depending on the proportioner and type of stik. Therefore, they perform so well compared to liquid agent because you are getting more extinguishing agent with even a lower pressure.

How the STIK Class A Wetting Agent Works?

Class A foam is not new thinking. The difference in Class A foams today (at least with the good ones) is that today's formulations provide better wetting of fuels, increased foam stability and superior heat resistance. Class A foam is very versatile and can help suppress Class A fuel fires involving wood, paper and other cellulose products in a variety of ways.

Class A foams expands water between 1 and 200 times its original volume depending on the type of foam and equipment used. One liter of water can produce up to 200 liters of foam.

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Common mix rations for foam are 0.1%-0.3% concentrate by volume. Assuming an average expansion, it equates to foam that consists of 0.01% to 0.03% concentrate, 9.97% to 9.99% water and 90% air.

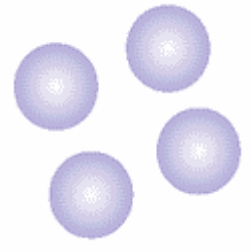
The expansion of Class A Foam produces hollow spheres of water (bubbles) formed when the water is mixed with air. Inherently, water bubbles are unstable and collapse very quickly. The addition of a Class A foam concentrate reduces the surface tension of the water through the use of surfactants contained in the foam. The lower surface tension creates a bubble which is much more stable than larger bubbles produced by detergents (i.e., dish soap). These high quality bubbles allow for deeper penetration into Class A fuels such as forest fuels, wood structures, deep litter and landfills. This "wet water or wetting agent" allows the fire fighter to get more from their available water.

These bubbles also help to cool the fire by removing its energy. As the foam bubbles collapse, they release the water they contain. The water increases in temperature by absorbing heat and eventually turning to vapor (steam). Water is released either through ruptures in the bubble walls caused by the fires heat or through the effects of gravity distorting the bubble walls. The breakdown of the foam is a gradual process and allows the foam to act as a water reservoir, releasing the water at a rate that allows Class A fuels to absorb water rather than running off and forming useless puddles. The bubbles also have a cooling effect on the heat side of the fire triangle. The air entrapped in the foam bubbles acts as an insulating barrier and absorbs the heat given off by the fire preventing it from igniting adjacent fuels. It can also act as a blanket, smothering the fire and removing the oxygen side of the fire triangle.

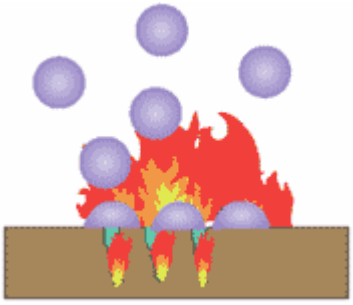
BUCKEYE is a special type of Class A foam with excellent wetting ability. The water & foam combine to form small bubbles with short drainage time. It provides intensive cooling and at the same time water released from bubbles penetrates into Class A fuel protecting it from burning and re-igniting on the surface as well as deep inside. This is a big advantage against standard foam when used to extinguish powdery, porous materials containing air that burns under standard foams.

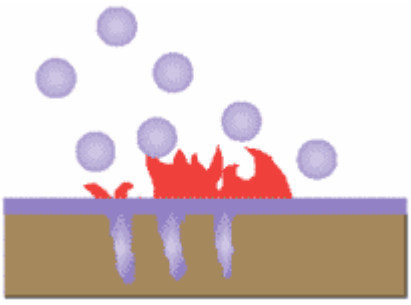
Class A foam stiks are readily mixed with water and can be applied with a wide variety of POK proportioners. The type of foam application used will determine the expansion ratio and the type of foam produced.

Plain Water



STIK





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How The Class B STIK AFFF Work?

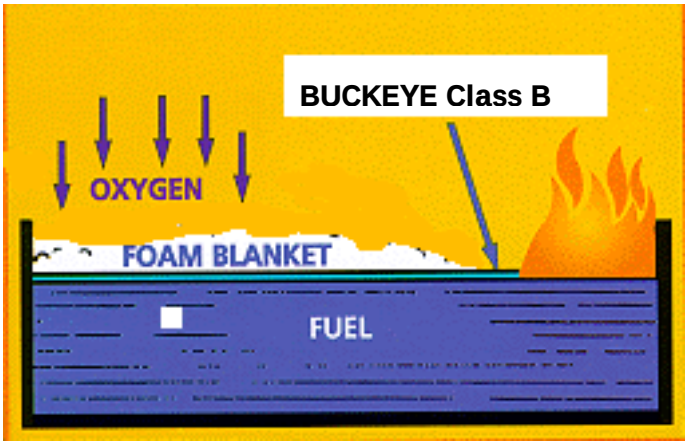
AFFF firefighting foam agents suppress fire by separating the fuel from the air (oxygen). Depending on the type of foam system, this is done in several ways:

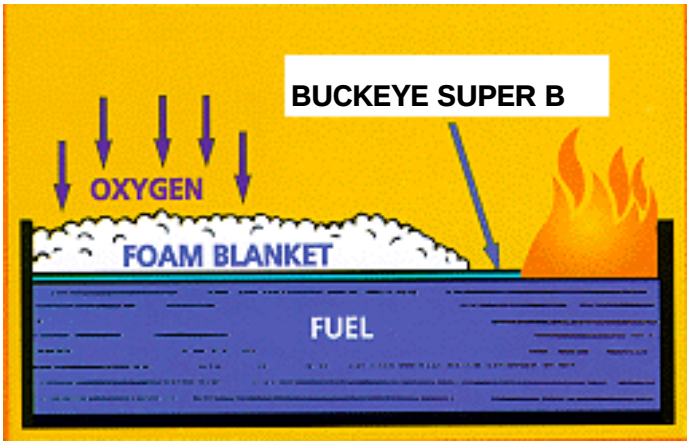
- Foam blankets the surface smothering the fire
- Foam blanket suppresses the release of flammable vapors that can mix with the air.
- Fuel is cooled by the water content of the foam

Aqueous Film Forming Foams (AFFF) are based on a combination of fluoro-chemical surfactants, hydrocarbon surfactants, and other synthetic components such as foam stabilizers, preservation agents etc. These AFFF agents require a very low energy input to produce a high quality foam. If enough of the concentrate is used, the foam forms a thin film on the surface of flammable liquid. This film floats ahead of the foam and provides excellent flowing, extinguishing and re-igniting, inhibiting properties.

BUCKEYE is a special type of extinguishing agent on the margin of Class A and Class B foams; it is a wetting agent with excellent foam forming ability. The water & stik B forms a stable foam with small bubbles with a long drainage time. Due to AFFFcomponents in the stik, it is excellent for extinguishing Class A involving plastics, plastic-foams and fires with possibility of flammable liquid spillage (cars, garages, workrooms, industrial stocks, etc.) The outstanding feature of Buckeye Super B is increased content of AFFF components and better quality of foam.

Buckeye Class B or Super B should be used everywhere the water is not enough for safe and quick extinguishment, as well as, when a regular foam is not suitable or is unduly expansive. Buckeye stiks can be applied through a wide variety of POK proportioner delivery systems. This versatility makes AFFF stiks an obvious choice for airports, refineries, manufacturing plants, municipal fire departments, and any other operation involving the transportation, processing, or handling of flammable liquids.





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How The CLEAN STIK Wetting Agent Works?

Many oil/petroleum-based products (i.e., diesel, gasoline, non-polar solvents, lubricating oils, etc.) are nearly, if not completely, insoluble in water. We interact with these products constantly in everyday life. Due to rising traffic on roads, when an accident occurs it often involves leakage from a petroleum product. These substances form a slippery film, which becomes necessary to degrease the area to provide a safe, adhesive surface.

The CLEAN Stik contains surfactants, which, not only reduce the surface tension of water, but also provide the ability of water dissolve oil products. This type of agent does not form masses of foam, because for cleaning and decreasing, it is not necessary. The CLEAN Stik is not an emulsifier and does not contain any enzymes or other biological agents; it serves as “industrial soap”.

Because oil products are slow to biodegrade, it is not possible to rinse off all the spillage. Before final cleaning with a water solution of CLEAN Stik, it is necessary to use an absorbent to sweep up and remove the majority of the spill. This way the main part of chemicals are disposed and the small amount left over can be rinsed off.

Description:

A Foaming Agent for Suppressing Flammable & Liquid Fires on Both Class A & B Combustibles. Manufactured in Solid Stik Form Using U. L. Listed Ingredients. Designed to be used in POK Foam Nozzles with “QUICK-STIK Technology’’.
This extinguishing agent is considered to be” Environmentally Friendly”

Manufacture Exclusively for POK by:

Buckeye Fire Equipment Company
110 Kings Road, Kings Mountain, NC 28086 USA
Tel: 704.739.7415 ⏩ Fax: 704.739.7418
Technical Assistance: 817.633.FOAM (3626) or 877.391.FOAM (3626)

Dimensions:

STD STIK size: 50 mm x 250 mm (2.0” x 10.0”) - Weight: 577 grams / 1.27 lb.
Mini STIK size: 19 mm x 82 mm (0.75” x 3.25”) - Weight: 73 grams / 0.16 lb.

Caution:

Use Appropriate Personal Protective Equipment for Fire Fighting. Avoid contact with skin & eyes. Store in a cool dry place at temperatures between -18°C & 35°C (0°F & 95°F). Consult Material Safety Data Sheet (MSDS) for safe use & handling.

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