GREEN CANYON VENTURES

FS-01

TECHNICAL DATA SHEET

# FS-01 Fire Suppressant

Wildfires and Class A fires · Aerial and ground application

| VERSION | DATE | SUPERSEDES | MANUFACTURER |
|---|---|---|---|
| 3 | October 2026 | V.2, Feb 2026 | Green Canyon Ventures LLC |

## Description

FS-01 is a fire suppressant developed by Green Canyon Ventures to extinguish wildfires by direct or indirect attack. It works on any type of vegetation and is used with standard firefighting equipment, with no modifications.

On contact with the heat of the fire, FS-01 triggers an endothermic reaction: it absorbs heat and releases large volumes of inert nitrogen gas. This sharply lowers the temperature and displaces oxygen in the fire zone, acting on all three sides of the fire triangle (heat, oxygen and fuel). Unlike retardants, which only slow combustion, FS-01 extinguishes the fire quickly and safely.

Supplied as a liquid concentrate, mixed with fresh water or seawater before use.

Not classified as hazardous · Biodegradable · PFAS-free · Non-corrosive



Aerial application of FS-01 on a real wildfire.

## Application from any platform

FS-01 can be applied with any equipment available to a fire department, with no modifications:

- Airplanes
- Helicopters
- Drones
- Fire trucks
- Tanks with motor pumps
- Backpack sprayers

## Composition

Nitrogen-based compounds (urea and ammonium salts), natural kaolin clay and minor additives. Available in two versions: standard (with ammonium sulfate) and ammonium-sulfate-free. Contains no PFAS.

## Classification

| Regulation | Classification |
|---|---|
| **USA – OSHA HCS 29 CFR 1910.1200** | Not classified as hazardous |
| **EU – CLP Regulation (EC) 1272/2008** | Not classified as hazardous |
| **Canada – WHMIS 2015** | Not classified as hazardous |

Transport: not regulated as dangerous goods (US DOT, TDG, IMDG, IATA, ADR). Full details in the Safety Data Sheet (SDS v2.0).

## Physicochemical properties

| Property | Value |
|---|---|
| **Appearance** | Whitish liquid; red color added on request for aerial application |
| **Viscosity** | ≥ 200 cP |
| **Density** | 1.35 g/cm³ |
| **pH** | 6.5–7 |
| **Freezing point** | −20 °C (−4 °F) |
| **Thermal resistance** | Above 1,000 °C (1,832 °F) |
| **Solubility** | Highly soluble in water |
| **Sedimentation** | Some components may settle over time; agitate gently before use. Performance is not affected. |
| **Shelf life** | Approximately 2 years |

## Recommended applications

Wildfires and Class A fires (vegetation, wood, paper, textiles). FS-01 is compatible with all types of materials and can also be applied on structures and buildings.

## Mode of use

**Mixing:** 15% FS-01 in fresh water or seawater (15 L of FS-01 per 100 L of mix). Use the same equipment available to any fire department: tanker trucks, tanks with motor pumps and lances, backpack sprayers, airplanes, helicopters or drones.

### Ground attack

**Indirect attack (recommended):** once the direction of the fire is known, apply a line at least 3–5 m (10–16 ft) wide ahead of the fire, far enough to allow safe preparation. Crews then withdraw and let the fire reach the treated line.

**Direct attack:** FS-01 can also be applied directly on the fire with full effectiveness. Open the nozzle to a wide pattern to wet the whole area. The temperature drop and nitrogen release let crews approach the fire safely and quickly.

### Aerial attack

**Indirect attack (recommended):** no aircraft modifications are needed. Build a defensive line ahead of the fire with overlapping drops so there are no gaps. One drop usually wets vegetation down to the ground. Red FS-01 is recommended for aerial use.

**Direct attack:** possible when needed. Cover the entire affected area, since untreated spots can let the fire keep spreading.

**Important:** for the line to be effective, the whole vegetation surface, from the top down to the ground, must be thoroughly wetted. Once applied, FS-01 stays effective for more than one week unless washed away by rain.

## Equipment care

Clean all equipment with plenty of water after use.

## Packaging

- 1,000-liter (264 US gal) palletizable IBC totes.
- 10-liter (2.6 US gal) or 25-liter (6.6 US gal) jugs.

## Safety and handling

| Item | Information |
|---|---|
| **Risks** | Very low. Possible mild, transient eye irritation on contact. |
| **First aid** | Rinse the affected area with plenty of water. |
| **Storage** | −20 °C to 50 °C (−4 °F to 122 °F), in sealed containers, away from direct sunlight. |
| **Emergency** | USA 911 · Europe 112 · Green Canyon 24 h: USA/Canada +1 786 991 4134, Europe +34 687 17 30 70 |

**Do not use on electrical fires.** FS-01 contains water and conducts electricity.

## Laboratory analysis

| Test | Method | Result |
|---|---|---|
| **Acute oral toxicity** | OECD 423 | LD50 > 2,000 mg/kg: not toxic |
| **Acute dermal toxicity** | OECD 402 | LD50 > 2,000 mg/kg: not toxic, not irritating |
| **Eye irritation** | OECD 437 (BCOP) | IVIS 8.74 |
| **Eye corrosion** | OECD 405 | Not corrosive |
| **Fish toxicity (*Danio rerio*)** | OECD 203, 96 h | LC50 6,930 mg/L: not toxic |
| **Invertebrate toxicity (*Daphnia magna*)** | OECD 202, 48 h | EC50 > 10,000 mg/L: not toxic |
| **Earthworm toxicity (*Eisenia fetida*)** | OECD 207, 14 days | LC50 4,697.3 mg/L: not toxic |
| **Biodegradability** | OECD 302B, 28 days | 100% (mixed with water); 96% (concentrate) |
| **Metal corrosion** | mm/year | Aluminum 0.009 · Copper 0.004 · Cast iron 0.094 · Brass 0.094 · Stainless steel 0.002: non-corrosive |

## Field tests



FS-01 applied by drone, field test in Colorado.



FS-01 field test in Florida.