

## What is SF+Bio Gel Barrier?

**SF+Bio Gel Barrier** is an innovative, aqueous gel composition designed to provide heat-resistant protection and fire retardation by forming a continuous gel layer on surfaces. It contains a blend of copolymers, block copolymers, water, and targeted additives, making it highly effective at slowing down or extinguishing fires, especially Class A and B fires.

- Highly fire and heat resistant
- Non-toxic and safe for humans and animals
- Biodegradable and environmentally friendly
- Causes no secondary damage to protected materials
- Adheres well and remains effective on inclined and horizontal surfaces for extended periods

As Al Qudra Global, we proudly recommend **SF+Bio Gel Barrier** as a cutting-edge, sustainable solution for advanced fire protection, unmatched in performance and safety.

## Uniqueness in the Market

Unlike traditional firefighting agents or suppression methods, there is currently no other gel-based heat-resistant barrier on the market comparable to SF+Bio Gel Barrier. Its innovative formulation and ability to form a long-lasting, adherent protective layer on various surfaces make it truly one-of-a-kind.

This unique gel barrier provides an advanced solution for preventing fire spread and thermal damage that no other product can match in terms of effectiveness, safety, and environmental friendliness. SF+Bio Gel Barrier stands alone as a pioneering technology with no real alternative available today.

## The Solution: SF+Bio Gel Barrier – The Advanced Heat-Resistant Fire Protection

**SF+Bio Gel Barrier** forms a cohesive, aqueous gel layer on protected surfaces. This gel significantly reduces surface temperature below the ignition point, preventing fire spread and protecting materials from thermal damage.

Key benefits include:

- Continuous gel layer retention on horizontal, vertical, and inclined surfaces
- Improved fire suppression for Class A (solid combustibles) and Class B (flammable liquids) fires
- Environmentally beneficial, aiding soil moisture retention post-fire to promote recovery
- Easily washable with water after use, with no special disposal needed

### How Does SF+Bio Gel Barrier Work?

When applied to a surface, the gel:

- Creates a thick aqueous barrier that absorbs and holds back heat
- Adheres strongly, preventing detachment even on sloped or vertical surfaces
- Lowers surface temperature below combustion thresholds, inhibiting fire spread
- Provides a physical and thermal shield, delaying ignition and supporting firefighting efforts

### Environmental and Safety Profile

- Fully biodegradable with no toxic residues
- Non-toxic to humans, animals, and the environment
- Does not interfere with air exchange or further surface treatments such as painting or gluing
- Supports ecosystem recovery by maintaining soil moisture after fire events

### Ideal Applications of SF+Bio Gel Barrier

- Power plants and electrical transformers
- Server rooms and data centers
- Museums, libraries, and archives
- Electrical equipment up to 1300 volts
- Warehouses, factories, and smart buildings
- Oil & gas companies, chemical and petrochemical industries, and their storage facilities
- Industrial zones, storage areas, warehouses, and garages
- Petrol stations and fuel storage facilities



- Ports and terminals
- Government entities
- All types of ships, and marine industry
- Homes, schools, universities, hospitals, and both private and public facilities
- Airports, jet fuel storage and planes technical maintenance facilities
- Military sector, Suitable for bases, storage zones, and vehicle areas
- All types of kitchens, Ideal for restaurants and home kitchens, especially for grease and electrical fires without leaving any residue

### Why Choose SF+Bio Gel Barrier?

- Highly effective against Class A and B fires
- Long-lasting adhesion on various surfaces
- Environmentally safe and biodegradable
- Non-toxic, with no secondary damage to materials
- Easy cleanup and no special disposal required
- Supports fire safety in critical industries including oil, gas, automotive, rail, military, and marine



## What is SF+Bio?

**SF+Bio** is an advanced firefighting and decontamination liquid, also available as a fire-retardant impregnation solution. It is designed to neutralize biological and chemical contamination while extinguishing fires with exceptional safety, environmental performance, and material protection.

SF+Bio combines **fire suppression**, **bio-decontamination**, and **material impregnation** in one solution, making it ideal for high-risk, high-value, and sensitive environments.

### Key Features:

- **Dual-action:** Extinguishes fire and neutralizes chemical/biological threats
- **Material protection:** Impregnates and protects fabrics, wood, paper, and synthetic materials against ignition and decay
- **Safe for humans:** Can be used on skin, clothing, food contact surfaces, and medical environments
- **Non-toxic, non-corrosive, and biodegradable**
- **Compatible with PPE, vehicles, electronics, and sensitive materials**
- **Effective against fire Classes A, B, and C**
- **Proven performance against chemical warfare agents, viruses, and industrial toxins**
- **Tested to meet GOST 12.1.007-76 (Class IV – low-hazardous substances)**

At **Al Qudra Global**, we proudly offer SF+Bio as a next-generation solution for civil defense units, emergency responders, industrial users, hotels and any sector requiring multifunctional safety and contamination control.

## The Challenge: Fire & Chemical Contamination

Traditional firefighting agents only extinguish fires but fail to address secondary hazards such as toxins, viruses, or environmental residues. This presents multiple risks:

- Fires may be extinguished, but hazardous residues remain
- Infrastructure and equipment remain unsafe to use
- Separate products are needed for firefighting and decontamination
- Agents may trigger allergic reactions or harm sensitive materials
- No built-in protection for personnel or contaminated surfaces

## The Solution: SF+Bio – Fire Suppression + Bio & Material Protection

SF+Bio is a **transparent, water-based polymer suspension** that offers both **active fire suppression** and **long-lasting surface protection**. Its advanced formula allows:

- Rapid extinguishing of Class A, B, and C fires
- Full-spectrum neutralization of biological, chemical, and radioactive particles
- Deep impregnation into materials to prevent ignition and microbial growth
- Long-term material protection without altering structure or air permeability
- Non-toxic, non-corrosive, non-flammable – safe for humans and the environment
- Works on people's clothing, gear, and skin for instant decontamination
- Zero residue, zero corrosion, and no release of harmful gases
- Dermatologically tested and compatible with PPE and sensitive gear

### How Does SF+Bio Work?

SF+Bio operates through multiple synergistic mechanisms:

- **Breaks chemical bonds** of harmful agents and dissolves residues
- **Cools burning surfaces** and displaces oxygen to halt combustion
- **Neutralizes pathogens** (viruses, bacteria) and industrial toxins on contact
- **Forms a protective, non-toxic film** to prevent re-exposure
- **Impregnates surfaces** such as wood, textiles, and polymers, making them flame-retardant and decay-resistant

### Health & Environmental Safety

SF+Bio has been tested and validated by international labs and health authorities:

- Classified as **low-hazardous (Class IV)** under **GOST 12.1.007-76**
- **Safe for use on skin, eyes, open wounds, and food-contact surfaces**
- Free from alcohol, ammonia, chlorine, fluorine, and VOCs
- **Biodegradable within 28 days** – no harm to soil or aquatic systems
- **Non-mutagenic, non-carcinogenic, non-allergenic**

## Ideal Applications of SF+Bio

### Firefighting and Decontamination:

- Civil defense and emergency response teams
- Military operations, and decontamination units
- Chemical and petrochemical industries
- Airports and aircraft maintenance areas
- Warehouses and logistics centers handling hazardous goods
- Public transportation, metros, buses, and terminals
- Healthcare facilities, ambulances, and medical equipment
- Schools, universities, and government buildings
- Refineries, factories, and oil & gas infrastructure
- Military bases, barracks, vehicles, and training camps
- Nuclear and industrial zones with biohazard risks
- Marine vessels and offshore platforms
- Police, fire, and ambulance rapid intervention vehicles
- Hotels, kitchens, and food production plants
- Used by civilians during pandemics or chemical exposure risks



### Impregnation and Fireproofing:

- Wood and wood-based materials (plywood, cardboard)
- Fabrics (upholstery, sleeping bags, tents, uniforms)
- Special clothing (firefighting, welding gear)
- Carpets, rugs, and floor coverings
- Construction materials (e.g., polyurethane foam, filters)

## Application Methods & Instructions

### Methods of application:

- Spraying (air or airless systems)
- Mechanical (roller or brush)
- Dipping (for full immersion treatments)

### Surface preparation:

- Clean materials thoroughly of dust, grease, and debris before application
- Apply at ambient temperatures between **+5°C and +40°C**
- Treated wood should be protected from moisture after application

**Consumption rates:**

- **1 liter covers 7–12 m<sup>2</sup>**, depending on surface type
- Fabric (100–150 g/m<sup>2</sup>): 30–50 ml/m<sup>2</sup>
- Carpets: 30–70 ml/m<sup>2</sup>
- Wood: 50–200 ml/m<sup>2</sup> depending on density

**Durability:**

- Protective effect lasts for **at least 5 years** with proper application

**Certification Notice:**

- The **Certificate of Conformity** is valid **only when applied according to manufacturer's instructions**. Misuse may void certification.

## Storage and Safety Precautions

- Store in a dry, cool place, away from children
- Use **goggles and gloves** when applying manually
- In case of skin or eye contact, rinse thoroughly with water
- If irritation occurs, consult a physician
- **Shelf life: 10 years** when stored in original packaging

## Why Choose SF+Bio?

- Combines **fire suppression, bio-decontamination, and material protection**
- **Saves lives** by neutralizing toxic threats instantly
- **Protects equipment and personnel** with zero corrosion or damage
- **Easy to apply** with standard equipment or manual tools
- **Reduces firefighting time**, cleanup effort, and environmental harm
- **Fully biodegradable, certified, and field-tested**
- **Trusted for civilian, industrial, and military use worldwide**



## What is SFP?

SFP is a next-generation fire extinguishing liquid that is environmentally friendly, non-conductive, and a safe alternative to traditional agents such as freons, powders, foams, or water.

- Innovative non-pressurized formula
- Safe for use on electronic devices up to 1300V
- Leaves no residue or side effects
- Effective on fire classes A, B, C, E
- Suitable for critical environments: data centers, substations, museums, and more

As **Al Qudra Global**, we are proud **to recommend** this innovation-driven solution as a game-changing advancement in firefighting technology. As demonstrated above, SFP stands alone in the market, with no real alternative when it comes to safety, versatility, and performance.

## Challenges with Traditional Fire Suppression Methods

Common extinguishing agents such as water, foam, powder, and freons have several limitations:

- Cause damage to electronics and property
- Do not prevent reignition
- Incompatible with electrical fires
- Harm the environment and contribute to harmful emissions
- It may be toxic or irritating to the respiratory system or skin, causing various illnesses for firefighters and humans in general.



### **The Solution: SFP - The New Generation of Fire Suppression**

SFP is a clear, non-pressurized extinguishing liquid with a unique formulation offering:

- Superior extinguishing performance
- Electrical safety up to 1300 volts
- Complete health and environmental safety
- Zero impact on electronics or equipment
- Free from chlorine, bromine, and fluorine
- No post-use side effects or contamination
- Operational temperature range from -40°C to +50°C
- One powerful agent tackles Class A, B, C, and D fires, all with a single solution.
- Unique in the market, expiration time 10 Years while stored in fire extinguisher.

### **How Does SFP Work?**

When sprayed directly on a fire source, SFP acts in three primary ways:

- Creates a vapor cloud that displaces oxygen and smothers the fire
- Rapidly absorbs heat thanks to its high thermal capacity
- Forms a protective nanolayer that prevents reignition
- Non-conductive, safe to use even on energized electrical equipment

**The result:** Fast, clean, and safe fire suppression without damage or mess.

### **Health & Safety**

SFP has been medically and industrially tested to ensure:

- Non-toxic by inhalation or skin contact
- Non-allergenic and non-irritating
- Not classified as an environmental or health hazard  
Safe for storage, transport, and use
- Leaves no salt or lime deposits in storage areas
- Not classified as hazardous to health or the environment
- Safe for storage, transportation, and use



**Comparison Table: SFP vs Traditional Agents**

Feature / Product	SFP	Dry Powder	CO <sub>2</sub>	Traditional Foam
<b>Reignition Prevention</b>	Forms nanolayer that blocks reignition	No post-fire barrier	Gas disperses without sealing	Foam dissipates quickly
<b>Electrical Equipment Safety</b>	Safe up to 1300V, non-conductive	Risk of short circuit	Not safe on energized systems	Not suitable for live electrical fires
<b>Post-use Side Effects</b>	No residue, no corrosion	Leaves powder residue	Causes condensation	Leaves sticky foam
<b>Surface Cooling</b>	Rapid heat absorption	Minimal cooling effect	Moderate cooling	Moderate cooling
<b>Environmental Friendliness</b>	0% ozone or global warming impact	Harmful particulates	High greenhouse potential	Contains surfactants harmful to environment
<b>Health &amp; Toxicity</b>	Non-toxic, dermatologically safe	Respiratory and skin irritant	Inhalation risk	Can cause skin/eye irritation
<b>Effectiveness on Fire Types (A, B, C, E)</b>	High effectiveness across all types	Effective mostly on Class A & B	Primarily for Class B and electrical fires	Limited to Class A & B
<b>Site Cleaning After Discharge</b>	No cleaning required	Requires extensive cleanup	May cause condensation on equipment	Leaves foam residues
<b>Environmental Lifetime</b>	Fully biodegradable	Settles but leaves traces	Can linger and cause humidity issues	May remain in porous materials for years
<b>Use in Low Temperatures (-40°C)</b>	Fully effective	Poor performance in freezing environments	Risk of freezing or pressure issues	Limited function below 0°C
<b>Impact on Electronic Equipment</b>	Zero corrosion or degradation	High risk of damage	Condensation may harm sensitive components	Can damage PCBs and sensors

### Ideal Applications of SFP

- Power plants and electrical transformers
- Server rooms and data centers
- Museums, libraries, and archives
- Electrical equipment up to 1300 volts
- Warehouses, factories, and smart buildings
- Oil & gas companies, chemical and petrochemical industries, and their storage facilities
- Industrial zones, storage areas, warehouses, and garages
- Petrol stations and fuel storage facilities
- All types of ships, and marine industry
- Ports and terminals
- Airports, jet fuel storage and planes technical maintenance facilities
- Homes, schools, universities, hospitals, and both private and public facilities
- Government entities
- Military sector, Suitable for bases, storage zones, and vehicle areas
- All types of kitchens, Ideal for restaurants and home kitchens, especially for grease and electrical fires without leaving any residue
- This agent works with exceptional efficiency on **all major fire types** – A, B, C, and E – unlike conventional agents that are limited to specific classes only.
- Used by individuals in personal use, cars, offices, homes, hotels, and many other communities' facilities.

### Why Choose SFP?

- A highly effective and safe product.
- Does not harm your equipment.
- Environmentally friendly.
- Significantly reduces fire control time.
- Boosts overall performance indicators.
- Lowers post-fire cleanup and recovery costs.
- Reflects your commitment to safety and responsibility.
- Greatly reduces water and foam consumption.
- Can be filled into any application, from fire trucks and rapid response units to small cylinders.
- Requires no special filling system, easily usable with any pump or vehicle, with no mixing required.
- A modern approach aligned with safety and innovation
- Unique in the market, expiration time 10 Years while stored in fire extinguisher.

