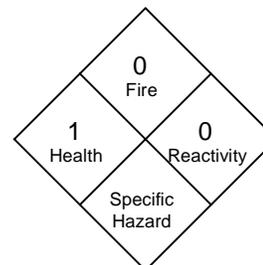


# MATERIAL SAFETY DATA SHEET

FIRE-TROL HOLDINGS, L.L.C.

## FIRE-TROL® GTS-R

Fire-Trol Holdings, L.L.C.  
2620 N. 37<sup>th</sup> Dr.  
Phoenix, AZ 85009  
(602) 262-5401  
(530) 865-4932 (24 hr. number)



THIS PRODUCT IS BASED ON COMMERCIAL FERTILIZERS AND GENERALLY HAS A LOW ORDER OF TOXICITY, AS INDICATED BY PRODUCT'S TOXICOLOGICAL ANALYSIS.

FIRE-TROL® FIRE RETARDANTS HAVE NO CAS NUMBERS.

### CAUTION

Powder may cause eye or skin irritation with prolonged exposure. Avoid breathing vapor or dust. Do not take internally. Store in controlled access location.

No adverse effects are expected from occasional exposure to dry product or from use of the mixed product. To prevent long-term effects, the use of protective equipment when continuously handling dry product is required. It is important to wash hands and face before smoking, drinking or eating. A shower is recommended after each prolonged contact.

#### A. MATERIAL IDENTIFICATION AND INFORMATION

##### 1. GENERAL INFORMATION:

FIRE-TROL® GTS-R is a fire retardant, which is mixed with water for aerial delivery to wildfires. It consists primarily of two commonly used agricultural fertilizers: ammonium sulfate and diammonium phosphate. It also includes minor amounts of thickener, preservative, color and corrosion inhibitor.

**DOT Proper shipping name:** This product is not classified as a hazardous material by the U.S. Department of Transportation.

**DOT Hazard Classification/I.D.:** Not Applicable

**Label(s):** Product Label

**U. S. Surface Freight Classification:** Fire Extinguisher Compounds, NOIBN

**SARA Hazard Notification:  
Hazardous Categories Under  
Criteria of SARA Title III  
Rules (40 CFR Part 370):** Immediate      Delayed

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(Continued from Page 1)

2. **SECTION 313 TOXIC CHEMICAL(S)**

This product contains less than 90% ammonium sulfate (CAS No. 7783-20-2) in the powder form. When dissolved in water, it may be defined as a toxic chemical under and subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

3. **HAZARDOUS CHEMICAL(S) UNDER OSHA HAZARD COMMUNICATION STANDARD:**

The substances listed below, in addition to the SARA 313 toxic chemicals, are considered as hazardous under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**GUAR GUM ( CAS NO. 9000-30-0), or a derivative:**

Dust. Listed on the EPA TSCA list.

**DIAMMONIUM PHOSPHATE (CAS NO. 7783-28-0):**

Dust. Classified as an eye irritant, aggravates asthma and emphysema. Hazardous decomposition product: ammonium. No TLV.

**SODIUM O-PHENYLPHENATE TETRAHYDRATE (CAS No. 006152-33-6):**

Dust. "For hazard communication purposes under OSHA Standard 29 CFR Part 1910.1200, this chemical is listed as a potential carcinogen by IARC. Sodium o-phenylphenate has been shown to cause bladder tumors when fed in exaggerated doses to rats. However, risks from environmental exposures are considered negligible."

No specific exposure limit has been established for this product. Threshold Limit Value: Limits for nuisance dusts are 15 mg/m<sup>3</sup> (OSHA PEL) and 10 mg/m<sup>3</sup> (ACGIH TLV.)

**HEALTH HAZARD CLASSIFICATION:**

An immediate health hazard.

A delayed health hazard.

**WARNING STATEMENTS:**

WARNING!

Contains material that can cause allergic respiratory reaction. May cause respiratory tract irritation. May cause eyes and skin irritation.

**PRECAUTIONARY MEASURES:**

Avoid breathing dust.

Use with adequate ventilation.

Avoid unnecessary contact with eyes and skin.

4. **CALIFORNIA PROPOSITION 65:**

California: Warning: "This product may contain chemicals known to the State of California to cause cancer or birth defects, or other reproductive harm."

**B. OCCUPATIONAL CONTROL PROCEDURES**

1. **FOR HANDLING POWDER PRODUCT:**

Eye Protection: Wear safety goggles.

Respiratory Protection: Wear NIOSH/MSHA approved dust respirator.

Skin Protection: Wear clean clothing that minimizes exposure to skin such as coveralls or long sleeved shirt and long pants.

Ventilation: Work in a well-ventilated area.

Ingestion: Avoid ingestion.

**ATTENTION:**

Repeated or prolonged inhalation may cause allergic respiratory reaction in some people.

2. **FOR HANDLING DILUTED PRODUCT:**

Eyes & Skin: Avoid unnecessary contact with eyes and skin.

Ingestion: Avoid ingestion.

3. **DO NOT DROP ONTO FIRE FIGHTERS.**

**C. FIRE PROTECTION INFORMATION**

1. Product is not flammable and has no flash point or lower explosive limits.
2. No unusual fire or explosion hazards.
3. Extinguishing Media: Water spray or water flooding.
4. Special Fire Fighting Procedures:  
Use water to keep fire-exposed containers cool. Wear full protective clothing and self-contained breathing apparatus approved by NIOSH.

**D. PHYSIOLOGICAL EFFECTS & HEALTH INFORMATION (Toxicological Data)**

1. **FOR POWDER BEFORE DILUTION WITH WATER:**
  - a. Eye Irritation: Can cause eye irritation and conjunctivitis.
  - b. Skin Irritation: Can cause skin irritation.
  - c. Inhalation: Can be an irritation to upper respiratory tract.
  - d. Ingestion: Can be harmful if ingested in quantity.

Animal Test Results (Acute Exposure)

Rabbit Eye Irritation:	Mildly irritating.
Rabbit Skin Irritation:	Practically not an irritant.
Rat Acute Oral:	LD <sub>50</sub> = 3850 mg/kg (low toxicity)
Rabbit Acute Dermal:	LD <sub>50</sub> >2010 mg/kg (low toxicity)

2. **FOR MIXED READY-TO-USE LIQUID:**
  - a. Eye Irritation: Can cause eye irritation.
  - b. Skin Irritation: Can cause skin irritation.
  - c. Ingestion: Can be harmful if ingested in quantity

Animal Test Results (Acute Exposure)

Rabbit Eye Irritation:	Minimally irritating.
Rabbit Skin Irritation:	Slight irritant.
Rat Acute Oral:	LD <sub>50</sub> >5050 mg/kg (low toxicity)
Rabbit Acute Dermal:	LD <sub>50</sub> >2010 mg/kg (low toxicity)

**Note:** All animal results reported in this section for both concentrated and diluted products were done in accordance with USDA Forest Service specifications for Long-term Retardants: 5100-304a, February, 1986, through the U.S. Forest Service, by an independent laboratory. The results are all acceptable according to those requirements.

**E. PHYSICAL & CHEMICAL PROPERTIES**

1. Specific Gravity: 1.1 for the product after mixing.
2. Viscosities: 1200-1800 cps
3. Appearance: Thick red/pink liquid
4. Solubility: Mixes readily in water.

**F. REACTIVITY DATA**

1. **FOR POWDER:**
  - a. Product is stable and will not polymerize.
  - b. Avoid temperatures over 405°F.
  - c. Avoid contact with chlorine, hypochlorites, and strong oxidizers.
  - d. Hazardous decomposition products include NH<sub>3</sub> and SO<sub>x</sub>, PO<sub>x</sub> and HCN. Please note that these decomposition products are not a cause for concern when the diluted product is used in fire fighting due to air dilution and other factors.

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**General note:** Powder has excellent long-term stability. Keep powder dry to avoid caking.

- 2. FOR LIQUID AFTER DILUTION, MATERIALS TO AVOID:**  
Magnesium and zinc due to unacceptable corrosion rates. Acceptable container materials with respect to corrosion: 2024 T3 aluminum, mild steel, and yellow brass.

**G. ENVIRONMENTAL PROTECTION**

- 1. ENVIRONMENTAL IMPACT:**  
Acute toxicity of FIRE-TROL® GTS-R to Juvenile Rainbow Trout - LC<sub>50</sub> value at 96 hours, Estimated 1000 mg/liter. Avoid lakes and streams in applying FIRE-TROL® GTS-R.
- Fire retardant chemicals applied near streams have been shown to have virtually no impact on them. This is partly because there is a minimum of migration of chemicals from areas as close as three meters from the edge of a stream (Norris et al, "The Behavior and Impact of Chemical Fire Retardant in Forest Streams," Forestry Sciences Laboratory, USDA Forest Service Pacific Northwest Forest and Range Experiment Station, October 20, 1978).
- Use and disposal employing proper environmental controls should not cause significant environmental impact.
- 2. PRECAUTIONS IF MATERIAL IS ACCIDENTALLY RELEASED OR SPILLED:**  
Contain and pick up spilled material as soon as possible to minimize environmental contamination.
- 3. WASTE DISPOSAL METHODS:**  
Sweep up and maximize recovery. Flush residue with water in accordance with applicable federal, state and local environmental regulatory requirements.

**H. EMERGENCY & FIRST AID PROCEDURES FOR POWDER CONCENTRATE**

- |           |               |   |
|-----------|---------------|---|
| <b>1.</b> | Eye Contact:  | Flush eyes with water immediately for fifteen minutes. If irritation persists, seek medical attention |
| <b>2.</b> | Skin Contact: | Wash skin thoroughly and change clothing.   |
| <b>3.</b> | Inhalation:   | Upon inhaling, move to fresh air.   |
| <b>4.</b> | Ingestion:    | Upon ingestion, have person drink water to induce vomiting, (if conscious). Seek medical attention    |
| <b>5.</b> | General:      | Seek medical attention as soon as possible if adverse effects occur.                                  |

**NOTICE OF WARRANTY:**

Fire-Trol Holdings, L.L.C., warrants that FIRE-TROL® products are reasonably fit for the purposes for which they were developed only when used in accordance with recommended use practices under normal conditions. In no case shall Fire-Trol Holdings, L.L.C. be liable for consequential, special, or indirect damages resulting from the use or handling of these products. The buyer shall assume ALL such risks. FIRE-TROL HOLDINGS, L.L.C. MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESSED OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

**Date: December 30, 1999**