FIREBULL® A/B



FIREBULL A /B Li-ion Batteries

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Protecting Lives & Property: Effective EV Fire Suppression

Why EV Fires Are Unique

Electric vehicle (EV) fires present unique challenges due to lithiumion batteries' ability to reignite even after initial suppression. Traditional firefighting methods are often ineffective, making specialized solutions necessary.

FIREBULL AB - A Game Changer in Fire Suppression

FIREBULL AB concentrate enhances water's ability to cool and suppress EV fires. Used with direct application, as exposure protection, or submersion methods, it helps prevent re-ignition and ensures thorough extinguishment through rapid cooling and vapor mitigation better than with water alone.

Safe & Effective EV Fire Response

1. Preparation and Safety Measures

Before attempting to extinguish an EV (electric vehicle) fire, ensure proper personal protective equipment (PPE) is worn, including full turnout gear and self-contained breathing apparatus (SCBA). Establish a safety perimeter to protect bystanders and monitor for potential battery re-ignition. Approach the vehicle from a safe angle, avoiding direct exposure to potential battery explosions or venting gases. Identify the high-voltage components, typically marked with orange cables, and avoid direct contact.

2. Application of Water and FIREBULL AB Concentrate

Treat EV fires as exposure protection to prevent fire spread and protect surrounding property and lives. To suppress the fire effectively, apply a mixture of water and FIREBULL AB concentrate using a standard firefighting hose and nozzle. A recommended mixture is a 0.5%-1% concentration of FIREBULL AB in water, adjusted based on fire intensity. Direct the stream toward the burning battery pack, prioritizing cooling to prevent thermal runaway. Maintain continuous water application for an extended duration, as lithium-ion batteries may reignite even after initial suppression. If possible, submerge the vehicle or battery compartment in water for maximum cooling efficiency.

3. Post-Fire Monitoring and Cleanup

After the fire is controlled, continue to apply water intermittently to prevent re-ignition. Use thermal imaging cameras to monitor battery temperatures and ensure complete cooling. If necessary, coordinate with hazardous materials teams for safe handling and removal of damaged battery components. Avoid runoff contamination by containing firefighting water, as battery chemicals can pose environmental hazards. Maintain vigilance for several hours, as EV fires can reignite unexpectedly.

FIREBULL A/B Safe & Effective EV Fire Response

Safe & Effective EV Fire Response

- 1. Preparation & Safety Measures
- Wear full turnout gear & SCBA.
- Establish a safety perimeter.
- Approach from a safe angle.
- Identify & avoid high-voltage components (orange cables).
- 2. Application of Water & FIREBULL AB
- Use a 0.5%–1% concentration in water.
- Direct continuous water flow onto the battery pack.
- If possible, submerge the battery in water for cooling.
- 3. Post-Fire Monitoring & Cleanup
- Apply water intermittently to prevent re-ignition.
- Use thermal imaging to check battery temperature.
- Contain runoff to avoid environmental hazards.





FB-AB-005



Instructions for Fighting Lithium Battery Fires with Water and FIREBULL AB Concentrate using Enforcer CAFS Equipment

1. Preparation and Equipment Setup:

Before engaging a lithium battery fire, ensure that the Enforcer Compressed Air Foam System (CAFS) is properly set upIRE and operational. Fill the system with the recommended water supply and add FIREBULL AB concentrate at the manufacturer's specified ratio of 1% to maximize fire suppression effectiveness. Verify that the nozzle, air pressure settings, and foam consistency are appropriate for a lithium battery fire, which requires cooling and smothering effects. Always wear full protective gear, including self-contained breathing apparatus (SCBA), due to the toxic gases released from battery fires.

2. Fire Suppression Application:

Treat EV fires as exposure protection to prevent fire spread and protect surrounding property and lives. When applying the extinguishing agent, use a sweeping motion to coat the burning lithium battery with the FIREBULL AB-enhanced foam. This mixture is specifically designed to provide rapid cooling and create a barrier that helps prevent re-ignition. Apply the foam generously and continuously to cool the battery cells, as lithium-ion fires can reignite if not sufficiently cooled. Maintain a safe distance and be prepared for flare-ups. Avoid direct contact with ruptured or exposed cells, as they may still release hazardous gases or explode.

3. Post-Fire Management and Monitoring:

After the flames are suppressed, continue applying the foam until the battery temperature has significantly decreased and no visible smoke or heat emissions remain. Use thermal imaging or other temperature-checking methods to confirm that the battery is no longer a risk for reignition. Once the area is deemed safe, isolate the damaged battery for proper hazardous materials disposal. Monitor the site for an extended period, as lithium batteries can reignite even after appearing to be extinguished. Always follow local hazardous materials protocols for cleanup and disposal.



ENF-60-Cart

Enforcer 60 with Hose Reel

FIREBULL A/B ENFORCER CAFS For Lithium Battery Fires

Step 1: Equipment Setup

- Fill the Enforcer Compressed Air Foam System (CAFS) with water.
- Add FIREBULL AB concentrate ratio 1% in Enforcer CAFS.
- Ensure proper foam consistency and air pressure.

Step 2: Fire Suppression

- Apply FIREBULL AB-enhanced foam in a sweeping motion.
- Maintain continuous application to prevent re-ignition.
- Keep a safe distance and avoid direct contact with exposed cells.

Step 3: Post-Fire Management

- Monitor with thermal imaging to confirm cooling.
- Secure battery for proper hazardous material disposal.
- Continue to observe for several hours to prevent flareups.



FIREBULL®

Instructions for Extinguishing Lithium Battery Fires Using a Water Bath with NaCl and FIREBULL AB Concentrate

1. Preparation of the Water Bath:

In the event of a lithium battery fire, immediately prepare a water bath by filling a designated fire-resistant container with water. Add sodium chloride (NaCl) at a concentration of up to 20% by weight to help suppress thermal runaway and minimize the risk of reignition. Next, mix in FIREBULL AB concentrate according to the manufacturer's recommended dilution ratio of 6% to enhance cooling and fire suppression effectiveness. Ensure the container is large enough to fully submerge the burning or overheating battery.

2. Fire Suppression and Battery Handling:

If a lithium battery catches fire or exhibits signs of thermal runaway (such as smoking, swelling, or excessive heat), use appropriate protective gear and fire-resistant tools to carefully move the affected battery into the prepared water bath. If direct handling is unsafe, use non-conductive tools such as tongs or a shovel. Once submerged, leave the battery in the solution for a minimum of 24 hours to ensure complete cooling and suppression of any remaining chemical reactions. Avoid disturbing the battery during this period to prevent potential re-ignition.

3. Post-Extinguishment and Disposal:

After the battery has been fully cooled, monitor it for any signs of heat or gas emissions before removal from the bath. Once deemed safe, transfer the neutralized battery to a designated hazardous waste disposal container for proper disposal following local regulations and industry best practices. Dispose of the used water bath solution in accordance with environmental guidelines to prevent contamination. Conduct a thorough inspection of the surrounding area to ensure no residual hazards remain before resuming normal operations.

Note: Internal testing shows FIREBULL AB at 6% is highly effective without the addition of NaCl

All products Made In USA

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FIREBULL A/B

Specialized Approach with FIREBULL AB in a Water Bath

Step 1: Prepare the Water Bath

Fill a fire-resistant container with water.
 Add up to 20% NaCl (sodium chloride) for heat absorption.

• Mix in FIREBULL AB concentrate per manufacturer's instructions of 6%. Step 2: Submerge the Battery

• Use fire-resistant tools to place the burning battery in the bath.

• Keep submerged for at least 24 hours to ensure full cooling.

Step 3: Safe Disposal

Check for heat emissions before removal.
 Transfer the cooled battery to hazardous

waste disposal.

Dispose of used solution following
environmental guidelines.

